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How do coping strategies and learning environment increase academic buoyancy of state junior high school students?

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Article Info	Abstract
Keywords: Coping strategies, learning environment, academic buoyancy, academic self-concept, junior high school students	Academic buoyancy is an essential psychological resource that enables students to cope with everyday academic challenges and maintain adaptive learning behaviors. This study aimed to examine coping strategies and learning environment as predictors of academic buoyancy among public junior high school students in Malang Regency, Indonesia. A quantitative ex post facto design was employed, involving 198 students. Data were collected using a researcher-developed academic buoyancy scale and adapted coping strategies and learning environment scales. Multiple linear regression was conducted to examine the associations between the predictors and academic buoyancy. Descriptive findings indicated that coping strategies, learning environment, and academic buoyancy were generally categorized as low. The regression model explained 19.4% of the variance in academic buoyancy ($R = .440$, $R^2 = .194$). Coping strategies demonstrated a positive association with academic buoyancy ($\beta = .374$, $t = 5.560$), whereas learning environment showed a negative association after controlling for coping strategies ($\beta = -.147$, $t = -2.184$). These findings highlight the importance of coping resources in students' academic adjustment while revealing a complex relationship between learning environment and academic buoyancy. The study provides implications for school guidance and counseling services, particularly in developing adaptive coping skills and evaluating contextual factors associated with students' responses to academic challenges.
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Introduction

Academic challenges are an inevitable part of students' educational experiences, particularly during early adolescence, when individuals encounter increasing academic expectations, social changes, and developmental demands. Students are required not only to achieve academic success but also to manage everyday setbacks, including examination pressure, disappointing grades, competing assignments, and learning difficulties. The capacity to respond adaptively to these challenges is conceptualized as academic buoyancy, which refers to students' ability to overcome ordinary academic adversities (Martin & Marsh, 2008). Unlike academic resilience, which primarily concerns severe or persistent educational adversity, academic buoyancy emphasizes students' responses to routine academic difficulties (Martin & Marsh, 2009). Recent research has highlighted the importance of academic buoyancy in students' motivation, engagement, and achievement. Weißenfels et al. (2023) identified relationships between academic buoyancy, academic self-efficacy, and mathematics achievement, while Bostwick et al. (2022) demonstrated longitudinal associations between academic buoyancy, school belonging, motivation, and engagement. These findings indicate that academic buoyancy represents an important psychological resource for maintaining adaptive academic functioning.

Academic buoyancy is particularly relevant among junior high school students because the transition to adolescence involves changes in learning responsibilities, interpersonal relationships, and emotional regulation. During this period, students may experience difficulties maintaining motivation and responding constructively to academic setbacks. Previous research has demonstrated that academic buoyancy is related to students' emotional experiences, learning expectations, and task-oriented responses when encountering academic

challenges (Hirvonen et al., 2020). Preliminary screening conducted in Malang Regency also identified learning-related difficulties among approximately 62% of surveyed junior high school students. Although these findings were obtained from a learning-habits questionnaire rather than a direct measure of academic buoyancy, they indicate a relevant concern regarding students' preparedness to manage academic demands. Consequently, identifying psychological and environmental factors associated with academic buoyancy is essential for developing appropriate educational support.

One psychological factor potentially associated with academic buoyancy is coping strategies. Coping refers to the cognitive and behavioral efforts individuals employ to manage demands perceived as stressful or challenging (Folkman et al., 1986). Within educational settings, coping strategies influence how students interpret academic difficulties, regulate emotional responses, and select appropriate actions when encountering setbacks. Adaptive strategies, including problem-solving, positive reappraisal, and seeking support, may facilitate constructive responses to academic challenges, whereas maladaptive strategies, such as avoidance, self-blame, and catastrophizing, may undermine students' adjustment. Putwain et al. (2024), through a network analysis involving 535 upper secondary students, demonstrated that academic buoyancy was positively associated with adaptive coping strategies and negatively associated with maladaptive coping strategies. These findings highlight the relevance of coping in understanding students' responses to academic adversity. Nevertheless, the strength and direction of these associations may depend on the coping dimensions assessed, indicating the importance of examining coping strategies within specific educational contexts.

