

심리적 자본이 학습몰입을 경유하여 주관적 웰빙에 미치는 영향에서 성장 마인드셋의 조절된 매개효과

서영*, 마문연**, 우양***, 이창식****

한서대학교 평생교육학과 박사과정·중국 광저우송천이공대학 마르크스주의학부 부교수, 한서대학교 평생교육학과 박사과정·중국 광저우난양폴리텍대학 경제경영대학 부교수**, 중국 광저우 송티엔 폴리테크닉 예술 및 건축 학교 교사***, 한서대학교 사회복지학과 교수****

Moderated Mediating Effect of Growth Mindset in the impact of Psychological capital on Subjective well-being through Learning engagement

Xu Ying*, Wen Juan Ma**, Wu Yang***, Chang Seek Lee****

Doctoral Student, Dept. of Lifelong Education, Hanseo University & Associate Professor, School of Marxism, Guangzhou Songtian Polytechnic College, China*, Doctoral Student, Dept. of Lifelong Education, Hanseo University & Associate Professor, School of Economics and Management, Guangzhou Nanyang Polytechnic College, China**, Teacher, School of Art and Architecture, Guangzhou Songtian Polytechnic College, China***, Professor, Dept. of Social welfare, Hanseo University, Korea****

요 약 본 연구의 목적은 중국 대학생을 대상으로 심리적 자본이 학습몰입을 통해 주관적 안녕감에 미치는 영향을 성장 마인드셋이 조절 매개하는 확인하고자 하였다. 자료 수집은 중국 광둥성 소재 대학생 2,537명을 대상으로 온라인 설문조사를 통해 수행되었다. 수집된 자료는 SPSS PC+ Win ver. 25.0과 SPSS PROCESS macro ver. 4.2를 이용하여 분석하였다. 통계방법은 빈도분석, 신뢰도분석, 상관관계분석, 조절된 매개효과 분석을 적용하였다 연구결과는 첫째, 심리적 자본, 성장 마인드셋, 학습몰입, 주관적 안녕감 모두 유의한 정적 상관관계를 나타냈다. 둘째, 성장 마인드셋은 학습몰입을 통해 심리적 자본이 주관적 안녕감에 미치는 영향을 조절 매개하였다. 이러한 결과를 바탕으로 대학생의 주관적 안녕감을 향상시키기 위한 심리적 자본, 성장 마인드셋, 학습몰입의 활용방안을 제시하였다.

주제어 : 심리적 자본, 학습몰입, 주관적 안녕감, 성장 마인드셋, 조절된 매개효과

Abstract This study aims to ascertain whether a growth mindset moderates the impact of psychological capital on subjective well-being through learning engagement among Chinese college students. Data were collected via an online survey targeting 2,537 college students purposely sampled from a university in Guangdong, China. The collected data were analyzed using SPSS PC+ Win version 25.0 and the SPSS PROCESS macro version 4.2. The statistical methods employed included frequency analysis, reliability analysis, correlation analysis, and moderated mediation effect analysis. The conclusion of the study is as follows. First, psychological capital, growth mindset, learning engagement and subjective well-being all showed significant positive correlations. Second, growth mindset moderated the effect of psychological capital on subjective well-being through learning engagement. Based on these results, this study proposed ways to utilize psychological capital, growth mindset, and learning engagement to improve the subjective well-being of college students.

Key Words : psychological capital, learning engagement, subjective well-being, growth mindset, and moderated mediation effect

Received 14 Sep 2024, Revised 03 Oct 2024
Accepted 11 Oct 2024
Corresponding Author: Chang Seek Lee
(Hanseo University)
Email: lee1246@hanmail.net
ISSN: 2466-1139(Print)
ISSN: 2714-013X(Online)

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1. Introduction

Among all the valuable goals pursued by human beings, obtaining happiness has always been the ultimate goal. Subjective well-being mainly refers to the overall evaluation of a person's emotional cognition and quality of life [1]. Research on subjective well-being focuses on the subjective experience of personal life and believes that happiness can be defined as the satisfaction and enjoyment of an individual in certain aspects, and that this satisfaction and enjoyment is a conscious and subjective experience [2]. Given its importance, research on improving subjective well-being is endless.

