

Exploring the Interplay: Academic Self-Efficacy as a Moderator in the Mediation of Future Time Perspective on Learning Engagement via Hope among Secondary Vocational Students

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Abstract: With the continuous popularization of higher education, secondary vocational students also have the opportunity to enter universities, leading to an increasingly competitive learning environment. How to effectively improve their learning engagement is a question worthy of study. This study aims to investigate the moderated mediation effect of academic self-efficacy on the mediating effect of hope between future time perspective and learning engagement of secondary vocational students. The study subjects were purposefully sampled from a vocational school in Dongguan, China. Data was collected through a questionnaire survey to gather information on future time perspective, hope, academic self-efficacy, and learning engagement. A total of 310 responses were collected for analysis. The statistical tools used in this study were SPSS Ver.26 and PROCESS macro Ver.4.2. Conducted reliability analysis, frequency analysis, descriptive statistics, and correlation analysis. And the investigation of the moderated mediation effect was carried out utilizing model 14 within the PROCESS macro. The results of the study revealed that the notable positive correlation was observed among learning engagement, future time perspective, hope, and academic self-efficacy. Moreover, the academic self-efficacy moderated the pathway of future time perspective to learning engagement via hope. The results of this study provide suggestions for designing programs aimed at enhancing the learning engagement of secondary vocational students.

Keywords: Learning Engagement, Future Time Perspective, Hope, Academic Self-Efficacy, Moderated Mediation Effect

1. Introduction

With the popularization of higher education, an increasing number of secondary vocational students are choosing to attend university. However, according to data released by the education department of Guangdong Province, 260000 secondary vocational students took the exam in 2023, and only 1110 students were able to enroll in undergraduate institutions[1]. The competition in academics is intense, making it crucial to find ways to improve students' academic performance. In the practice of psychological counseling for secondary vocational students, Researchers have found a potential connection between learning engagement and future time perspectives, students with poor learning status are always confused about their future and have more negative learning goals. On the contrary,

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students with better learning status are more concerned about future events and tasks, their understanding is clearer and their purpose is stronger. Researchers explored along this line of thought and found some clues.

Learning engagement (LE) is an individual's ability to maintain a positive, sustained mental state during learning activities[2]. It not only predicts students' academic performance but also effectively stimulates positive psychological qualities in adolescents, such as resilience and optimism[3]. Consequently, exploring the mechanisms that influence LE is essential. This exploration can provide a theoretical basis for improving the scholastic accomplishments of secondary vocational students.

Future time perspective (FTP) refers to a stable personality trait in which individuals exhibit cognitive, experiential, and behavioral tendencies towards future time[4]. Research indicates a notable positive correlation between students' level of future perspective and both academic performance and study time[4]. Therefore, it is reasonable to infer that FTP can significantly predict LE.

To more effectively enhance adolescents' levels of LE, we should focus on examining the mediating mechanisms through which FTP influences LE. Building on previous literature reviews, this study proposes that hope is a crucial mediating variable worth considering. Hope is a positive psychological state that serves as both the pathway to and the motivation for pursuing success[5]. Studies have indicated that individuals with high FTP also tend to have higher levels of hope[6]. Additionally, research suggests that individuals with higher levels of hope exhibit greater LE[7]. Therefore, hope is recognized as one of the variables that influence LE.

Academic self-efficacy (ASE) refers to learners' self-assessment of their confidence in using their skills to fulfill learning tasks[8]. From previous research findings, students' ASE is a significant factor driving autonomous behaviors and self-regulated learning. The stronger the students' efficacy beliefs, the more likely they are to engage in self-monitoring behaviors and, consequently, engage in self-directed learning[9]. Therefore, ASE can also influence LE.

Therefore, this study tried to confirm the effect of FTP on LE through hope and the moderated mediation model of ASE. The two questions are proposed as follows. First, what is the relationship between FTP, hope, ASE, and LE? Second, does ASE moderate the mediating effect of hope between FTP and LE?

2. Literature Review

2.1 Future Time Perspective and Learning Engagement

Time and space are two inherent attributes of material existence, and there are significant individual differences in how people perceive and experience time. FTP is characterized by planning and achieving future goals[6]. typically regarded as a personality trait in individuals[10], encompassing cognitive, emotional, and behavioral components related to the future[4].

