International Journal of Evaluation and Research in Education (IJERE)
Vol. 14, No. 1, February 2025, pp. 575~582
ISSN: 2252-8822, DOI: 10.11591/ijere.v14i1.29898

The influence of perceive teacher support on high school students' learning engagement in China

Liu Yang, Lim Hooi Lian
School of Educational Studies, Universiti Sains Malaysia, Penang, Malaysia

Article Info

Article history:

Received Jan 8, 2024
Revised Aug 17, 2024
Accepted Sep 2, 2024

Keywords:

Hope
Learning engagement
Optimism
Perceived teacher support
Psychological capital
Resilience
Self-efficacy

ABSTRACT

This study explores the influence of perceived teacher support on learning engagement and the mediating role played by psychological capital of senior high school students. There were 572 Chinese senior high school students from Inner Mongolia Autonomous Region in China completed a ranger of self-report questionnaires. The results of this study showed that perceived teacher support was significantly and positively related to learning engagement of senior high school students, and positively correlated with their psychological capital which consists of four dimensions: hope, self-efficacy, optimism, and resilience. The psychological capital was significantly and positively associated with learning engagement among senior high school students and mediated the relationships between perceived teacher support and learning engagement.

Corresponding Author:

Lim Hooi Lian
School of Educational Studies, Universiti Sains Malaysia
11800, Penang, Malaysia
Email: hllim@usm.my

1. INTRODUCTION

Learning engagement refers to a pervasive, fulfilling state of mind illuminated by three dimensions: vigor, dedication, and absorption [1]. Extensive research has shown that students' learning engagement plays an important role in various areas [2], [3], including social media addiction, depression, anxiety [4], delinquency [5], substance use [6], high dropout rates [7], high rates of student boredom [8], promoting academic achievement [9], learning motivation [10], self-efficacy [11], wellbeing [12]. In China, numerous scholars have directed their attention towards enhancing students' learning engagement as a crucial pathway to achieving educational success and improving the overall quality of education [9]. Learning engagement is an important observation indicator in a students' learning process, serving as a crucial predictive indicator of academic performance, education quality, and student development [13].

Several studies stated that students have an intermediate level of learning engagement, with various negative learning behaviors, such as disinterest in course content, mobile phone usage in class, chatting and sleeping. The insufficient level of learning engagement is reflected in three dimensions: behavioral, emotional, and cognitive. In terms of behavior engagement, there is passivity in learning. In terms of emotional engagement, there is a lack of confidence in learning and a lack of teacher-student communication. In terms of cognitive engagement, there is a bias in cognitive understanding and a lack of thinking training [14]–[16]. In China, the threat of low learning engagement among senior high school students also exists [17], [18]. Additionally, during senior high school, students reach milestones in both physiological and psychological maturity. This period not only signifies their progression to higher education but also marks crucial personality development phases. The ability of these students to maintain enthusiasm, confront academic challenges, and demonstrate perseverance directly affects their academic outcomes and, ultimately,

their broader life development [19]. Collectively, these insights from previous researchers underline the multifaceted challenges concerning the learning engagement of Chinese students, emphasizing the urgent need for holistic evaluations and tailored interventions. Thus, this study focuses on students learning engagement and its determinants, aiming to enhance the theoretical understanding and practices for improving the level of learning engagement.

Recently, considerable literature has grown up around the perceived teacher support plays a key role in the learning process [20]. Specifically, previous study [21] revealed that a correlation between perceived teacher support and learning engagement, and emphasized the indispensable role teachers and school personnel play in shaping students learning engagement [22], [23]. Their research not only recognized the influence of perceived teacher support but highlighted its predictive capacity for learning engagement. However, study by Ansong *et al.* [24] found that perceive teacher support did not predict learning engagement among Ghanaian junior high school students. The inconsistent impact of teacher support on students learning engagement might be attributed to the educational system, which remains predominantly didactic and hierarchical. Another potential reason might be the variations in class sizes and teacher workloads, leading to a high student-teacher ratio that does not allow for close student-teacher relationships. Also, another research [25] found no significant correlation between teacher's role and student emotional engagement. Anna *et al.* [26] showed that there was no correlation between teachers' provision of emotional support and student engagement. Within this background, the relationship between perceive teacher support and learning engagement remains ambiguous. Consequently, the present study aims to examine the influence of perceive teacher support on learning engagement among senior high school students in the Chinese context, attempting to fill the existing evidence gap and contribute to a more comprehensive understanding. Thus, this study hypothesized the following: Perceive teacher support can positively impact learning engagement of senior high school students (H1).