Psychological capital can be predicted as a variable that affects subjective well-being. Psychological capital refers to the psychological factors that can promote individuals or team organizations to form positive thoughts and actions [3]. According to research, psychological capital can significantly influence the level of happiness [4]. However, research on the relationship between psychological capital and subjective well-being is quite scarce, thus necessitating further studies.

Based on previous studies, this study attempts to use learning engagement as a mediating variable between psychological capital and subjective well-being. It has been reported that psychological capital affects learning engagement [5], and learning engagement affects subjective well-being [6]. This study attempts to determine whether learning engagement plays a mediating role in the relationship between psychological capital and subjective well-being. There is currently a lack of research in this area, so further research is needed.

In addition, this study used growth mindset as a moderating variable to promote subjective well-being. Growth mindset is expected to play a moderating role in the relationship between

psychological capital and learning engagement. Based on this, this study attempts to determine whether growth mindset moderates the path of psychological capital \rightarrow learning engagement \rightarrow subjective well-being among Chinese college students.

To address the research purpose, this study poses the following research questions. Firstly, how are psychological capital, growth mindset, learning engagement, and subjective well-being interrelated? Secondly, does the growth mindset moderate the influence of psychological capital on subjective well-being, mediated by learning engagement?

2. Theoretical Background

2.1 The relationship between psychological capital and subjective well-being

Subjective well-being forms a comprehensive cognitive and emotional judgement of life through profound perception and understanding of pleasant experiences [7]. The overall satisfaction with life that an individual forms after comprehensively judging their living environment, conditions, and personal circumstances, which is a comprehensive subjective evaluation of one's own life, is considered as subjective well-being [8]. Subjective well-being can also be employed to assess an individual's emotional state within a specific period [9]. It is generally believed that subjective well-being and life satisfaction are identical or similar concepts, and further research on subjective well-being is warranted.

The concept of psychological capital was first proposed by Goldsmith et al. in 1997 and is defined as the psychological characteristics and energy that can improve individual work productivity [10]. Positive psychological capital represents important and uplifting psychological resources possessed by individuals, constituting a rare internal strength. This positive psychological state, forged through

long-term personal growth, contributes to individuals' development, maturity, and performance enhancement [11].

It is reported that psychological capital significantly affects the subjective well-being [4, 12, 13, 14]. Therefore, psychological capital seems to have an impact on the subjective well-being, which requires a more in-depth study of this relationship.

2.2 Mediating effect of learning engagement

Learning engagement has consistently been viewed as a pivotal element in comprehending and anticipating students' academic success, and it is of vital importance to students' learning [15]. Learning engagement is defined as the psychological investment and effort put into the process of learning, understanding, or mastering knowledge, skills, and techniques [16]. In addition, it was reported that learning engagement refers to an energetic and positive emotional state in the learning process [17].

Upon reviewing previous studies, it is determined whether learning engagement functions as a mediating variable. First, this study examined the impact of psychological capital on learning engagement. Many studies have shown that there is a significant positive correlation between college students' psychological capital and learning investment. The better the psychological capital level of college students, the higher their learning investment level [18, 19]. It is believed that this is because students with high levels of psychological toughness persevere when dealing with setbacks and show higher engagement in learning [20].

Next, this study examined the impact of learning engagement on subjective well-being. Learning engagement refers to the time, energy, ability, and developmental resources that students put into participating in learning activities inside and outside the classroom. The positive experience brought by

learning engagement is an important source of students' subjective well-being [21]. It has been reported that an increase in learning engagement increased students' sense of control over learning, reduce their level of learning burnout, and thus achieve better learning performance, experience more learning fluency and happiness [6].

