

THE RELATIONSHIP BETWEEN RESILIENCE AND LEARNING MOTIVATION IN COLLEGE STUDENTS: THE MEDIATOR ROLE OF PERSONAL PROTECTIVE FACTORS

Zhao Tianyu^{1*}, Abdul Halim Masnan^{2*}

¹Faculty of Education Liberty Studies, City University Malaysia, 46100 Petaling Jaya, Malaysia

²Faculty of Human Development, Universiti Pendidikan Sultan Idris, 35900 Tanjong Malim, Perak, Malaysia

*Corresponding author: abdul.halim@fpm.upsi.edu.my

ABSTRACT

To understand the effect of college students' resilience on learning motivation, this study used a questionnaire to investigate the effect of personal protection factors and environmental protective factors in the resilience structure of college students on their learning motivation and to verify the mediating effect of personal protection factors. The study found that: (1) Environmental protective factors in the resilience structure of college students have a facilitative effect on personal protection factors. (2) Sociability and Self-Regulation are not only not significantly related to learners' motivation but also do not have a mediating role. The value of this study is to be the first to explore value of this study is that it is the first to explore the mediating effect of personal protection factors in the structure of resilience and to provide a reference for interventions for students' motivation from the perspective of college students' resilience.

Keywords: *Resilience, Personal Protective factors, Environmental Protective Factors*

INTRODUCTION

Learning involves dealing with a variety of difficulties. Successfully overcoming difficulties in the learning process is especially critical for learners who lack sufficient motivation to learn daily.

People can adapt to their environment through resilience, a psychological mechanism derived from the discipline of psychology (Luthar et al. 2000). An individual's ability to cope with stress and difficulties positively and constructively is what we call resilience. When faced with learning difficulties, more resilient people recover more quickly and have higher motivation (Masten et al. 2012, Shin et al. 2009).

PROBLEM STATEMENT

In recent years, scholars have focused on the important role of personal protective factors of resilience on students' psychological variables, arguing that resilience is closely related to students' psychological characteristics, such as socio-emotional variables, self-concept, academic expectations, causal attributions, and confidence in their abilities (Erberber et al., 2015, Garcí'a-Crespo, 2021). Vaknin- Nusbaum et al. (2018) also argued that resilience is closely related to individual motivation-related variables such as effort, persistence, personal power, ability to work autonomously, enthusiasm for learning, and enjoyment of reading.

A review of research on learner resilience suggests that it has a multidimensional structure. However, it is unclear whether personal protective factors and environmental protective factors are the processes that help learners to enhance motivation, especially the mediation role of personal factors.

Thus, the present study aims to explore the effect of environmental protective factors on personal factors and verify whether personal protective factors play a mediating role between environmental protective factors and students' learning motivation.

Therefore, the following research questions are posed in this study.

RQ1: Do environmental protective factors have a facilitative effect on personal factors?

RQ2: Do personal protective factors mediate between environmental protective factors and students' learning motivation?

LITERATURE REVIEW

Several dynamic resilience models have been proposed in psychology that examine the interaction between environmental protective factors and personal protective factors (Rutter, 1990; Kumpfer, 1999; Richardson, 2002; Adeela Ahmed Shafi et al., 2020). Unfortunately, dynamic models have not been fully developed in resilience-related research, and researchers have focused on the internal structure of resilience.

Scholars differ in their opinions regarding the structure of resilience and whether it is unidimensional or multidimensional. According to the definition of competence, resilience is an individual competency possessed by learners, which leads to the unidimensionality of resilience. The unidimensional structure has been dominated by the five-factor structure proposed by Korean scholar Kim in 2015-2020, which includes Perceived Happiness, Empathy, Sociability, Persistence, and Self-Regulation. Multidimensional scholars believe that resilience should be composed of external and internal factors. In Zhao and Li's (2009) study, resilience is described as a combination of internal and external factors, among which academic efficacy, academic persistence, self-acceptance, academic goals, and social support are the internal factors. Zhan (2018) and Hu and Gan (2008) also suggest that resilience combines environmental and personal protection factors.