LE is commonly regarded as the relatively sustained and positive state that individuals maintain during the learning process[2]. It involves the interaction of cognitive, emotional, and behavioral aspects in the learning process[11]. Typically encompasses three dimensions: concentration, vigor, and dedication[2].

The association between FTP and LE has attracted widespread attention among researchers. Current research suggests that the greater the focus on the future, the higher the level of LE, students who adopt a long-term perspective are more likely to resist immediate temptations, concentrate on long-term objectives, and consequently, achieve better LE[12]. Through research on university students, it has been found that a focus on the future drives proactive development of self-control, active overcoming of difficulties, and maintaining attention on their desired goals, leading to better LE[13].

2.2 The Mediating Effect of Hope

Hope, as a psychological trait, originates from the field of positive psychology. It is a complex cognitive structure that assists individuals in intuitively processing information, focusing on goals, and serving as a resource to maintain confidence in the face of adversity and challenges[14]. In educational settings, hope is viewed as a motivating positive emotion, usually exhibiting a positive correlation with the academic performance of students[15]. Individuals with higher levels of hope, when confronted with academic challenges, maintain the belief in their ability to succeed. They are more likely to objectively assess problems, proactively seek solutions, and consistently uphold positive learning motivation[16].

Research has shown that the FTP will positively affect hope[17]. Looking appropriately into the future can help individuals avoid dwelling on past defeats, approach stress with a more positive mindset, and be hopeful about the future.

Additional research has identified a positive correlation between hope and LE. An increase in the level of hope can lead to higher levels of LE in students, stimulating intrinsic motivation and thereby achieving better LE[14]. Hope, as a positive psychological trait, is also an important variable that can affect LE.

2.3 The Moderating Effect of Academic Self-Efficacy

The concept of self-efficacy was proposed by the American psychologist Bandura, viewing it as a form of efficacy expectation—a belief in one's ability and capacity regarding one's actions[18]. ASE is the manifestation of self-efficacy within the learning realm. It represents an individual's subjective judgment and perception of their capacity to control their learning behaviors and performance[8]. Research indicates that during learning activities, ASE influences the extent of individuals' motivational efforts. Having higher ASE significantly mobilizes one's enthusiasm for learning[19]. Simultaneously, individuals with high ASE exhibit greater confidence and demonstrate stronger resilience when facing difficulties.[20].

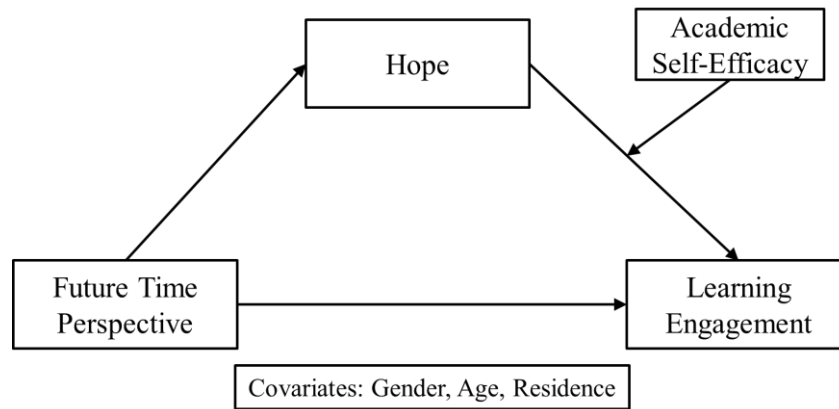
Some researchers, through studies on college students' hope, have identified that self-efficacy serves as a mediating factor. By influencing self-efficacy, it can indirectly impact an individual's level of hope[21]. Another study indicates that individuals with elevated levels of hope frequently exhibit higher self-efficacy[22].

Research indicates a significant positive correlation between ASE and LE, ASE can significantly and positively predict LE[23]. Specifically, ASE influences students' participation in learning activities and their expectations of whether they can achieve learning goals. The improvement of ASE enhances students' confidence in their abilities and their willingness to engage in learning tasks with a certain level of difficulty[18]. Therefore, increasing students' ASE can enhance their LE, allowing students to experience more positive emotions[24].