Drawing upon prior research, it is anticipated that psychological capital exerts an influence on learning engagement, subsequently impacting subjective well-being, thereby suggesting a mediating function of learning engagement in the nexus between psychological capital and subjective well-being. With this premise, the present study endeavors to ascertain the existence of a mediating effect of learning engagement in the relationship between psychological capital and subjective well-being specifically among Chinese university students.

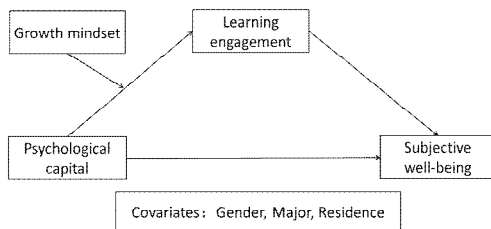
2.3 Moderating effect of growth mindset

Drawing upon previous research, this study examines whether a growth mindset moderates the relationship between psychological capital and learning engagement. Numerous studies have shown that a growth mindset positively affects learning engagement among Chinese college students [22, 23]. People who embrace a mindset of growth view challenges as opportunities for learning, are more prone to select demanding tasks, and exhibit heightened levels of positive involvement while undertaking such tasks [24, 25, 26]. These studies have shown that the impact psychological capital on learning engagement differs depending on the level of growth mindset. Furthermore, this study sought to determine whether growth mindset moderates the mediating effect of psychological capital on subjective well-being through learning engagement among Chinese college students.

3. Methods

3.1 Research model

To ascertain the moderating role of a growth mindset in influencing the relationship between psychological capital and subjective well-being, mediated by learning engagement, Model 7 from the SPSS PROCESS macro, introduced by Hayes [27], was utilized. This setup constituted the research model, depicted in Fig.1. Additionally, potential confounding factors like gender, major, and residence of college students, which could impact the mediating and dependent variables, were duly controlled for the analysis.



[Fig. 1] Research model

3.2 Participants and data collection

Given the ease of data collection and the practical value of the research outcomes, the investigation centered on undergraduate students at universities in Guangdong Province, China. A targeted sampling methodology was adopted to identify participants, with data subsequently gathered through an online survey. Data were collected over a two-month period from November 2023 to December 2023. After filtering out insincere responses, the final count of subjects utilized in the analysis stood at 2,537 individuals.

The general characteristics of the survey subjects are as follows: By gender, 26.5% were male and 63.5% were female. By major, literature and history accounted for the largest proportion at 46.6%, followed by medical at 18.9% and science and

engineering at 18.6%. In terms of residence, 34.9% were from cities and 65.1% were from rural areas.

3.3 Research tools

3.3.1 Psychological capital

The present study utilized the psychological capital scale, originally devised by Luthans, Youssef, and Avolio [28], and subsequently translated into Chinese by Li [29]. This scale focuses on assessing four key facets: self-efficacy, hope, resilience, and optimism, exemplified by statements such as "I believe I contribute to discussions around collective decision-making" and "I am optimistic about what will happen in the future". Comprising 24 items, the scale employs a 5-point Likert format, where higher scores signify a richer psychological capital. Notably, the scale demonstrated robust reliability in this study, with a Cronbach's α coefficient of .931, underscoring its validity and suitability for use.

3.3.2 Growth mindset

The study adopted a modified version of the growth mindset scale, originally crafted by Dweck [30] and tailored by Jia [31]. This instrument assesses individuals' perspectives on the malleability of intelligence and personality traits, incorporating statements like "Intelligence is a fixed trait, with limited room for growth" and "Regardless of your nature, you possess the capacity for personal transformation". The scale comprises eight items, rated on a 5-point Likert scale, where heightened scores reflect a more pronounced growth mindset. Notably, the reliability of this adapted scale, as indicated by Cronbach's α , was acceptable at .6, ensuring its suitability for use in this study.