Psychological capital refers to the development of states that motivate behavior in individuals. It includes four dimensions, namely hope, self-efficacy, optimism, and resilience [27]. Previous studies confirmed that psychological capital of students was affected by the teacher support [28]. For example, teacher support has a significant correlation with students' psychological capital [29], [30]. In addition, other studies [31]–[33] mentioned that teacher support is positively related to college students' psychological capital. Previous studies have focused primarily on the population of college students [30]–[33]. This creates a gap in the literature, leaving out critical sub-populations such as senior high school students, whose experience with teacher support and psychological capital could provide valuable insights.

As the transitional nature of senior high school presents students with unique challenges and opportunities. First-year students are thrust into a new environment, transitioning from the junior high framework. Meanwhile, those in their second-and third- years grapple their futures. Specifically, first year senior high school students who have just entered senior high school are faced with academic challenges such as the large number of senior high school subjects and the difficulties of their coursework, as well as the need to adapt to a new environment. Yet, amidst these challenges, their psychological capital level becomes a testament to their adaptability [19]. Therefore, this study hypothesized the following: Perceive teacher support has a positive effect on psychological capital of senior high school students (H2).

During the last decade, the link between psychological capital and learning engagement has been at the center of much attention [34]. Learning engagement has consistently been regarded as an important outcome of psychological capital. On the one hand, previous studies found that psychological capital was positively correlated with learning engagement [35], [36]. For example, research by Fu and Qiu [36] found that psychological capital and its dimensions were positively correlated with learning engagement. Their findings highlight the important role these dimensions play in students' active engagement with their academic pursuits. Similarly, Ahmed *et al.* [37] argued that psychological capital was positively correlated with behavioral engagement with undergraduate business studies in a private university in Oman. A possible explanation for these results might be that this form of capital is particularly valuable as it provides them with the mental tools necessary to navigate stressful situations and recover from setbacks. By cultivating a strong and resilient mindset, students are empowered to overcome obstacles, keep a hopeful perspective, and persist in their studies [38].

However, Lin [39] reported that psychological capital did not serve as a direct predictor of English learning engagement among university students in Taiwan. The synthesis of literature on psychological capital and learning engagement reveals a mixed picture, where the interplay between the facets of psychological capital and its dimensions, namely self-efficacy, hope, resilience, and optimism and learning engagement is not yet definitively understood. Some studies confirm a strong positive correlation, while others find no significant link or suggest that not all dimensions of psychological capital are equally influential. Therefore, this study hypothesized the following: Psychological capital has a positive effect on learning engagement of senior high school students (H3).

According to ecosystem theory, it is recognized that individual actions, such as learning engagement, are deeply influenced by a blend of external and internal determinants [40]. Previous research has also shown that learning engagement is not only correlated with perceived teacher support [20]–[22], but is also associated with psychological capital [34]–[36]. Psychological capital may play a mediating role in the relationship between perceive teacher support and learning engagement. Most of these studies have only been carried out the overall influence of psychological capital on perceive teacher support and learning engagement. However, it has been unclear whether there are differences between the various dimensions of psychological capital. It is necessary to uncover the roles of psychological capital and its dimensions in mediating the relationship between perceived teacher support and learning engagement. Therefore, this study hypothesized the following: Psychological capital (self-efficacy, hope, optimism, and resilience) mediates the relationship between perceive teacher support and learning engagement of senior high school students (H4).

2. METHOD

2.1. Participants

The participants were 572 senior high school students randomly recruited from 10 public senior high schools in Inner Mongolia Autonomous Region, China in June 2023 through a quantitative survey. Among them, 292 (51.05%) participants were female, and 280 (48.95%) participants were male. The research, involved students providing written informed consent for participation, ensuring anonymity and confidentiality for academic research purposes. Participants voluntarily completed self-report questionnaires in about 30 minutes.

2.2. Measurement instruments

Perceived teacher support of senior high school students was assessed using the Perceived Teacher Support Scale adapted by Luo *et al.* [41], Which was developed by Malecki *et al.* [42]. It was introduced and localized to test Chinese children and adolescents by Luo *et al.* [41]. The scale consists of 12 items (e.g., my teacher gave me information to help me with my problem). Participants rated themselves on a 6-point scale. Higher scores on the scale indicate a greater perception of support from the teachers. In this study, the Cronbach α value (0.857) for this scale showed a good internal consistency reliability. The model fits were as: $\chi 2/df=2.992$, CFI=0.936, TLI=0.917, IFI=0.937, NFI=0.908, GFI=0.943, RMSEA=0.059. These findings indicate that the model exhibits a good fit. The scale demonstrates strong reliability and validity.