METHODOLOGY

Research Framework

Positive psychology has its roots in the theory of human self-management and self-direction. It focuses on the positive character traits of individuals and the positive social environment in which they live. In positive psychology, positive personalities are believed to improve coping strategies (Seligman & Csikszentmihalyi, 2000). Positive personality psychological qualities include non-intellectual, intellectual ability, psychological status, and social adjustment factors. Non-intellectual factors include human motivation, interests, beliefs, personality, outlook on life, values, and worldview. People's psychological quality is determined mainly by their optimistic attitudes. Creative ability is primarily based on organizational ability, orientation, hands-on ability, and adaptability to play the role of creative ability, reflecting a person's psychological well-being.

Social status factor psychological status, the importance of self-esteem, self-confidence, self-love, self-reliance, self-evaluation, self-awareness, and acceptance of self; maintaining psychological balance, increasing psychological tolerance, and achieving a positive psychological state is essential. Socialization factors determine a person's interpersonal relationships and level of dynamic adaptation to a social environment. Thus, learning, competition, responsibility, role, and career psychology can be enhanced. Self-determinism and optimism have received more attention. According to positive psychology, enhancing an individual's positive emotional experiences is crucial to developing these traits. Individuals are self-determinists when they make some choice regarding their development and keep to it. Regarding a positive social environment, Maslow, Rogers, and others state that individuals are most likely to grow healthy and self-actualize when the child's surroundings and teachers, peers, and friends provide optimal support, compassion, and choice.

In this study, an upbeat personality and a positive social environment are personal and environmental protective factors. Based on the above overview, the personal protective factor in this

study includes five dimensions, self regulation, sociability, persistence, perceived happiness, and empathy.

According to the research questions and discussion above, the research framework can be shown in Figure 1.

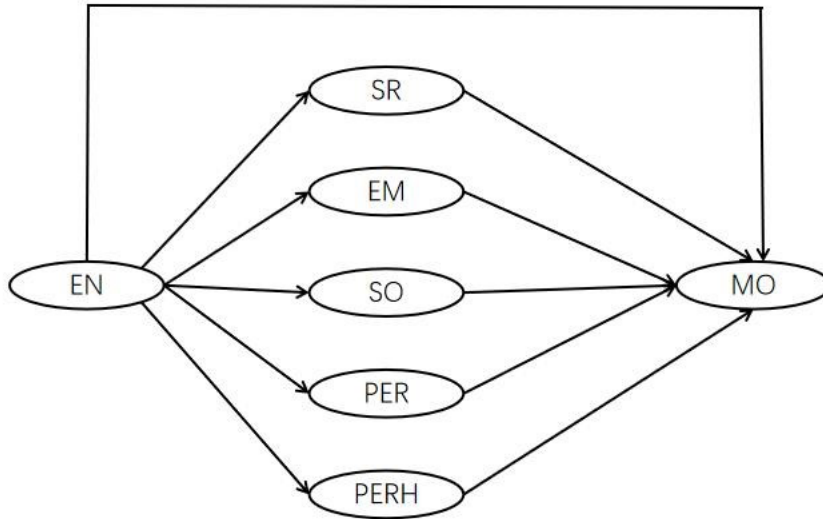


Figure 1. Figure Text and Caption.

Note:SR: Self-Regulation, SO: Sociability, PER: Persistence, PERH: Perceived Happiness, EM: Empathy, EN: Environmental Protective Factor, MO: Learning Motivation

Sample and Data Collection Design

The study will use convenience sampling in nonprobability sampling with college students in China as the study population. Specifically, the original was created for two reasons.

Although probability sampling would provide more accurate results, it is objectively impossible to do so since the overall study population is college students, which is a large population.

For exploratory studies, convenience sampling is the best way to obtain basic information through non-probability sampling (Sekaran & Bougie, 2013, p. 195). In the context of this study, convenience sampling is most suitable for the research purpose since it is in a theoretical exploratory stage.

The sample size is one of the most important factors when conducting a study. This study will design the sample size based on the data analysis characteristics and the questionnaire's structure. A sample size of at least 200 or more is recommended for SEM analysis results, according to Wu (2010, p.5). Nevertheless, the cardinality of SEM analysis is easily affected by sample size, and a large sample size increases the probability of model rejection. To ensure the stability of the model and data, the sample size of this study will be 10:1 in comparison to the number of observed variables (Wu, 2010, p. 5). Therefore, the sample size in the formal study will be no less than 360.