3.3.3 Learning engagement

The current study employed a revised version of the learning engagement scale, initially developed by Schaufeli et al. [32] and further refined by Li and

Huang [33]. This 17-item instrument captures dimensions of motivation, vitality, and concentration, exemplified through phrases such as "I think learning is valuable and meaningful" and "I am interested in learning". Scores on the 5-point Likert scale reflect the intensity of learning engagement, with higher values signifying greater involvement. Cronbach's α analysis validated the scale's high reliability, achieving a score of .958.

3.3.4 Subjective well-being

The study assessed subjective well-being utilizing the condensed five-item Well-Being Index devised by Bech et al. [34] and refined by the WHO's Collaborating Center for Psychological Research. This economical scale, comprising just five items, offers a straightforward yet effective means of measurement. Scores on the 5-point Likert scale positively correlate with heightened subjective well-being, and Cronbach's α analysis attests to its robust reliability, achieving a score of .903.

3.3.5 General characteristics and control variables

During the examination of the study, a diverse set of demographic attributes was scrutinized as contextual details pertaining to the study subjects. Among these were gender, major, residence. Acknowledging their capacity to exert influence on the mediating and dependent variables under study, these factors were integrated as covariates in the analysis of mediating, moderating effects, and the intricate dynamics of moderated mediation. By adopting this approach, the objective was to disentangle and elucidate the distinct contributions of the primary variables of interest, while mitigating the potential biasing effects stemming from these general participant demographics.

3.4 Data analysis

The data underwent analysis utilizing SPSS PC+

Win. Ver. 25.0 and the SPSS PROCESS macro, Ver. 4.2. A frequency analysis was conducted, and Cronbach's α was calculated to establish the reliability of the measures. Pearson's bivariate correlation analysis was implemented to identify correlations between primary variables. Additionally, Model 7 of the SPSS PROCESS macro was employed to analyze the moderated mediating effect. To verify this effect, the bootstrap method was used, with a confidence level set at 95% and a sample size of 5,000 iterations. Prior to analysis, the independent variable was mean-centered.

4. Research Results

4.1 Correlation between main variables

The outcomes of this analysis are presented in <Table 1>. Psychological capital had a significant correlation with growth mindset ($r=.582$, $p<.01$), learning engagement ($r=.724$, $p<.01$) and subjective well-being ($r=.718$, $p<.01$). Growth mindset had a significant correlation with learning engagement ($r=.511$, $p<.01$) and subjective well-being ($r=.520$, $p<.01$). Learning engagement showed a significant correlation with subjective well-being ($r=.639$, $p<.01$). Given the high correlation values exceeding .7 between psychological capital and both learning engagement and subjective well-being, a potential issue of multicollinearity was postulated. However, upon conducting a regression analysis to investigate for this phenomenon, it was conclusively determined that there was no evidence of multicollinearity.

Table 1. Correlation between major variables and descriptive statistics analysis

	1	2	3	4
1. Psychological capital	1			
2. Growth mindset	.582**	1		
3. Learning engagement	.724**	.511**	1	
4. Subjective	.718**	.520**	.639**	1

well-being				
M	3.3705	3.2685	3.283	3.5849
SD	.4983	.41164	.62586	.6953

*p<.01

4.2 Moderated mediating effect of growth mindset

To validate the moderated mediating roles of a growth mindset in the connection between psychological capital and subjective well-being, mediated via learning engagement, Hayes’s PROCESS macro model, specifically variant No. 7, was utilized and thoroughly scrutinized. The results of this analysis are detailed in Fig. 2, Fig. 3, Table 2, and Table 3. The verification of both the moderating effect and the moderated mediation effect relied on the bootstrap method, with a sample size of 5,000 and a 95% confidence interval. A conditional effect analysis was conducted across three conditions (M, M±SD), and the independent variables were centered on their means prior to analyzing the moderated mediation effect.