3. Research Methodology

3.1 Research Design

Based on the results of the literature review, researchers speculate that ASE may moderate the path from FTP to LE via hope. To confirm this hypothesis, researchers establish a model using Model 14 of the PROCESS macro[25], where LE is the independent variable, FTP is the dependent variable, hope is the mediating variable, and ASE is the moderating variable, as depicted in [Fig. 1].



[Fig. 1] Research Model

3.2 Research Locale

To meet the purpose of the research and secure the intended research subjects, this study used purposive sampling. This study purposively selected a secondary vocational school in Dongguan City, Guangdong Province, China. The school was established in 2006, and it currently has a total of 2,600 students.

3.3 Research Instrument

3.3.1 Future Time Perspective

The scale devised by Carstensen and Lang[26] was used, consisting of 10 questions such as “ Many opportunities await me in the future ”. This study used a 5-point Likert scale from “strongly disagree” to “strongly agree”. Elevated scores signify a greater level of FTP. The Cronbach's α for the FTP scale was 0.819.

3.3.2 Learning Engagement

The scale devised by Schaufeli and Bakker[27] was used, consisting of 9 questions such as “ When I'm doing my work as a student”, and “I feel bursting with energy ”. The original scale used a 7-point Likert scale. For research convenience, the researcher adjusted it to a 5-point Likert scale from “strongly disagree” to “strongly agree”. Elevated scores signify a greater level of LE. The Cronbach's α for the LE scale was 0.929.

3.3.3 Academic Self-efficacy

The scale devised by Nielsen Tine et al.[28] was used, consisting of 5 questions such as “ I generally manage to solve difficult academic problems if I try hard enough ”. This study used a 5-point Likert scale from “strongly disagree” to “strongly agree”. Elevated scores signify a greater level of ASE. The Cronbach's α for the ASE scale was 0.838.

3.3.4 Hope

The scale devised by Snyder et al.[29] and validated by Choi, et al.[30] was used, consisting of 8 questions such as “ I can think of many ways to get out of a jam ”, using a 5-point Likert scale from “strongly disagree” to “strongly agree”. Elevated scores signify a greater level of hope. The Cronbach's α for the hope scale was 0.853.

3.4 Respondents of the Study

Excluding questionnaires with insufficient responses, 310 students were used in the final analysis. The average age of respondents was 16.5 years old (range 15 to 18), 220 (71.0%) were females and 90 (29.0%) were males. 187 students (60.3%) live in city, and 123 students (39.7%) live in countryside.

3.5 Data Gathering Procedures

The survey was conducted in June 2023, researcher reached out to the school to seek collaboration for the investigation and conducted the survey during class time. Due to its proximity to the end of the term, prior to the survey, researchers explained its purpose to the students to alleviate any stress. Students were requested to provide truthful answers. This survey employed an online questionnaire distributed by the researcher on-site, with students using their mobile phones to fill it out and submit their responses anonymously.

3.6 Data Analysis

The data was analyzed using SPSS software and PROCESS macro plug-in. This study conducted reliability analysis, frequency analysis, descriptive statistics, and correlation analysis. And the analysis of the moderated mediation effect was carried out utilizing model 14 of the PROCESS macro [25]. Bootstrapping was performed at 95% confidence level based on 5000 corrected bootstrap samples to verify the direct, mediating, moderating effects. The conditioning values were set to M and M±SD, only continuous variables were mean centering. Sociodemographic characteristics, including gender, age, and residence, were entered as control variables.

4. Results

4.1 Correlation between Main Variables

Utilizing Pearson's correlation method, the correlation between main variables was presented in [Table 1]. There is a positive correlation between all variables, The overall correlation coefficient ranges from .458 to .684. Based on these results, there is no multicollinearity.

As for descriptive analysis, the mean of each variable exceeds the median value of 3. FTP had the highest average of 3.571, LE had the lowest average of 3.108, ASE average of 3.445, and hope average of 3.422.