The Questionnaire Star platform will create web-based questionnaires for this study, which will be delivered online to college students via its targeted delivery feature. Were 500 questionnaires placed in the study, of which 487 were returned, representing a return rate of 97.4%. Of those, 17 questionnaires with missing values were deemed invalid, while 470 valid questionnaires were returned.

Questionnaire Design

The Self-regulation, Sociability, Persistence, Perceived Happiness, and Empathy personal protective factors are derived from the summary of previous literature. Therefore, the question items on these five personal protective factor measures will be selected from Shin et al. (2009), Kim and Kim (2016), Cassidy (2016), and Hu and Gan (2008). The Shin et al. (2009) and Kim and Kim (2016) questionnaires were designed in a Korean context with a learning environment similar to that of Chinese university students. The questionnaire by Cassidy (2016) was the most widely used in academic resilience research. The questionnaire in Hu and Gan (2008) study is a resilience questionnaire developed for Chinese university students. Environmental Protective Factor is mainly based on Hu and Gan's (2008) family support, Ghaith (2002) personal peer support and Romano's (2021) Teacher Emotional Support scales. The Motivation for Learning Questionnaire was referenced by Tsao et al. (2021) for the question items.

FINDING & ANALYSIS

Reliability

A test's reliability is determined by its consistency, stability, and reliability. Generally, the level of reliability can be determined by internal consistency. The Cronbach's Alpha, roh-A, composite reliability of the instrument was evaluated using Smart-PLS. Cronbach's alpha is often used to test questionnaire reliability, but this study added the Roh-A, composite reliability. Cronbach's alpha of 0.7 is considered satisfactory. The threshold value for roh-A, composite reliability, and scale reliability is also 0.7 (Hair et al., 2014). Based on the reliability test results, the study's scale appears reliable (Table 1)

Table 1

Reliability.

	Cronbach's Alpha	rho_A	Composite Reliability
EM	0.889	0.897	0.923
EN	0.841	0.854	0.882
MO	0.864	0.864	0.898
PER	0.894	0.896	0.922
PERH	0.915	0.917	0.936
SO	0.874	0.877	0.914
SR	0.906	0.910	0.930

Note:SR: Self-Regulation, SO:Sociability, PER:Persistence, PERH:Perceived Happiness, EM:Empathy, EN: Environmental Protective Factor, MO: Learning Motivation

Convergent Validity

Convergent validity is the degree to which a metric is positively correlated with alternative metrics of the same construct. Items indicators of a particular construct should converge or share a large proportion of the variance. To establish convergent validity, the researcher considers the external loadings of the metric, as well as the mean-variance extracted.

High external loadings on a construct indicate that the metrics in question have much in common. External loading of 0.708 or higher is considered a good rule of thumb. A well-established rule of thumb is that a latent variable should explain a large proportion of the variance of each indicator, usually at least 50%. This also means that the variance shared between the construct and its indicator exceeds the measurement error variance. This means that the external loading of an indicator should be higher than

0.708, as the square of this number (0.7082) equals 0.50. Note that in most cases, 0.70 is considered close enough to 0.708 is acceptable (Hair et al., 2014, p.104)

A common method for establishing convergent validity at the construct level is the average variance extracted (AVE). This criterion is defined as the grand mean of the squared loadings of the metrics associated with the construct. AVE is therefore equivalent to the commonality of a construct. A construct with an AVE value of 0.50 or higher is said to explain more than half of the variance of its indicators, on average. An AVE of less than 0.50 indicates, on average, that more error remains in these items than the variance explained by the construct (Hair et., 2014, p. 103).

Table 2

Reliability.

	AVE
EM	0.749
EN	0.520
MO	0.598
PER	0.703
PERH	0.746
SO	0.726
SR	0.727

Note:SR: Self-Regulation, SO: Sociability, PER: Persistence, PERH: Perceived Happiness, EM: Empathy, EN: Environmental Protective Factor, MO: Learning Motivation

From the above table, it can be seen that the AVE performance of the correlation scale for each variable is greater than 0.5, so the convergent validity of the scale can be judged to be established.