In the mediating variable model, psychological capital had a positive effect on learning engagement (B=.8042, p<.001), and in the dependent variable model, learning engagement had a significant positive effect on subjective well-being (B=.2791, p<.001). Consequently, learning engagement functions as a mediator, bridging the relationship between psychological capital and subjective well-being.

As a result of checking whether growth mindset moderates the relationship between psychological capital and learning engagement in the mediating variable model, the effect value of the interaction term between psychological capital and growth mindset was significant at B=.0647 (p<.05). Additionally, the increase in R2 due to the addition of the interaction term (Δ=.0010, p<.05) was also significant, indicating that growth mindset moderates the relationship between psychological capital and

learning engagement.

The conditional effect of psychological capital on learning engagement was significant at M-SD (B=.7776, .7304~.8249), M (B=.8042, .7631~.8454), and M+SD (B=.8309, .7841~.8776), contingent upon the value of growth mindset as the moderating variable. [Fig. 3] shows the moderating effect of growth mindset on the impact of psychological capital on learning engagement. For growth mindset’s three levels (M ± SD, M), learning engagement increased as psychological capital increased.

Employing the Johnson-Neyman method to analyze the significance area across the entire spectrum of moderating variables. The conditional effect was significant in all areas where the growth mindset group value ranges from -2.2685 to 1.7315.

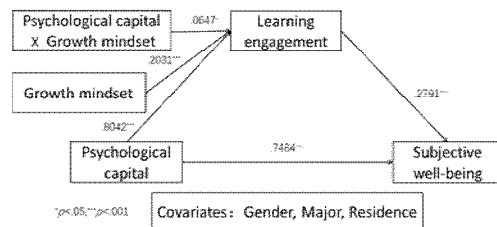


Fig. 2. Statistical model of moderated mediation effect

Table 2. Moderating effect of growth mindset

Classification	Mediating variable model (DV: Learning engagement)			Dependent variable model (DV: Subjective well-being)		
	Coef	SE	t value	Coef	SE	t value
Constant	3.3131	.0457	72904**	2.6459	.0870	3025**
IV Psychological capital	.8042	.0210	38315**	.7484	.0271	27396**
M Growth mindset	.2031	.0257	78970**			
Interaction Psychological capital × Growth mindset	.0647	.0282	2.2964*			
High order test		R ² change	.0010			
		F	5.2736			
M Learning engagement	-	-	-	.2791	.0216	129186***

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nt							
Covariates	Gender	-.0449	.0176	2.584	.0376	.0194	1.9353
	Major	.0146	.0072	2.067	-.0095	.0079	-1.1889
	Residence	.0033	.0178	.1833	-.0116	.0196	-.5908
Model Summary	R ²	.7340			.7385		
	F	492.6697***			607.1333***		
Conditional effects of the Growth mindset at values of the Subjective well-being							
Growth mindset	Effect(B)	se	t value	LLCI	ULCI		
-.4116(M-SD)	.7776	.0241	32.2644***	.7304	.8249		
.0000(M)	.8042	.0210	38.3215***	.7631	.8454		
.4116(M+SD)	.8309	.0239	34.8369***	.7841	.8776		
Moderator values defining Johnson-Neyman significance regions							
Growth mindset	Effect(B)	se	t value	LLCI	ULCI		
-2.2685	.6575	.0675	9.7416***	.5252	.7899		
1.7315	.9162	.0529	17.3356***	.8126	1.0199		

* $p < .05$, *** $p < .001$

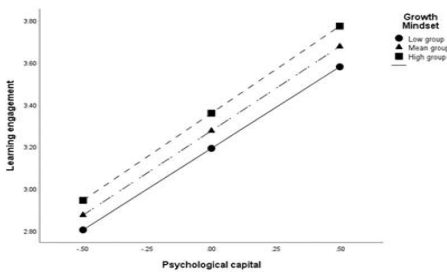


Fig. 3. Moderating effect of growth mindset

The direct and conditional indirect effects were analyzed in the pathway from psychological capital to subjective well-being. The direct effect from psychological capital to subjective well-being was $B = .7484$, with a confidence interval of .6952 to .8016, excluding zero and indicating significance.