Psychological capital in senior high school students was assessed using Psychological Capital Questionnaire for Adolescent Students developed by Fang and Liu [43]. The researcher utilized the complete set of questions from the scale. The scale consists of 22 items (e.g., I will take the initiative to complete my study task). Participants rated themselves on a 6-point scale. Using confirmatory factor analysis (CFA), the results were as: $\chi 2/df=2.097$, CFI=0.956, TLI=0.945, IFI=0.956, NFI=0.919, GFI=0.943, RMSEA=0.044. These findings suggest that the model demonstrates a good fit. In this study, the Cronbach α value (0.877) for this scale showed a good internal consistency reliability.

Learning engagement was assessed using the Utrecht Work Engagement Scale-Student Version (UWES-S) adapted by Fang *et al.* [44], which was developed by Carmona-Halty *et al.* [1]. In this study, the scale consists of 17 items with concise questions (e.g., Time flies when I am studying). Participants rate themselves on a 7-point Likert scale. In this study, the Cronbach α value (0.862) for this scale. Employing confirmatory factor analysis (CFA), the outcomes are as: $\chi 2/df=2.233$, CFI=0.964, TLI=0.948, IFI=0.964, NFI=0.937, GFI=0.958, RMSEA=0.046. These results indicate that the model exhibits an excellent fit. The scale demonstrates strong reliability and validity.

2.3. Data analysis

To test the hypotheses, this study mainly used SPSS 26.0 and PROCESS macro2.13.2 for conducting the data analyses. In this study, perceive teacher support is independent variable, learning engagement is dependent variable, the dimensions of psychological capital, namely hope, optimism, resilience, and self-efficacy are mediating variables. Descriptive data were generated for all variables, a Pearson correlation analysis was conducted to assess the strength of those variables, reliability was calculated using Cronbach's alpha, and bias-corrected nonparametric percentile Bootstrap were tested.

3. RESULTS AND DISCUSSION

3.1. Results

3.1.1. Descriptive statistics and correlation test

Table 1 provides the results of descriptive statistics and Pearson's correlation analysis. For the perceived teacher support, the mean score is 4.75. The four dimensions of psychological capital had similar mean values: self-efficacy (M=4.91, SD=0.89), optimism (M=4.71, SD=0.81), resilience (M=4.92, SD=0.95) and hope (M=4.88, SD=0.73). For the learning engagement, the mean score is 4.81. The four dimensions of psychological capital, namely self-efficacy, hope, optimism, and resilience, and learning engagement were relatively high in the Chinese senior high school context. Additionally, the dimensions of psychological capital, namely hope, optimism, self-efficacy, and resilience were positively correlated with perceived teacher support and showed significant correlations with learning engagement. It supported the subsequent analysis of this study.

Table 1. Descriptive statistics and correlations

Variables	1	2	3	4	5	6
1. Perceived teacher support	1					
2. Self-efficacy	0.48***	1				
3. Optimism	0.69***	0.45***	1			
4. Resilience	0.73***	0.46***	0.55***	1		
5. Hope	0.81***	0.89***	0.67***	0.54***	1	
6. Learning engagement	0.87***	0.68***	0.69***	0.73***	0.81***	1
Mean	4.75	4.91	4.71	4.92	4.88	4.81
SD	0.74	0.89	0.81	0.95	0.73	0.68

Note: ***P<0.001

3.1.2. Hypotheses testing

To test the research hypotheses, the mediation model was formulated using the No.4 Model in PROCESS 2.13.2. The results in Table 2 revealed significant positive associations between perceived teacher support and self-efficacy (β=0.478, p<0.001, 95% CI: [0.406, 0.550]), learning engagement (β=0.513, p<0.001, 95% CI: [0.457, 0.570]), optimism (β=0.696, p<0.001, 95% CI: [0.637, 0.755]), hope (β=0.671, p<0.001, 95% CI: [0.610, 0.732]), and resilience (β=0.719, p<0.001, 95% CI: [0.662, 0.776]). Additionally, the results indicated significant positive associations between self-efficacy (β=0.162, p<0.001, 95% CI: [0.091, 0.232]), optimism (β=0.078, p<0.001, 95% CI: [0.035, 0.121]), resilience (β=0.118, p<0.001, 95% CI: [0.073, 0.163]), and hope (β=0.210, p<0.001, 95% CI: [0.126, 0.294]) with learning engagement. The intervals for the mediating effects were as: hope (0.061-0.230), self-efficacy (0.036-0.120), optimism (0.009-0.100), and resilience (0.027-0.141), all of which excluded zero. These findings suggest that self-efficacy, optimism, resilience, and hope partially to mediate the relationship between perceived teacher support and students' learning engagement. As shown in Figure 1, H1, H2, H3, and H4 were verified.