Discriminant Validity

A construct's discriminant validity measures how much it differs from other constructs based on empirical evidence. Therefore, discriminant validity implies that the structure captures phenomena not captured by the other structures. Cross loadings, the Fornell-Larcker criterion, and heterotrait-monotrait correlation (HTMT) are three methods proposed for determining discrimination validity in this study.

Cross loadings are also called “item-level discriminant validity”. According to Gefen and Straub (2005, p.92), “ discriminant validity is shown when each measurement item correlates weakly with all other constructs except for the one to which it is theoretically associated ”. Hair et al. (2014, p.105) states that the external load of an indicator on the relevant structure should be greater than all of its load on the other structures, indicating that two or more constructs exhibit differential validity.

The Fornell-Larcker criterion is a more conservative approach to assessing discriminant validity. It compares the square root of the AVE value with the correlation of the latent variable. Specifically, the square root of each construct's AVE should be greater than its highest correlation with any other construct. The logic of this approach is based on the idea that a construct has more variance with its correlated indicators than with any other construct (Hair et al., 2014, p. 105).

A heterotrait-monotrait ratio of correlations (HTMT) measures the correlation between indicators between the constructs of different phenomena, whereas the two traditional methods above are relatively insensitive. Using the HTMT as a criterion involves comparing it with a predefined threshold. HTMT values above this threshold are indicative of an absence of discriminant validity. HTMT has two suggested thresholds of 0.85 and 0.90. The lower threshold (0.85) is more stringent than the upper threshold (0.9) (Henseler et al., 2015, p. 121).

Table 3*Cross loadings.*

	EM	EN	MO	PER	PERH	SO	SR
EM1	0.814	0.594	0.472	0.639	0.665	0.590	0.583
EM2	0.885	0.680	0.661	0.671	0.680	0.592	0.645
EM3	0.880	0.652	0.709	0.716	0.747	0.592	0.648
EM4	0.882	0.716	0.663	0.704	0.656	0.716	0.664
EN1	0.689	0.725	0.544	0.685	0.629	0.623	0.653
EN2	0.506	0.746	0.481	0.476	0.420	0.390	0.489
EN3	0.547	0.736	0.427	0.463	0.467	0.479	0.383
EN4	0.601	0.837	0.444	0.525	0.562	0.592	0.514
EN5	0.511	0.725	0.481	0.453	0.482	0.397	0.496
EN6	0.504	0.742	0.525	0.574	0.523	0.499	0.492
MO1	0.472	0.402	0.777	0.476	0.471	0.387	0.405
MO2	0.559	0.469	0.847	0.549	0.491	0.377	0.452
MO3	0.475	0.512	0.806	0.522	0.469	0.418	0.449
MO4	0.478	0.394	0.742	0.512	0.474	0.327	0.388
MO5	0.613	0.478	0.810	0.553	0.516	0.458	0.458
MO6	0.706	0.651	0.640	0.594	0.628	0.638	0.590
PER1	0.655	0.644	0.541	0.789	0.562	0.590	0.509
PER2	0.676	0.586	0.596	0.871	0.564	0.537	0.517
PER3	0.621	0.556	0.533	0.839	0.601	0.514	0.556
PER4	0.671	0.608	0.615	0.826	0.641	0.561	0.614
PER5	0.683	0.611	0.652	0.866	0.552	0.562	0.622
PERH1	0.646	0.553	0.470	0.537	0.868	0.535	0.576
PERH2	0.697	0.626	0.605	0.655	0.895	0.649	0.640
PERH3	0.668	0.617	0.646	0.638	0.843	0.656	0.649
PERH4	0.649	0.615	0.568	0.523	0.849	0.625	0.552
PERH5	0.756	0.598	0.590	0.638	0.861	0.666	0.627
SO1	0.622	0.628	0.542	0.594	0.655	0.873	0.588
SO2	0.631	0.549	0.498	0.584	0.625	0.833	0.520
SO3	0.633	0.599	0.493	0.552	0.705	0.840	0.552
SO4	0.563	0.561	0.440	0.516	0.488	0.862	0.425

SR1	0.572	0.579	0.568	0.589	0.631	0.422	0.793
SR2	0.606	0.555	0.493	0.545	0.579	0.545	0.869
SR3	0.575	0.549	0.398	0.532	0.566	0.525	0.854
SR4	0.708	0.646	0.594	0.612	0.682	0.591	0.873
SR5	0.653	0.601	0.500	0.578	0.538	0.534	0.871

Note:SR:Self-Regulation, SO:Sociability, PER:Persistence, PERH:Perceived Happiness, EM:Empathy, EN: Environmental Protective Factor, MO: Learning Motivation

As can be seen from the table of cross loading, the external load of the indicator on the structure in question should be greater than all the loads it has on the other structures.