The conditional indirect effect was significant within the 95% confidence interval for M-SD ($B = .2170$, .1654 ~ .2668), M ($B = .2245$, .1723 ~ .2752) and M+SD ($B = .2319$, .1774 ~ .2856) because zero was not included between the lower bound of the bootstrap (BootLLCI) and the upper bound (BootULCI).

Additionally, the moderated mediation effect index was significant at .0181 (.0011 ~ .0403). Therefore, the moderated mediating effect of growth mindset was verified in the pathway from psychological capital to subjective well-being through learning engagement in Chinese college students.

Table 3. Analysis of direct effect and conditional indirect effect

Direct effect (Psychological capital → Subjective well-being)				
Effect(B)	SE	t value	LLCI	ULCI
.7484	.0271	27.5696***	.6952	.8016
Conditional indirect effect (Psychological capital → Learning engagement → Subjective well-being)				
Growth mindset	Effect(B)	BootSE	BootLLCI	BootULCI
-.4116(M-SD)	.2170	.0258	.1654	.2668
.0000(M)	.2245	.0264	.1723	.2752
.4116(M+SD)	.2319	.0275	.1774	.2856
Index of moderated mediation				
	Index	BootSE	BootLLCI	BootULCI
Growth mindset	.0181	.0097	.0011	.0403

*** $p < .001$

5. Discussion and Conclusion

The discussion surrounding the research results is as follows.

Primarily, the correlation analysis revealed statistically significant relationships among the key variables. These findings align with prior studies demonstrating that psychological capital is intricately linked to subjective well-being [4] and learning engagement [5], as well as the connection between learning engagement and subjective well-being [6]. These discoveries underscore the multifaceted nature of subjective well-being, hinting at its potential enhancement through diverse strategies and interventions targeting various influencing factors.

Secondly, this study investigated whether a growth mindset moderates the relationship between psychological capital and subjective well-being

through learning engagement. This was confirmed by analyzing conditional indirect effects, revealing that when the growth mindset value was $M-SD$, $B = .2170$ (.1654 ~ .2668), when it was M , $B = .2245$ (.1723 ~ .2752), and when it was $M+SD$, $B = .2319$ (.1774 ~ .2856). Across all three conditions, within the 95% confidence interval, there was no inclusion of zero between the lower limit (BootLLCI) and the upper limit (BootULCI) of the confidence intervals, thereby verifying the significance of the moderated mediating effect of the growth mindset. These findings suggest that when aiming to enhance college students' subjective well-being through interventions targeting psychological capital, it is crucial to develop programs that also foster a growth mindset among these students, as this can amplify the intended effect.

Based on these results, the limitations of this study and recommendations for further research are as follows.

Firstly, the scope of this research was confined solely to a single university within a particular city in China, leading to a somewhat constrained sample pool. For future endeavors, it is advisable to broaden the sampling horizon, ideally incorporating random selection from at least three universities spanning diverse geographical regions, thereby mitigating sample bias and enhancing representation of the broader population.

Secondly, the measurement instruments employed in this study consisted exclusively of self-report scales, inherently reliant on subjective evaluations that could be swayed by societal pressures and not fully mirror reality. Consequently, future investigations should incorporate additional assessment techniques or observational methods to enrich data collection and ensure a more accurate portrayal of the underlying phenomena.