Table 2. Hypothesis testing

Path	Point Estimate	Bootstrap S.E	Z	Bootstrapping 95% CI Lower	Upper	Supported
Direct effect test						
PTS— >Hope	0.671	0.031	21.645	0.610	0.732	Yes
PTS— >Self-efficacy	0.478	0.037	12.919	0.406	0.550	Yes
PTS— >Optimism	0.696	0.030.	23.200	0.637	0.755	Yes
PTS— >Resilience	0.719	0.029	24.793	0.662	0.776	Yes
Hope— >LE	0.210	0.043	4.884	0.126	0.294	Yes
Self-efficacy— >LE	0.162	0.036.	4.500	0.035	0.121	Yes
Optimism— >LE.	0.078	0.022	3.545	0.035	0.121	Yes
Resilience— >LE	0.118	0.023	5.130	0.073	0.163	Yes
PTS— >LE	0.513	0.029	17.690	0.457	0.570	Yes
Mediation effect test						
PTS—Hope— LE	0.141	0.043	26.535	0.061	0.230	Yes
PTS—Self-efficacy— LE	0.077	0.021	3.667	0.036	0.120	Yes
PTS—Optimism— LE	0.054	0.023	2.348	0.009	0.100	Yes
PTS—Resilience— LE	0.085	0.028	3.036	0.027	0.141	Yes

Note: PTS means perceived teacher support, LE means learning engagement

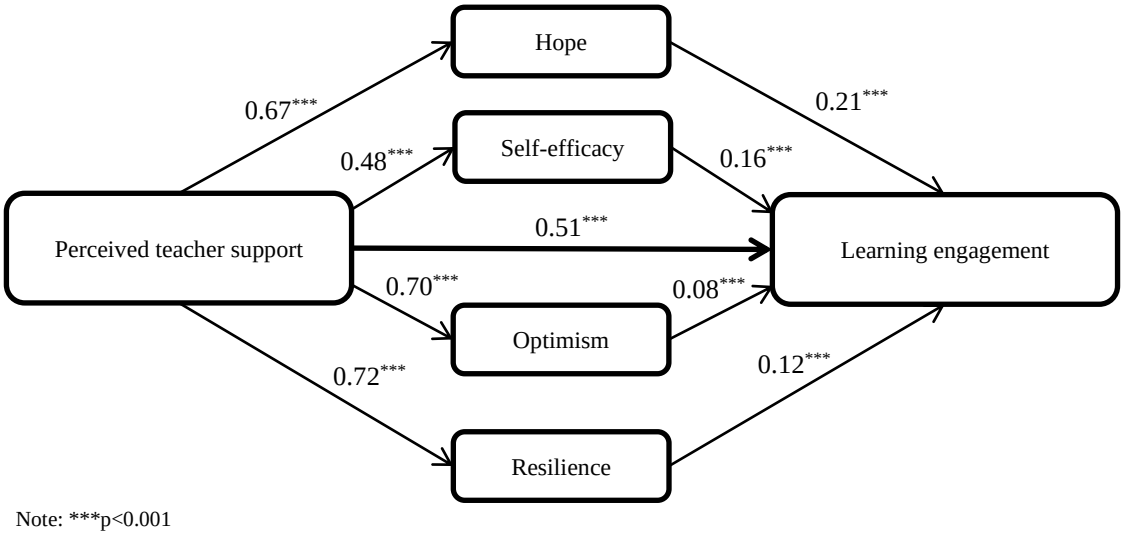

Figure 1. Research model with path coefficients

3.2. Discussion

Based on the Chinese context, this study investigated senior high school students in China, and examined the positive impacts of perceived teacher support on learning engagement. Additionally, the mediating roles of the dimensions of psychological capital between perceived teacher support and learning engagement were tested. First, perceived teacher support had a significant positive impact on the dimensions of psychological capital. This finding is consistent with several previous studies [29], [30]. The findings of this study illuminate the integral role of perceived teacher support in bolstering the various facets of students' psychological capital. For example, this support is directly associated with enhanced levels of hope among students, with research suggesting that such support contributes significantly to a student's cognitive-motivational processes, central to achieving goals [45]. Similarly, the relationship between perceived teacher support and students' self-efficacy is notably strong, underlining the importance of such support in fostering students' belief in their abilities. Supportive teachers serve not only as academic mentors but also as catalysts for students' self-efficacy, encouraging them to face educational challenges with greater self-efficacy [46].

Furthermore, this nurturing environment of perceived teacher support significantly enhances students' optimism. Such support from teachers is not just about academic guidance; it extends to fostering a sense of security and belonging, which in turn, cultivates positivity and optimism among students, enabling them to approach difficulties with a resilient and hopeful outlook [47]. Additionally, the support provided by teachers contributes to a repertoire of problem-solving strategies, which bolsters students' ability to adapt and maintain resilience in the face of adversity [48]. This comprehensive support system is thus fundamental to the development and reinforcement of students' psychological capital, comprising hope, self-efficacy, optimism, and resilience.