Table 4

The Fornell-Larcker criterion.

	EM	EN	MO	PER	PERH	SO	SR
EM	0.866						
EN	0.765	0.721					
MO	0.732	0.644	0.773				
PER	0.790	0.718	0.703	0.839			
PERH	0.793	0.699	0.672	0.696	0.863		
SO	0.720	0.688	0.581	0.660	0.729	0.852	
SR	0.735	0.691	0.606	0.674	0.707	0.615	0.852

Note:SR:Self-Regulation, SO:Sociability, PER:Persistence, PERH:Perceived Happiness, EM:Empathy, EN: Environmental Protective Factor, MO: Learning Motivation

As can be seen from Table 4, the square root of each construct's AVE is greater than its highest correlation with any other construct.

Table 5

Heterotrait-Monotrait Ratio (HTMT).

	EM	EN	MO	PER	PERH	SO	SR
EM							
EN	0.875						
MO	0.806	0.730					
PER	0.884	0.813	0.786				
PERH	0.879	0.785	0.736	0.767			
SO	0.814	0.791	0.646	0.744	0.807		
SR	0.813	0.778	0.662	0.743	0.770	0.686	

Note:SR:Self-Regulation, SO:Sociability, PER:Persistence, PERH:Perceived Happiness, EM:Empathy, EN: Environmental Protective Factor, MO: Learning Motivation

From Table 5, it can be seen that none of the HTMT values of the questionnaire were greater than 0.9.

In summary, the scale used in this study has established discriminant validity.

Evaluation of the Relationships

This study aimed to explore the relationship between learner resilience and learning motivation, particularly the mediating role of personal protective factors. Therefore, this study used path analysis to assess the structural model.

Table 6

Direct relationships.

	Original Sample (O)	Sample Mean (M)	S.D	T	P
EM -> MO	0.307	0.301	0.056	5.519	0.000
EN -> EM	0.746	0.744	0.024	30.795	0.000
EN -> MO	0.106	0.107	0.050	2.134	0.033
EN -> PER	0.709	0.708	0.028	25.581	0.000
EN -> PERH	0.687	0.684	0.030	22.760	0.000
EN -> SO	0.666	0.666	0.032	20.916	0.000
EN -> SR	0.675	0.673	0.028	23.783	0.000
PER -> MO	0.268	0.270	0.045	5.946	0.000
PERH -> MO	0.173	0.177	0.052	3.321	0.001
SO -> MO	-0.029	-0.032	0.042	0.688	0.492
SR -> MO	0.024	0.025	0.054	0.446	0.656

*Note:*SR:Self-Regulation, SO:Sociability, PER:Persistence, PERH:Perceived Happiness, EM:Empathy, EN: Environmental Protective Factor, MO: Learning Motivation

From Table 6, it can be seen that there is no significant positive effect ($p > 0.05$) between Sociability and Learning Motivation among the personal protective factors, and there is no significant positive effect ($p > 0.05$) between Self-Regulation and Learning Motivation.

However, there was a significant positive effect ($p < 0.05$) of environmental protective factors on the existence of personal protective factors (Self-Regulation, Sociability, Persistence, Perceived Happiness, and Empathy) and Learning Motivation, which means that This means that environmental protective factors can promote the formation of personal protective factors as well as enhance students' learning motivation.

Since mediating variables are involved in this study, mediating effects must be assessed. The variance accounted for (VAF) determines the size of the indirect effect about the total effect. A full mediating effect when VAF is greater than 80%, a partial mediating effect when VAF is between 20% and 80%, and no mediating effect when VAF is less than 20%

Table 7
Mediating effect.