[Table 1] Correlation and Descriptive Analysis of Major Variables

	1	2	3	4
1. Future time perspective	1			
2. Learning engagement	.458**	1		
3. Academic self-efficacy	.484**	.523**	1	
4. Hope	.504**	.586**	.684**	1
M	3.571	3.108	3.445	3.422
Sd	0.545	0.720	0.595	0.555

**p<.01

4.2 The Moderated Mediation Model of Academic Self-efficacy

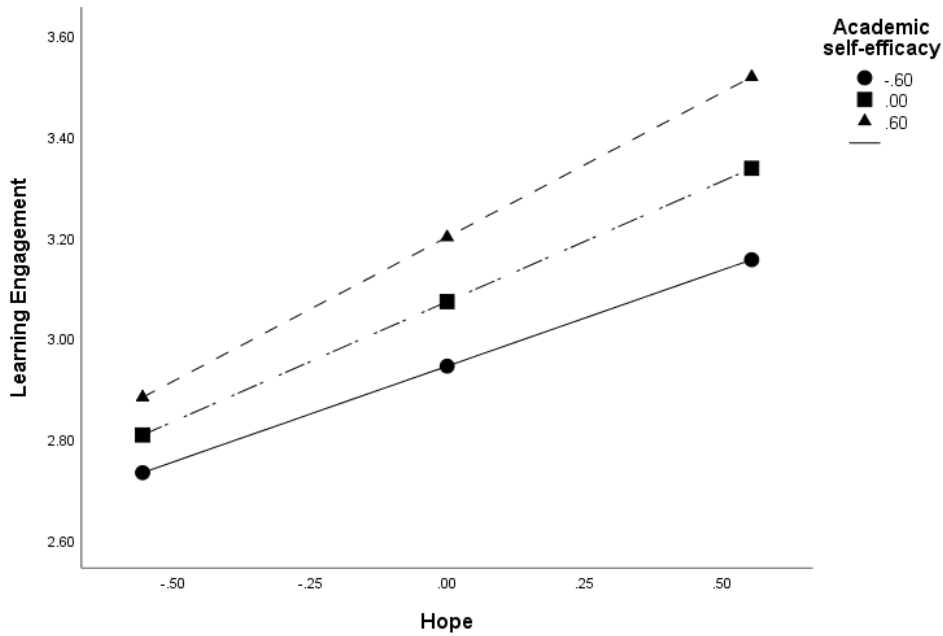
The research results are presented in [Table 2]. FTP has a significant positive relationship with hope (.5024, $p < .001$) and LE (.2440, $p < .001$). Looking at the moderating variable, ASE had a significantly positive relationship with LE (.2148, $p < .01$). The interaction term between hope and ASE had a significantly positive effect on LE (.1610, $p < .05$), so ASE moderated the relationship between hope and LE. When ASE is at the M and $M \pm SD$, the conditional effect on hope is significant. The Johnson-Neyman result revealed that the moderating effect was significant when ASE exceeded -1.4154, encompassing 98.0645% of the survey subjects.

[Table 2] Results of Moderating Mediation Effect Analysis of Academic Self-efficacy

Variables		Mediating variable model (DV: Hope)			Dependent variable model (DV: Learning engagement)		
		Coeffect	SE	t-value	Coeffect	SE	t-value
Constant		-1.5306	.2789	-5.4887***	1.8591	.3429	5.4215***
Independent variable	Future time perspective	.5024	.0503	9.9946***	.2440	.0695	3.5117***
Mediator	Hope				.4757	.0817	5.8243***
Moderator	Academic self-efficacy				.2148	.0760	2.8261**
Interaction item	Hope \times Academic self-efficacy				.1610	.0691	2.3315*
Highest order unconditional interaction	R2 change				.0106		
	F				5.4357		
Covariates	Gender	-.1458	.0607	-2.4014*	.0613	.0722	.8484
	Age	-.0246	.0291	-.8455	.0171	.0341	.5006
	Residence	.0695	.0556	1.2501	.1141	.0653	1.7481
Model Summary	R ²	.2719			.4134		
	F	28.4676***			30.4098***		
Conditional effects of the hope according to academic self-efficacy							
Academic self-efficacy	Effect	se	t value	LLCI	ULCI		
-.5951(M-SD)	.3798	.0906	4.1942	.2016	.5581		
.0000(M)	.4757	.0817	5.8243	.3150	.6364		
.5951(M+SD)	.5715	.0923	6.1929	.3899	.7531		
Johnson-Neyman's Conditional Effect Significance Area							
Academic self-efficacy		Below (%)			Above (%)		
-1.4154		1.9355			98.0645		
Academic self-efficacy	Effect	se	t value	LLCI	ULCI		
-1.6445	.2109	.1383	1.5244	-.0613	.4831		
-1.4845	.2366	.1296	1.8262	-.0184	.4916		
-1.4154	.2478	.1259	1.9679	.0000	.4955		
-1.3245	.2624	.1212	2.1651*	.0239	.5009		
:							
1.5555	.7261	.1365	5.3213***	.4576	.9946		