References

- [1] Diener, E. D., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of personality assessment*, 49(1), 71-75.
- [2] Diener, E., & Suh, E. (1997). Measuring quality of life: Economic, social, and subjective indicators. *Social indicators research*, 40, 189-216.
- [3] Seligman, M. E. (2002). Positive psychology, positive prevention, and positive therapy. *Handbook of positive psychology*, 2(2002), 3-12.
- [4] Avey, J. B., Luthans, F., Smith, R. M., & Palmer, N. F. (2010). Impact of positive psychological capital on employee well-being over time. *Journal of occupational health psychology*, 15(1), 17-28.
- [5] Vîrgă, D., Pattusamy, M., & Kumar, D. P. (2022). How psychological capital is related to academic performance, burnout, and boredom? The mediating role of study engagement. *Current Psychology*, 41(10), 6731-6743.
- [6] Wang, X. X., Sun, W. M., & Li, Y. P. (2020). A study on the relationship between college students' future time perspective, learning engagement and subjective well-being. *Western Quality Education*, 6(5), 4.
- [7] Snyder, C. R., & Lopez, S. J. (Eds.). (2001). *Handbook of positive psychology*. Oxford university press.
- [8] Wan, Y., Zheng, X., & Yu, X. X. (2010). Swb and PWB: An integrated study of two well-being orientations. *Psychological and Behavioral Research* (3), 5.
- [9] Diener, E., Wirtz, D., Toy, W., Kim-Prieto, C., Choi, D. W., Oishi, S., & Biswas-Diener, R. (2010). New well-being measures: Short scales to assess flourishing and positive and negative feelings. *Social indicators research*, 97, 143-156.
- [10] Goldsmith, A. H., Darity Jr, W., & Veum, J. R. (1998). Race, cognitive skills, psychological capital and wages. *The Review of Black Political Economy*, 26(2), 9-21.

- [11] Luthans, F., Luthans, K. W., & Luthans, B. C. (2004). Positive psychological capital: Beyond human and social capital.
- [12] Tang, J. L., Li, Z. S., & Zhang, X. Y. (2012). The relationship between college students' positive psychological capital and subjective well-being. *International Academic Seminar on Maintaining Mental and Physical Health and Improving the Quality of Life*, 1105-1108.
- [13] Fan, X. H., Yu, S., Peng, J., & Fang, X. Y. (2017). The relationship between life stress, loneliness and happiness among left-behind children: The mediating and moderating role of psychological capital. *Psychological Science*, 40(2), 7.
- [14] Zhang, P., Chen, L. J., Yin, Y. T., Lu, X., Wang, B., & Li, X. Y. (2020). The relationship between psychological capital, perceived social support and subjective well-being among undergraduate medical students in a certain university in Jinan. *Occupation and Health*, v.36(03), 105-109.
- [15] Finn, J. D., & Zimmer, K. S. (2012). Student engagement: What is it? Why does it matter?. In *Handbook of research on student engagement* (pp. 97-131). Boston, MA: Springer US.
- [16] Newmann, F. M. (1992). *Student engagement and achievement in American secondary schools*. Teachers College Press, 1234 Amsterdam Avenue, New York, NY 10027 (paperback: ISBN-0-8077-3182-X, \$17.95; hardcover: ISBN-0-8077-3183-8, \$38).
- [17] Wu, F. T., & Zhang, Q. (2018). Learning behavior engagement: definition, analytical framework and theoretical model. *China Audiovisual Education* (1), 7.
- [18] Ding, Y. (2015). The impact of college students' psychological capital on learning engagement: a study of the mediating mechanism based on professional commitment. *Education and Teaching Research*, 29(3), 5.
- [19] Song, Z. Y., & Fan, L. G. (2022). The impact of professional commitment on learning engagement of local college students: the mediating role of psychological capital. *Journal of Anqing Normal University: Social Science Edition* (002), 041.
- [20] Zhang, W., Yin, L., X, C. D., Wang, X. Q., & Yan, W. S. (2022). The relationship between left-behind junior high school students' perceived class atmosphere and learning engagement: The mediating role of psychological resilience. *Chinese Journal of Health Psychology* (007), 030.
- [21] Zhuang, Y., & Zhang, D. B. (2015). Future time perspective and subjective well-being of college students: the mediating effect of learning engagement. *Education Review* (7), 4.
- [22] Liu, Y. M. (2022). The impact of high school students' growth mindset on learning engagement: The mediating role of grit and its dimensions. *Journal of Guangdong Second Normal University*, 42(2), 99-112.
- [23] Zeng, G., Hou, H., & Peng, K. (2016). Effect of growth mindset on school engagement and psychological well-being of Chinese primary and middle school students: The mediating role of resilience. *Frontiers in psychology*, 7, 1873.
- [24] Lam, S. F., Yim, P. S., & Ng, Y. L. (2008). Is effort praise motivational? The role of beliefs in the effort - ability relationship. *Contemporary Educational Psychology*, 33(4), 694-710.
- [25] Hayes, A. F. (2017). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. Guilford publications.
- [26] Luthans, F., Youssef, C. M., & Avolio, B. J. (2007). Psychological capital: Investing and developing positive organizational behavior. *Positive organizational behavior*, 1(2), 9-24.
- [27] Hu, X. Y., Liu, X., Geng, M. F., & Yang, Y. X. (2022). The relationship between college students' core self-evaluation and learning engagement: the chain mediation effect of growth mindset and academic emotions. *Journal of Social Sciences of Shanxi Universities*, 34(8), 65-70.
- [28] Tseng, H., Kuo, Y. C., & Walsh, E. J. (2020). Exploring first-time online undergraduate and