IV	MV	DV	Direct Effect	Indirect Effect	Total Effect	VAF	Remarks
	PERH			0.119 (t=3.213**)	0.225	52.88%	Partial mediating effect
EN	EM	MO	0.106	0.229 (t=5.518**)	0.335	68.35%	Partial mediating effect
	SO			-0.019 (t=0.689)	0.087	19.98%	No mediating effect
	PER			0.190 (t=5.808**)	0.296	64.18%	Partial mediating effect
	SR			0.016 (t=0.445)	0.122	13.11%	No mediating effect

Note: SR: Self-Regulation, SO: Sociability, PER: Persistence, PERH: Perceived Happiness, EM: Empathy, EN: Environmental Protective Factor, MO: Learning Motivation

As seen in Table 7, the mediating effect of Sociability and Self-Regulation between Environmental Protective Factors and Learning Motivation did not hold ($p > 0.05$, $VAF < 25\%$).

While Persistence, Perceived Happiness and Empathy partially mediated the effect between Environmental Protective Factors and Learning Motivation ($p < 0.05$, $20\% < VAF < 80\%$).

DISCUSSION AND IMPLICATION

According to the above data analysis, environmental protective factors contribute positively to learners' protective factors and can enhance their learning motivation. However, Sociability and Self-Regulation were not significantly related to learning motivation, and the mediating effect did not exist.

Persistence positively affects all aspects of learning, including self-regulated learning strategies, motivation, learning achievement, and autonomy (Mohan & Verma, 2020). Stressful situations can be handled calmly when a person has a strong state (Bronk, 2013; Kim and Kim, 2020). Individuals with perseverance can maintain a positive attitude towards the future, thus overcoming adversity. Those with high resilience can redefine challenging situations as manageable and view them as sources of development (Maddi, 1999; Arici-Ozcan et al., 2019).

Positive emotional intelligence includes being able to perceive happiness and empathize with others. Empathy indicates that resilient individuals can comprehend other people's feelings and emotions. Perceived Happiness indicates an individual's optimistic outlook on life. In a study of 217 college students about emotional expression and resilience, Eldelekliolu and Yildiz (2020) found that people with a high level of Subjective Well-Being lived longer, had happier marriages, had stronger immune systems, and were more successful in their careers. Researchers also believe optimistic people see challenges as opportunities to improve their lives. This is known as realistic optimism. Rather than

giving up because of the dilemma in front of them, they will choose an effective way to achieve their learning goals (Kim and Kim, 2021).

According to recent research, resilient students are more likely to perceive the support of others as positive in their learning environment (Ahmed et al., 2018).

Resilience researchers long sought after environmental protective factors, and Garmezy (1991) found family factors were important to preventing Black children in poverty from developing well. Interviews conducted by Garmezy (1991) showed that children in families where each member was treated equally and respected had higher resilience levels. Meanwhile, students' motivation to learn at school, academic performance, and behavioural outcomes are positively correlated with the degree of emotional closeness between parents and their children and the level of parental concern for them (Wentzel et al., 2016). In other studies related to English, similar results have been observed; Zhan and Hong (2015) found that parents with high levels of Mandarin provide better psychological support to students, expand their children's international perspective, and improve their children's motivation to learn English. Li and Yeung (2019) found that when parents are more involved in their children's learning, they do better because of parental orientation. The parental expectations industry can also influence children's motivation to learn.

CONCLUSION

In this study, the following answers can be given to the pre-determined research questions through survey analysis: (1) Environmental protective factors in the resilience structure of college students have a facilitative effect on personal protection factors. (2) Sociability and Self-Regulation are not only not significantly related to learners' motivation but also do not have a mediating role.

However, the study has some limitations, mainly because the large sample size comes from one university, and neither geography nor type of institution is well represented.

In addition, this study still has a practical significance. For university teachers, it has a guiding significance on improving students' learning motivation by cultivating their resilience.

ACKNOWLEDGEMENT

I would like first to thank all the university students who filled out the questionnaire for this study, without their participation I would not have been able to complete the data collection. Secondly, I would like to thank my supervisors who helped me a lot in all stages of thesis writing and data analysis.