Second, the dimensions of psychological capital, namely hope, self-efficacy, resilience, and optimism had a significant positive impact on learning engagement [35], [36]. These studies found that students with higher psychological capital tend to have a higher level of academic engagement. This is in line with the conservation of resources theory (COR), COR recognizes the importance of accumulating resources to promote human and happiness, suggesting that people constantly strive and maintain resources they value, as these aid in effectively handling and responding to environmental challenges [49]. Consequently, a student who has accumulated personal resources is more likely to possess the necessary capabilities and attitudes to meet academic demands, leading to higher learning engagement and academic success.

Third, perceived teacher support had a significant positive impact on learning engagement. As confirmed by several prior studies [21], [22]. This is in line with the ecological system theory, the school is the microsystem closet to the students' development outside the family. Perceived teacher support, as an important part of the school microsystem, significantly influences students' behavioral attitudes [40]. Research by Evans *et al.* [50] stated that the key hypothesis of self-determination theory (SDT) is that when students' basic psychological needs for autonomy, competence, and relatedness have been satisfied by school environments, and experience a sense of willingness, volition, and choice in work activities, the autonomous motivation can be enhanced or maintained, which leads to more enduring and more quality behavior, calling forth effective behavioral outcomes and improving physical and mental health.

Fourth, this research showed that hope, self-efficacy, optimism, and resilience partially mediated the association between perceived teacher support and learning engagement. In educational environment, when teachers show their respect and offer well-timed and positive feedback on their efforts, students realize the support and recognition from their teachers, which boosts their self-confidence and passion about the world, the improvement of the dimensions of psychological capital, namely hope, self-efficacy, optimism, and resilience [51], [52]. The greater the perceived encouragement and attention from the teacher, which in turn increases the level of hope, motivate deeper engagement with study challenges, and foster the willingness to invest energy in thinking deeply about the subject matters. This, in turn, promotes higher levels of learning engagement, enhances self-efficacy, and establishes a positive mindset to cope with academic challenges.

4. CONCLUSION

Based on the Chinese context, this study investigated senior high school students in China, and examined the positive impacts of perceive teacher support on psychological capital and learning engagement. Additionally, the mediating roles of the dimensions of psychological capital, namely optimism, self-efficacy, resilience, and hope between perceive teacher support and learning engagement was tested. The current findings provided several important messages. First, perceive teacher support had a significant positive impact on the dimensions of psychological capital and learning engagement. Second, the dimensions of psychological capital, namely optimism, self-efficacy, resilience, and hope were significantly and positively related to learning engagement. In addition, perceive teacher support not only directly promotes learning engagement, but also indirectly positively affects learning engagement through the partial mediating effect of the dimensions of psychological capital, namely optimism, self-efficacy, resilience, and hope.

There are some limitations to this study that should be noted. Firstly, the sample for this study was collected from one province in China due to time and funding constraints. Therefore, the findings are hard to be generalized. Future studies may consider expanding the population of subjects studied. Secondly, the framework of vigor, dedication and absorption was used to examine learning engagement in this research. Other researchers have provided learning engagement from the framework of cognitive, behavioral, and emotional. For this study, whether the current relations of variables are valid under this framework (cognitive, behavioral, and emotional) still for further study. Thirdly, this study uses quantitative research methods, and future studies may consider using mix method to explain the influence of perceived teacher support on learning engagement.

REFERENCES

[1] M. A. Carmona-Halty, W. B. Schaufeli, and M. Salanova, "The Utrecht work engagement scale for students (UWES-9S): factorial validity, reliability, and measurement invariance in a Chilean sample of undergraduate university students," *Frontiers in Psychology*, vol. 10, Apr. 2019, doi: 10.3389/fpsyg.2019.01017.

[2] H. Lei, C. Chen, and L. Luo, "The examination of the relationship between learning motivation and learning effectiveness: a mediation model of learning engagement," *Humanities and Social Sciences Communications*, vol. 11, no. 1, 2024, doi: 10.1057/s41599-024-02666-6.

[3] F. An, L. Xi, and J. Yu, "The relationship between technology acceptance and self-regulated learning: the mediation roles of intrinsic motivation and learning engagement," *Education and Information Technologies*, vol. 29, no. 3, pp. 2605–2623, 2024, doi: 10.1007/s10639-023-11959-3.

[4] M. Landa-Blanco, Y. R. García, A. L. Landa-Blanco, A. Cortés-Ramos, and E. Paz-Maldonado, "Social media addiction relationship with academic engagement in university students: The mediator role of self-esteem, depression, and anxiety," *Heliyon*, vol. 10, no. 2, 2024, doi: 10.1016/j.heliyon.2024.e24384.