graduate students' growth mindsets and flexible thinking and their relations to online learning engagement. *Educational Technology Research and Development*, 68, 2285-2303.

- [29] Luthans, Youssef, & Avolio, Li, C. P. (2008). *Developing the human competitive edge: Psychological capital*. China Light Industry Press.
- [30] Dweck, C. S. (2006). *Mindset: The new psychology of success*. Random house.
- [31] Jia, X. Y. (2018). *The influence of individual ability view on creative thinking* (PhD dissertation, Zhejiang University).
- [32] Schaufeli, W. B., Salanova, M., González-Romá, V., & Bakker, A. B. (2002). The measurement of engagement and burnout: A two sample confirmatory factor analytic approach. *Journal of Happiness studies*, 3, 71-92.
- [33] Li, X. Y., & Huang, R. (2010). Report on the revision of the University Student Learning Engagement Scale (UWES-S). *Psychological Research* (1), 5.
- [34] Bech, P., Gudex, C., & Staehr Johansen, K. (1996). The WHO (Ten) well-being index: validation in diabetes. *Psychotherapy and psychosomatics*, 65(4), 183-190.

서 영 (Xu Ying)



- 2008.07~Now: Associate Prof, Guangzhou Songtian Polytechnic College
- 2022.03~Now: Hanseo University (Doctoral Student)
- Interest: Lifelong Education, Ideological and Political Education
- E-Mail: xusu752@gmail.com

마 문 연 (Wen Juan Ma)



- 2018.09~2022.01: Guangdong University of Finance & Economics (MBA)
- 2021.01~Now: Associate Prof, Guangzhou Nanyang Polytechnic College
- 2022.09~Now: Hanseo University (Doctoral Student)
- Interest: Lifelong education
- E-Mail: maxiaodul11@gmail.com

우 양 (Wu Yang)



- 2006.09.~2010.06: Dongguan University of Technology
- 2023.08.~now: Guangzhou Songtian Polytechnic College
- Field of Interest: Musical Education
- E-Mail: wyty201311@sohu.com

이 창 식 (Chang Seek Lee)



- 1993.02.~Now: Prof., Hanseo University
- 2010.03.~Now: Head, Multicultural Education and Welfare Institute
- Interest: Lifelong Education, Slower Lerner
- E-Mail: lee1246@hanmail.net