REFERENCES

- Adeela ahmed Shafi, Sian Templeton, Tristan Middleton, Richard Millican, Paul Vare, Rebecca Pritchard & Jenny Hatley (2020) Towards a dynamic interactive model of resilience (DIMoR) for education and learning contexts, *Emotional and Behavioural Difficulties*, 25,2, 183-198, DOI: 10.1080/13632752.2020.1771923
- Ahmed, U., Umrani, W. A., Qureshi, M. A., & Samad, A. (2018). Examining the links between teachers support, academic efficacy, academic resilience, and student engagement in Bahrain. *International Journal of ADVANCED AND APPLIED SCIENCES*, 5(9), 39-46. <https://doi.org/10.21833/ijaas.2018.09.008>
- Arici-Ozcan, N., Cekici, F., & Arslan, R. (2019). The relationship between resilience and distress tolerance in college students: The mediator role of cognitive flexibility and difficulties in emotion regulation. *International Journal of Educational Methodology*, 5(4), 525-533. <https://doi.org/10.12973/ijem.5.4.525>
- Bronk, K. C. (2013). *Purpose in life: A critical component of optimal youth development*. Springer Science & Business Media.

- Eldeleklioğlu, J., & Yıldız, M. (2020). Expressing emotions, resilience and subjective well-being: An investigation with structural equation modeling. *International Education Studies*, 13(6), 48. <https://doi.org/10.5539/ies.v13n6p48>
- Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2014). *A primer on partial least squares structural equation modeling (PLS-SEM)*. Sage.
- GARMEZY, N. (1991). Resiliency and vulnerability to adverse developmental outcomes associated with poverty. *American Behavioral Scientist*, 34(4), 416-430. <https://doi.org/10.1177/0002764291034004003>
- Hu, Y. & Gan, Y. (2008). Development and Psychometric Validity of the Resilience Scale for Chinese Adolescents. *Acta Psychologica Sinica*, 40(8), 902-912.
- Kim, T., & Kim, Y. (2016). The impact of resilience on L2 learners' motivated behaviour and proficiency in L2 learning. *Educational Studies*, 43(1), 1-15. <https://doi.org/10.1080/03055698.2016.1237866>
- Kim, T., Kim, Y., & Kim, J. (2017). Structural relationship between L2 learning (De) motivation, resilience, and L2 proficiency among Korean college students. *The Asia-Pacific Education Researcher*, 26(6), 397406. <https://doi.org/10.1007/s40299-017-0358-x>
- Kim, T. Y. , Kim, Y. , & Kim, J. Y. . (2018). A qualitative inquiry on efl learning demotivation and resilience: a study of primary and secondary efl students in south korea. *The Asia-Pacific Education Researcher*, 27(1), 55–64.
- Kim, T., & Kim, Y. (2020). Structural relationship between L2 learning motivation and resilience and their impact on motivated behavior and L2 proficiency. *Journal of Psycholinguistic Research*, 50(2), 417436. <https://doi.org/10.1007/s10936-020-09721-8>
- Kumpfer, K. L. (1999). Factors and Processes Contributing to Resilience : The Resilience Framework. In M. D. Glantz & J. L. Johnson 95 (Eds.), *Resiliency and Development : Positive Life Adaptations* (pp.179 - 224). Kluwer Academic.
- Luthar, S. S , Cicchetti, D., & Becker, B. (2000). The construct of resilience: A critical evaluation and guidelines for future work. *Child development*, 71 (3), 543—562.
- Maddi, S. R. (1999). Comments on trends in hardiness research and theorizing. *Consulting Psychology Journal: Practice and Research*, 51(2), 67-71. <https://doi.org/10.1037/1061-4087.51.2.67>
- Mansfield, C. F., Beltman, S., Price, A., & McConney, A. (2012). “Don’t sweat the small stuff:” understanding teacher resilience at the chalkface. *Teaching and Teacher Education*, 28(3), 357-367. <https://doi.org/10.1016/j.tate.2011.11.001>
- Mohan, V. , & Verma, M. . (2020). Self-regulated learning strategies in relation to academic resilience. *Working papers*, 9(3), 27-34.
- Richardson, G. E. (2002). The metatheory of resilience and resiliency. *Journal of Clinical Psychology*, 58(3), 307-321. <https://doi.org/10.1002/jclp.10020>
- Rutter, M. (1990). Psychosocial resilience and protective mechanisms. In J. Rolf, A. S. Masten, D. Cicchetti, K. H. Nuechterlein, & S. Weintraub (Eds.), *Risk and protective factors in the development of psychopathology* (pp.181-214). Cambridge University Press.
- Sekaran & Bougie (2010). *Research methods for business: A skill building approach*. John Wiley & Sons, Inc.
- Shin, W.-Y., M.-G. Kim, and J.-H. Kim. 2009. “Developing Measures of Resilience for Korean Adolescents and Testing Cross, Convergent, and Discriminant Validity.” *Studies on Korean Youth*, 20 (4): 105–131.
- Wu, M. (2009). *Structural Equation Model: Operation and application of AMOS*. Chongqing University Press.
- Zhao, J. & Li, L. (2009). The Development of the Academia Resilience Scale for College Student. *Journal of Beijing Institute of Technology: Social Science Edition*, (1), 94-102.
- Zhan, X. (2018). Academic resilience effect of self. *Foreign Language World*, 4(187), 67-75.
- Zhan, X. & Hong, M. (2015). The effect of family background on L2 Motivational Self System. *Modern Foreign Languages (Bimonthly)*, 38(6), 11.