[5] D. B. Wilson and M. W. Lipsey, "Scaling up effective juvenile delinquency programs by focusing on change levers: Evidence from a large meta-analysis," *Criminology and Public Policy*, vol. 23, no. 2, pp. 261–286, 2024, doi: 10.1111/1745-9133.12663.

[6] R. J. Green *et al.*, "Predictors of substance use initiation by early adolescence," *The American Journal of Psychiatry*, vol. 181, no. 5, pp. 423–433, 2024, doi: 10.1176/appi.ajp.20230882.

[7] S. Li *et al.*, "Quantification and prediction of engagement: applied to personalized course recommendation to reduce dropout in MOOCs," *Information Processing and Management*, vol. 61, no. 1, 2024, doi: 10.1016/j.ipm.2023.103536.

[8] K. Dai and Y. Wang, "Enjoyable, anxious, or bored? investigating Chinese EFL learners' classroom emotions and their engagement in technology-based EMI classrooms," *System*, vol. 123, 2024, doi: 10.1016/j.system.2024.103339.

[9] H. Lei, Y. Cui, and W. Zhou, "Relationships between student engagement and academic achievement: a meta-analysis," *Social Behavior and Personality*, vol. 46, no. 3, pp. 517–528, 2018, doi: 10.2224/sbp.7054.

[10] Y. Xiao and K. F. T. Hew, "Intangible rewards versus tangible rewards in gamified online learning: which promotes student intrinsic motivation, behavioural engagement, cognitive engagement and learning performance?" *British Journal of Educational Technology*, vol. 55, no. 1, pp. 297–317, 2024, doi: 10.1111/bjet.13361.

[11] P. Albion, S. Getenet, R. Cantle, and P. Redmond, "Students' digital technology attitude, literacy and self-efficacy and their effect on online learning engagement," *International Journal of Educational Technology in Higher Education*, vol. 21, no. 3, 2024.

[12] S. Chaudhry, A. Tandon, S. Shinde, and A. Bhattacharya, "Student psychological well-being in higher education: the role of internal team environment, institutional, friends and family support and academic engagement," *PLoS ONE*, vol. 19, no. 1 Jan. 2024, doi: 10.1371/journal.pone.0297508.