* $p < .05$, ** $p < .01$, *** $p < .001$

Since the conditional effect was significant, it was presented in [Fig. 2]. The conditions for ASE were given as M, M±1SD, and the variable hope was displayed on the X-axis and the variable LE on the Y-axis. When ASE was at M+SD, LE increased steeply as hope increased. On the other hand, when ASE was in M-SD when hope increased, LE increased slowly. In other words, the impact of hope on LE was different when ASE was high and low.



[Fig. 2] Moderating Effect of Academic Self-Efficacy

As shown in [Table 3], the direct effect between FTP and LE was significant and the value was .2440 (.1073 ~ .3807). Because of the value 0 does not within the 95% confidence interval between the bootstrap lower limit (BootLLCI) and upper limit (BootULCI) at M and M±1SD, so the conditional indirect effect is also evident. Therefore, the moderated mediating effect was confirmed, and the index was .0809 (.0012 ~ .1816), indicating statistical significance. The aforementioned results demonstrate the confirmed moderated mediating effect of ASE on the pathway from FTP to LE through hope.

[Table 3] Direct and Conditional Indirect Effects of Future Time Perspective on Learning Engagement

Direct effect (future time perspective → learning engagement)				
Effect	se	t value	LLCI	ULCI
.2440	.0695	3.5117***	.1073	.3807
Conditional indirect effect (future time perspective → hope → learning engagement)				
Academic self-efficacy	Effect	BootSE	BootLLCI	BootULCI
-.5951	.1908	.0634	.0704	.3206
.0000	.2390	.0643	.1252	.3748
.5951	.2871	.0756	.1532	.4515
Moderated mediation index				
	Index	BootSE	BootLLCI	BootULCI
Academic self-efficacy	.0809	.0455	.0012	.1816

***p<.001

5. Discussion

First, the association between FTP and LE is positive and significant. This result aligns with findings from prior research[12] that as FTP increases, LE improves. When the FTP increases, it means that secondary vocational students have a more substantial and clearer image of future events and tasks, a stronger sense of purpose in learning and life, and better performance in LE. FTP also exhibited a positive association with hope, aligns with findings from prior research that as students increase their FTP, their hope also improves[17]. In addition, the research results that hope and ASE have positively related to LE are consistent with prior research[14][23]. Therefore, to enhance the LE of secondary vocational students, it is crucial to broaden research on FTP, hope, and ASE, and establish a positive mechanism to promote the LE of secondary vocational students on this basis.

Second, it was analyzed whether ASE moderate the association between hope and LE. The interaction term between hope and ASE had a positive and significant impact on LE, So ASE moderated the association between hope and LE. Additionally, the conditional effect of the hope on LE is significant across the entire interval of $M \pm SD$.

Finally, it was analyzed whether ASE moderate the pathway of $FTP \rightarrow \text{hope} \rightarrow LE$. The conditional indirect effect of FTP on LE was also significant, FTP can also exert a positive impact on LE through hope. Thus, the moderated mediating effect of ASE was confirmed.

Based on these research findings, educators and education policy makers can consider the following aspects to enhance the LE of secondary vocational students:

Firstly, FTP has a positive impact on LE, so courses or special activities focused on improving FTP can be implemented to enhance students' understanding of the future and promote the improvement of LE.

Secondly, hope plays a mediating role between FTP and LE. Therefore, through group tutoring, it can alleviate the pressure on students, improve their level of hope, and ultimately enhance their LE.

Finally, ASE can moderate the impact of hope on LE, thus helping students correct negative thinking, enhance learning confidence, and achieve the goal of improving LE by improving ASE.