Beyond individual coping resources, the learning environment represents an important contextual factor associated with students' academic functioning. The learning environment encompasses physical, social, instructional, and psychological conditions that shape students' learning experiences. Supportive teacher–student relationships, constructive feedback, classroom organization, and opportunities for autonomy may provide resources that facilitate students' engagement and adaptive responses to academic difficulties. Granziera et al. (2022), in studies involving students from different national contexts, found that perceived teacher support positively predicted academic buoyancy and was associated with educational engagement. Similarly, Bostwick et al. (2022) identified reciprocal relationships between academic buoyancy and school belonging, while Kingsford-Smith et al. (2024) demonstrated that perceived autonomy support positively predicted academic buoyancy among students attending rural Australian schools. These findings suggest that educational environments may provide important contextual resources for students' responses to academic challenges.

However, the relationships among coping strategies, learning environment, and academic buoyancy remain complex. Although existing studies have identified favorable associations between academic buoyancy and adaptive coping or supportive educational conditions, their findings have emerged from different populations, educational levels, and measurement approaches (Granziera et al., 2022; Kingsford-Smith et al., 2024; Putwain et al., 2024). Moreover, coping strategies and academic buoyancy represent related but conceptually distinct constructs, and the influence of environmental factors may depend on students' perceptions and contextual experiences. Much of the existing evidence has examined these relationships separately or within specific educational contexts, leaving a need for further investigation of their unique statistical associations within a combined predictive model. In particular, empirical evidence concerning coping strategies and learning environment as simultaneous predictors of academic buoyancy among public junior high school students in Indonesia remains contextually limited.

Therefore, this study aims to examine the relationships of coping strategies and learning environment with academic buoyancy among public junior high school students in Bantur District, Malang Regency, Indonesia. Using multiple linear regression, the study investigates the unique associations of both predictors with students' academic buoyancy and their combined explanatory contribution. The findings are expected to enrich the understanding of individual and contextual factors associated with academic buoyancy and provide empirical considerations for developing academic guidance and counseling services that respond to students' everyday educational challenges.

Method

This study employed a quantitative approach with an ex post facto design to examine coping strategies and learning environment as predictors of academic buoyancy among public junior high school students in Malang Regency, Indonesia. A total of 198 students were selected using proportionate random sampling. The study examined naturally occurring differences in the predictor variables without manipulating participants' experiences or assigning them to experimental conditions.

Data were collected using three instruments: (1) the *Coping Strategies Inventory Short Form* (CSI-SF), based on the Jackson Heart Study instrument described by Addison et al. (2024); (2) an adapted *Learning Environment*

Scale (LES); and (3) a researcher-developed academic buoyancy scale based on relevant theoretical indicators. The instruments underwent adaptation and psychometric evaluation, including content validation through expert judgment and reliability testing, to assess their suitability for the target population.

Data were analyzed using descriptive statistics and multiple linear regression. Descriptive analysis was conducted to determine the mean, standard deviation, and classification of each variable. Before hypothesis testing, regression assumptions were assessed through normality, linearity, and heteroscedasticity tests. Multiple linear regression was subsequently performed to examine the individual associations of coping strategies and learning environment with academic buoyancy and their combined explanatory contribution. Regression coefficients (β), the multiple correlation coefficient (R), and the coefficient of determination (R^2) were used to interpret the results. The conceptual framework is illustrated in Figure 1.

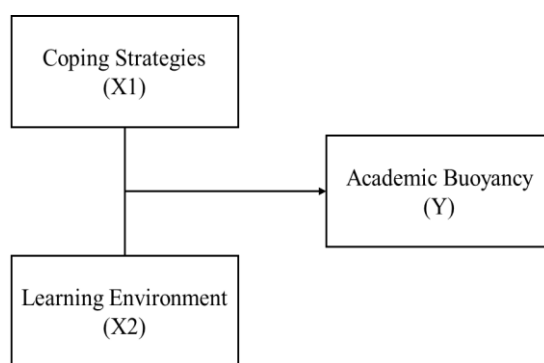


Figure 1. Conceptual Framework

Results and Discussion

The descriptive analysis revealed that public junior high school students in Bantur District, Malang Regency, demonstrated relatively low levels of coping strategies ($M = 22.88$, $SD = 3.31$), learning environment ($M = 57.15$, $SD = 4.87$), and academic buoyancy ($M = 53.38$, $SD = 11.86$), based on the study's classification criteria. These findings suggest that students may experience difficulties managing everyday academic challenges and perceiving adequate support within their educational environment. This condition is consistent with previous studies emphasizing the importance of coping resources, academic motivation, and school attachment in students' adaptation to academic demands (Al-farisi & Ashshiddiqi, 2024; Colmar et al., 2019; Liu, 2024; Samari Safa et al., 2021).