[13] P. P. Sun and L. J. Zhang, "Investigating the effects of Chinese university students' online engagement on their EFL learning outcomes," *Asia-Pacific Education Researcher*, vol. 33, no. 4, pp. 747–757, 2024, doi: 10.1007/s40299-023-00800-7.
[14] H. Liu, M. Yao, and J. Li, "Chinese adolescents' achievement goal profiles and their relation to academic burnout, learning engagement, and test anxiety," *Learning and Individual Differences*, vol. 83–84, 2020, doi: 10.1016/j.lindif.2020.101945.
[15] J. Lin, Q. Li, H. Sun, Z. Huang, and G. Zheng, "Chinese secondary school students' reading engagement profiles: associations with reading comprehension," *Reading and Writing*, vol. 34, no. 9, pp. 2257–2287, 2021, doi: 10.1007/s11145-021-10139-4.
[16] X. Chen *et al.*, "Depression, anxiety and associated factors among Chinese adolescents during the COVID-19 outbreak: a comparison of two cross-sectional studies," *Translational Psychiatry*, vol. 11, no. 1, 2021, doi: 10.1038/s41398-021-01271-4.
[17] X. Wang, Y. ling Liu, B. Ying, and J. Lin, "The effect of learning adaptability on Chinese middle school students' English academic engagement: the chain mediating roles of foreign language anxiety and English learning self-efficacy," *Current Psychology*, vol. 42, no. 8, pp. 6682–6692, 2023, doi: 10.1007/s12144-021-02008-8.
[18] H. Wu, Y. Zeng, and Z. Fan, "Unveiling Chinese senior high school EFL students' burnout and engagement: profiles and antecedents," *Acta Psychologica*, vol. 243, 2024, doi: 10.1016/j.actpsy.2024.104153.
[19] M. Qi *et al.*, "The effect of social support on mental health in Chinese adolescents during the outbreak of COVID-19," *Journal of Adolescent Health*, vol. 67, no. 4, pp. 514–518, 2020, doi: 10.1016/j.jadohealth.2020.07.001.
[20] M. Sadoughi and S. Y. Hejazi, "Teacher support and academic engagement among EFL learners: the role of positive academic emotions," *Studies in Educational Evaluation*, vol. 70, 2021, doi: 10.1016/j.stueduc.2021.101060.
[21] P. Rautanen, T. Soini, J. Pietarinen, and K. Pyhältö, "Primary school students' perceived social support in relation to study engagement," *European Journal of Psychology of Education*, vol. 36, no. 3, pp. 653–672, 2021, doi: 10.1007/s10212-020-00492-3.
[22] M. C. Engels, K. Phalet, M. C. Gremmen, J. K. Dijkstra, and K. Verschueren, "Adolescents' engagement trajectories in multicultural classrooms: the role of the classroom context," *Journal of Applied Developmental Psychology*, vol. 69, 2020, doi: 10.1016/j.appdev.2020.101156.
[23] T. K. F. Chiu, "Digital support for student engagement in blended learning based on self-determination theory," *Computers in Human Behavior*, vol. 124, 2021, doi: 10.1016/j.chb.2021.106909.
[24] D. Ansong, M. Okumu, G. L. Bowen, A. M. Walker, and S. R. Eisensmith, "The role of parent, classmate, and teacher support in student engagement: evidence from Ghana," *International Journal of Educational Development*, vol. 54, pp. 51–58, 2017, doi: 10.1016/j.ijedudev.2017.03.010.
[25] B. Xu, N. S. Chen, and G. Chen, "Effects of teacher role on student engagement in WeChat-based online discussion learning," *Computers and Education*, vol. 157, 2020, doi: 10.1016/j.compedu.2020.103956.
[26] D. S. Anna, A. S. Jennifer, and K. S. Maier, "Perceived challenge, teacher support, and teacher obstruction as predictors of student engagement," *Journal of Educational Psychology*, vol. 109, no. 1, pp. 131–147, 2017, doi: 10.1037/edu0000108.
[27] A. Preston, L. Rew, and C. C. Young, "A systematic scoping review of psychological capital related to mental health in youth," *Journal of School Nursing*, vol. 39, no. 1, pp. 72–86, 2023, doi: 10.1177/10598405211060415.
[28] M. Carmona-Halty, M. Salanova, S. Llorens, and W. B. Schaufeli, "Linking positive emotions and academic performance: the mediated role of academic psychological capital and academic engagement," *Current Psychology*, vol. 40, no. 6, pp. 2938–2947, 2021, doi: 10.1007/s12144-019-00227-8.
[29] L. Tang and X. Zhu, "Academic self-efficacy, grit, and teacher support as predictors of psychological well-being of Chinese EFL students," *Frontiers in Psychology*, vol. 14, 2023, doi: 10.3389/fpsyg.2023.1332909.
[30] M. Gutiérrez and J. M. Tomás, "The role of perceived autonomy support in predicting university students' academic success mediated by academic self-efficacy and school engagement," *Educational Psychology*, vol. 39, no. 6, pp. 729–748, 2019, doi: 10.1080/01443410.2019.1566519.
[31] S. Warshawski, "Academic self-efficacy, resilience and social support among first-year Israeli nursing students learning in online environments during COVID-19 pandemic," *Nurse Education Today*, vol. 110, 2022, doi: 10.1016/j.nedt.2022.105267.
[32] C. C. Chan, "The relationship among social support, career self-efficacy, career exploration, and career choices of Taiwanese college athletes," *Journal of Hospitality, Leisure, Sport and Tourism Education*, vol. 22, pp. 105–109, 2018, doi: 10.1016/j.jhlste.2017.09.004.
[33] L. Huang and T. Zhang, "Perceived social support, psychological capital, and subjective well-being among college students in the context of online learning during the COVID-19 pandemic," *Asia-Pacific Education Researcher*, vol. 31, no. 5, pp. 563–574, 2022, doi: 10.1007/s40299-021-00608-3.
[34] J. W. You, "The relationship among college students' psychological capital, learning empowerment, and engagement," *Learning and Individual Differences*, vol. 49, pp. 17–24, 2016, doi: 10.1016/j.lindif.2016.05.001.
[35] J. M. Barratt and F. Duran, "Does psychological capital and social support impact engagement and burnout in online distance learning students?" *Internet and Higher Education*, vol. 51, 2021, doi: 10.1016/j.iheduc.2021.100821.
[36] L. Fu and Y. Qiu, "Contributions of psychological capital to the learning engagement of Chinese undergraduates in blended learning during the prolonged COVID-19 pandemic: the mediating role of learning burnout and the moderating role of academic buoyancy," *European Journal of Psychology of Education*, vol. 39, no. 2, pp. 837–860, 2024, doi: 10.1007/s10212-023-00759-5.
[37] U. Ahmed, A. I. Ismail, M. Fati, and M. A. Akour, "E-learning during COVID-19: understanding the nexus between instructional innovation, e-psychological capital, and online behavioural engagement," *Management in Education*, vol. 38, no. 3, 2021, doi: 10.1177/08920206211053101.
[38] R. B. King, R. J. Pitliya, and J. A. Datu, "Psychological capital drives optimal engagement via positive emotions in work and school contexts," *Asian Journal of Social Psychology*, vol. 23, no. 4, pp. 457–468, 2020, doi: 10.1111/ajsp.12421.
[39] Y. T. Lin, "The interrelationship among psychological capital, mindful learning, and English learning engagement of university students in Taiwan," *SAGE Open*, vol. 10, no. 1, 2020, doi: 10.1177/2158244020901603.
[40] E. A. Skinner, N. P. Rickert, J. W. Vollet, and T. A. Kindermann, "The complex social ecology of academic development: a bioecological framework and illustration examining the collective effects of parents, teachers, and peers on student engagement," *Educational Psychologist*, vol. 57, no. 2, pp. 87–113, 2022, doi: 10.1080/00461520.2022.2038603.
[41] X. Luo, Q. Chen, and S. Mu, "Child and adolescent social support scale: validation and preliminary application," *Chinese Journal of Clinical Psychology*, vol. 25, no. 4, pp. 671–674, 2017.
[42] C. K. Malecki, M. K. Demaray, S. N. Elliott, and P. W. Nolten, *Child and Adolescent Social Support Scale (CASSS)*. APA PsycTests, 1999, doi: 10.1037/t57891-000.
[43] B. Fang and C. Liu, "A study on the influence of life events and coping style on psychological capital of senior middle school students," in *Proceedings of the 2016 International Conference on Education, Management and Computing Technology (ICEMCT-16)*, Paris, France: Atlantis Press, 2016. doi: 10.2991/icemct-16.2016.174.
[44] L. Fang, K. Shi, and F. Zhang, "Research on reliability and validity of Utrecht work. Engagement scale-student," *Chinese Journal of Clinical Psychology*, vol. 16, no. 6, pp. 618–620, 2008.