This study has some limitations. On the one hand, the data were collected at the end of the semester, which may lead to greater stress on students as they may be in a hurry to complete the questionnaire. This may affect their responses so that the results may not be accurate or comprehensive in terms of psychological and emotional states. In this study, the researchers provided students with sufficient time to answer questions in order to eliminate potential biases caused by student stress on the data. On the other hand, the sample was limited to secondary vocational students in Guangdong Province, China, which may limit the extrapolation ability of the study. Students in different regions may be affected by factors such as culture and education system, so this regional limitation may affect the generalizability of the research results.

In future research, it is planned to carry out surveys in different periods of the semester, in different backgrounds or in different populations, and use Internet tools to expand the scope of the survey, address geographical constraints, and expand the applicability of the study.

6. Conclusion

This study aimed to reveal factors affecting LE of secondary vocational students, the results show that LE, FTP, hope, and ASE are positively correlated, and the moderated mediating effect of ASE in the relationship between FTP and LE via hope was confirmed. This study holds significant importance in this field as it first explores the relationship between FTP, LE, hope, and ASE among secondary vocational students. It can provide reference for similar research, and provide support for educators and educational policy makers in designing projects to enhance the LE of secondary vocational students.

References

- [1] http://www.gd.gov.cn/gdywdt/bmdt/content/post_4147190.html, Apr 3 (2023)
- [2] W. B. Schaufeli, I. M. Martinez, A. M. Pinto, M. Salanova, A. B. Bakker, Burnout and engagement in university students: A cross-national study, *Journal of cross-cultural psychology*, (2002), pp.33, No.5, pp.464-481.
DOI: 10.1177/0022022102033005003.
- [3] J. S. Lee, The relationship between student engagement and academic performance: Is it a myth or reality? *The Journal of Educational Research*, (2014), Vol.107, No.3, pp.177-185.
DOI: 10.1080/00220671.2013.807491.
- [4] X. Huang, On time insight, *Psychological Science*, (2004), No.1, pp.5-7.
DOI: 10.3969/j.issn.1671-6981.2004.01.002
- [5] C. R. Snyder, TARGET ARTICLE: Hope Theory: Rainbows in the Mind, *Psychological inquiry*, (2002), Vol.13, No.4, pp.249-275.
DOI: 10.1207/S15327965PLI1304_01
- [6] A. Dwivedi, R. Rastogi, Future time perspective, hope and life satisfaction: A study on emerging adulthood, *Jindal Journal of Business Research*, (2016), Vol.5, No.1, pp.17-25.
DOI: 10.1177/2278682116673790
- [7] L. Mills, B. A. Smith, N. E. Amundson, S. G. Niles, H. H. In, H. J. Yoon, The effects of hope on student engagement, academic performance, and vocational identity, *The Canadian Journal of Career Development*, (2015), Vol.14, No.1, pp.34-45.
- [8] D. H. Schunk, Self-efficacy and achievement behaviors, *Educational psychology review*, (1989), Vol.1, pp.173-208.
- [9] C. Ma, The relationship between learning burnout and learning engagement among high school students: the mediating role of learning self-efficacy, *Minzu University of China*, (2022).
DOI: 10.27667/d.cnki.gzymu.2022.000522
- [10] Q. Song, Theoretical and empirical research on college students' future time insight, *Southwest Normal University Southwest University*, (2004)
- [11] J. A. Fredricks, P. C. Blumenfeld, A. H. Paris, School engagement: Potential of the concept, state of the evidence, *Review of educational research*, (2004), Vol.74, No.1, pp.59-109.
DOI: 10.3102/00346543074001059
- [12] M. D. Barnett, P. R. Melugin, J. Hernandez, Time perspective, intended academic engagement, and academic performance, *Current Psychology*, (2020), Vol.39, pp.761-767.
DOI: 10.1007/s12144-017-9771-9
- [13] L. Andre, T. T. Peetsma, A. E. van Vianen, J. J. bin de Wal, D. S. Petrovic, T. Bunjevack, Motivated by future and challenges: A cross-cultural study on adolescents' investment in learning and career planning, *Journal of Vocational Behavior*, (2019), Vol.110, pp.168-185.
DOI: 10.1016/j.jvb.2018.11.015.
- [14] M. Tian, S. Yan, N. Wang, Evaluating the effectiveness of Snyder's theory-based group hope therapy to improve self-efficacy of university students in finance, *NeuroQuantology*, (2018), Vol.16, No.6, pp.118-124.
DOI: 10.14704/nq.2018.16.6.1314
- [15] D. B. Feldman, M. Kubota, Hope, self-efficacy, optimism, and academic achievement: Distinguishing constructs and levels of specificity in predicting college grade-point average, *Learning and Individual Differences*, (2015), Vol.37, pp.210-216.
DOI: 10.1016/j.lindif.2014.11.022.
- [16] M. J. Hansen, D. J. Trujillo, D. L. Boland, J. L. MaCkinnon, Overcoming obstacles and academic hope: An examination of factors promoting effective academic success strategies, *Journal of College Student Retention: Research, Theory & Practice*, (2014), Vol.16, No.1, pp.49-71.
DOI: 10.2190/CS.16.1.c