APPENDICES

Appendix A: Questionnaire of College Students' Resilience and Learning Motivation

Questionnaire of College Students' Resilience and Learning Motivation

Dear friend!

To understand the College Students' Resilience and Learning Motivation, we developed this questionnaire. Please spare a few minutes to answer the following questions in this survey carefully and authentically. Please be assured that your answer will be kept strictly private and confidential!

Thank you very much for your support and cooperation!

Gender:	Male	Female					
<p><i>This section asks you some questions about your resilience and motivation. You just circle the number that represents your opinion the most in answering each of the questions below. "1" means you strongly disagree with the statement; "2" means you disagree with the statement; "3" means Neutral; "4" means you agree with the statement; "5" means that you strongly agree with the statement.</i></p>							
	Items	Degree of agreement					
1	I would not accept the tutors' feedback.	1	2	3	4	5	
2	I would use the feedback to improve my work.	1	2	3	4	5	
3	I would just give up.	1	2	3	4	5	
4	I would use the situation to motivate myself	1	2	3	4	5	
5	I would change my career plans	1	2	3	4	5	
6	I would probably get annoyed	1	2	3	4	5	
7	I would begin to think my chances of success at university were poor	1	2	3	4	5	
8	I would see the situation as a challenge	1	2	3	4	5	
9	I would do my best to stop thinking negative thoughts	1	2	3	4	5	
10	I would see the situation as temporary	1	2	3	4	5	
11	I would work harder.	1	2	3	4	5	
12	I would probably get depressed.	1	2	3	4	5	
13	I would try to think of new solutions	1	2	3	4	5	
14	I would be very disappointed	1	2	3	4	5	
15	I would blame the tutor	1	2	3	4	5	
16	I would keep trying	1	2	3	4	5	
17	I would not change my long-term goals and ambitions	1	2	3	4	5	
18	I would use my past successes to help motivate myself	1	2	3	4	5	
19	I would begin to think my chances of getting the job I want were poor	1	2	3	4	5	
20	I would start to monitor and evaluate my achievements and effort	1	2	3	4	5	
21	I would seek help from my tutors	1	2	3	4	5	
22	I would give myself encouragement	1	2	3	4	5	

23	I would stop myself from panicking	1	2	3	4	5
24	I think most of the people that I regularly meet would come to dislike me.	1	2	3	4	5
25	I have a friend my own age who I can talk to about my difficulties	1	2	3	4	5
26	My parents are very respectful of my opinions	1	2	3	4	5
27	My parents always gave me confidence and support	1	2	3	4	5
28	My parents always encouraged me	1	2	3	4	5
29	My family is very willing to listen to what I have said	1	2	3	4	5
30	I will take the initiative to read materials about my courses.	1	2	3	4	5
31	I will make a conscious effort to accumulate knowledge and information.	1	2	3	4	5
32	I will make a conscious effort to do my best in studying.	1	2	3	4	5
33	I take the time to find answers to questions I do not understand.	1	2	3	4	5
34	I often use online resources to learn.	1	2	3	4	5
35	I will actively participate in classroom activities during classes.	1	2	3	4	5