[45] D. D. Dixson, "Hope into action: how clusters of hope relate to success-oriented behavior in school," *Psychology in the Schools*, vol. 56, no. 9, pp. 1493–1511, 2019, doi: 10.1002/pits.22299.
[46] Y. Yang, G. Li, Z. Su, and Y. Yuan, "Teacher's emotional support and math performance: the chain mediating effect of academic self-efficacy and math behavioral engagement," *Frontiers in Psychology*, vol. 12, 2021, doi: 10.3389/fpsyg.2021.651608.
[47] Ü. Sahranç, E. Çelik, and M. E. Turan, "Mediating and moderating effects of social support in the relationship between social anxiety and hope levels in children," *Journal of Happiness Studies*, vol. 19, no. 4, pp. 1003–1019, 2018, doi: 10.1007/s10902-017-9855-0.
[48] L. Romano, G. Angelini, P. Consiglio, and C. Fiorilli, "Academic resilience and engagement in high school students: the mediating role of perceived teacher emotional support," *European Journal of Investigation in Health, Psychology and Education*, vol. 11, no. 2, pp. 334–344, 2021, doi: 10.3390/ejihpe11020025.
[49] I. S. Chen, "Computer self-efficacy, learning performance, and the mediating role of learning engagement," *Computers in Human Behavior*, vol. 72, pp. 362–370, 2017, doi: 10.1016/j.chb.2017.02.059.
[50] P. Evans, M. Vansteenkiste, P. Parker, A. Kingsford-Smith, and S. Zhou, "Cognitive load theory and its relationships with motivation: a self-determination theory perspective," *Educational Psychology Review*, vol. 36, no. 1, 2024, doi: 10.1007/s10648-023-09841-2.
[51] Y. Tao, Y. Meng, Z. Gao, and X. Yang, "Perceived teacher support, student engagement, and academic achievement: a meta-analysis," *Educational Psychology*, vol. 42, no. 4, pp. 401–420, 2022, doi: 10.1080/01443410.2022.2033168.
[52] S. Wang and D. Zhang, "Perceived teacher feedback and academic performance: the mediating effect of learning engagement and moderating effect of assessment characteristics," *Assessment and Evaluation in Higher Education*, vol. 45, no. 7, pp. 973–987, 2020, doi: 10.1080/02602938.2020.1718599.

BIOGRAPHIES OF AUTHORS

Liu Yang is a PhD candidate student, School of Educational Studies, Universiti Sains Malaysia. Her research focuses on educational assessment, psychometric & testing in education. She can be contacted at email: liuyang123321@student.usm.my.

Lim Hooi Lian is an Associate Professor at the School of Educational Studies, Universiti Sains Malaysia, holding a doctorate in Educational Measurement and Evaluation from Universiti Malaya. With extensive experience in educational assessment, psychometrics, and testing in education, she has contributed significantly to the field. She can be contacted at email: hllim@usm.my.