- [17] Y. Xu, A. Wang, G. Pan, The chain mediating role of college students' stress perception and hope between future time insight and study burnout, *Occupation and Health*, (2022), Vol.38, No.14, pp.1964-1968.
DOI: 10.13329/j.cnki.zyyjk.2022.0433
- [18] A. Bandura, W. H. Freeman, R. Lightsey, Self-efficacy: The exercise of control, (1999), Vol.13, No.2.
DOI: 10.1891/0889-8391.13.2.158
- [19] B. Ye, Q. Zheng, L. Liu, X. Fang, The impact of career exploration on college students' job search behavior: the mediating role of job search self-efficacy and the moderating role of emotional regulation, *Psychological Development and Education*, (2016), Vol.32, No.6, pp.691-697.
DOI: 10.16187/j.cnki.issn1001-4918.2016.06.07
- [20] D. Li, L. Wang, S. Zhang, Q. Li, Research on the correlation between self-efficacy and self-esteem among college students, *Chinese Journal of Health Psychology*, (2008), Vol.16, No.4, pp.403-405.
DOI: 10.3969/j.issn.1005-1252.2008.04.018
- [21] Z. Li, X. Yin, The impact mechanism of social support on college students' hope: the mediating role of self-esteem and self-efficacy, *Psychological Development and Education*, (2015), Vol.31, No.5, pp.610-617.
DOI: 10.16187/j.cnki.issn1001-4918.2015.05.13
- [22] L. He, C. Zhu, Research on the relationship between college students' hope level, general self-efficacy and life satisfaction, *Heilongjiang Education (Higher Education Research and Evaluation)*, (2013), No.3, pp.77-79.
- [23] D. Porumbu, Self-efficacy–Cognitive-Motivational Vector in Performance Achievement, *Educatia Plus*, (2015), Vol.12, No.SI, pp.213-218.
- [24] P. Xu, S. Luo, J. Yu, M. Tian, J. Zhu, Research on the correlation between undergraduate nursing students' learning self-efficacy and learning engagement, *Health Vocational Education*, (2021), Vol.39, No.24, pp.43-45.
- [25] A. F. Hayes, *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*, Guilford publications, (2017)
- [26] L. L. Carstensen, F. R. Lang, Future time perspective scale, *Psychology and Aging*, (1996)
DOI: 10.1037/t31314-000
- [27] W. Schaufeli, A. Bakker, The Utrecht Work Engagement Scale, Student Version (UWES-S), (2003)
- [28] T. Nielsen, J. Dammeyer, M. L. Vang, G. Makransky, Gender fairness in self-efficacy? A Rasch-based validity study of the General Academic Self-efficacy scale (GASE), *Scandinavian Journal of Educational Research*, (2018), Vol.62, No.5, pp.664-681.
DOI: 10.1080/00313831.2017.1306796
- [29] C. R. Snyder, C. Harris, J. R. Anderson, S. A. Holleran, L. M. Irving, S. T. Sigmon, L. Yoshinobu, J. Gibb, C. Langelle, P. Harney, The will and the ways: development and validation of an individual-differences measure of hope, *Journal of personality and social psychology*, (1991), Vol.60, No.4, pp.570-585.
DOI: 10.1037/0022-3514.60.4.570.
- [30] Y. H. Choi, H. K. Lee, D. Lee, Validation of the Korean version of Snyder's dispositional hope scale, *Korean Journal of Social and Personality Psychology*, (2008), Vol.22, No.2, pp.1-16.
DOI: 10.21193/kjspp.2008.22.2.001