Preliminary assumption testing produced a normality significance value of $p = .118$, linearity-test values of .630 for coping strategies and .748 for learning environment, and heteroscedasticity-test values of .054 and .576, respectively. These results provided preliminary support for regression analysis, although the linearity statistics should be confirmed as *deviation-from-linearity* tests and the normality assessment should be based on regression residuals. Multiple linear regression yielded $R = .440$ and $R^2 = .194$, indicating that coping strategies and learning environment collectively explained 19.4% of the variance in academic buoyancy. The regression results are presented in Table 1.

Table 1. Multiple Linear Regression Results for Academic Buoyancy

Predictor	R	R^2	β	t	p
Constant	0.440	0.194		3.537	0.000
<i>Coping Strategies</i>			0.374	5.560	
<i>Learning Environment</i>			-0.147	-2.184	

Coping strategies demonstrated a positive association with academic buoyancy ($\beta = .374$, $t = 5.560$), suggesting that students reporting stronger coping resources tended to demonstrate greater capacity to manage everyday academic setbacks after accounting for the learning environment. This finding aligns with the transactional perspective of coping, which emphasizes cognitive appraisal and behavioral responses to stressful situations (Folkman et al., 1986; Carver, 1997). Adaptive coping, particularly problem-focused strategies, may help students respond constructively to academic difficulties through planning, problem-solving, and support seeking (Skinner et al., 2003; Addison et al., 2024). Previous research has similarly highlighted the importance of coping and self-regulation in supporting students' academic functioning (Rameli et al., 2024). However, coping strategies vary in their adaptiveness, and behaviors such as avoidance and self-blame may undermine

adjustment (Lewis & Frydenberg, 2004; Nadia & Andriany, 2025). Therefore, the present findings should be interpreted according to the specific coping dimensions measured.

In contrast, learning environment demonstrated a negative regression coefficient ($\beta = -.147$, $t = -2.184$), indicating an inverse association with academic buoyancy after controlling for coping strategies. This result differs from previous research emphasizing the beneficial role of supportive learning environments, including autonomy support, classroom structure, teacher involvement, and positive interpersonal relationships (Rohinsa et al., 2021; Eccles & Roeser, 2011). From an ecological perspective, learning environments encompass physical, psychological, social, and institutional conditions that shape students' educational experiences (Moos, 1973; Shochet et al., 2013; Tharani et al., 2017; Rusticus et al., 2023). Studies have also highlighted the relevance of interactive instruction, contextual learning, emotional safety, and classroom cohesion for student engagement and adjustment (Mohamad, 2024; Zahrotun Nahla et al., 2023; Mattebo et al., 2022; Yang & Xiao, 2022). Nevertheless, the negative coefficient should not automatically be interpreted as evidence that supportive learning environments reduce academic buoyancy. Differences in measurement, scoring direction, and relationships among predictors may contribute to this unexpected result. Further examination of zero-order correlations, item scoring, and multicollinearity is therefore necessary.

The relatively low academic buoyancy scores also warrant attention. Academic buoyancy refers to students' capacity to recover from ordinary academic setbacks, such as examination pressure, disappointing grades, and difficulties completing assignments (Martin & Marsh, 2008, 2009; Theiyab Alazemi et al., 2023). Unlike academic resilience, which generally concerns responses to more substantial adversity, academic buoyancy focuses on everyday educational challenges. Previous studies have associated academic buoyancy with motivation, school engagement, academic self-efficacy, and adaptive responses to educational difficulties (Colmar et al., 2019; Hirvonen et al., 2020; Liu, 2024). However, the relationship between personal resources and contextual factors may vary across educational settings, as discussed by Putwain et al. (2012) and Collie et al. (2024). These findings suggest that academic buoyancy should be understood through the interaction of individual psychological resources and educational conditions rather than through a single explanatory factor.

From a guidance and counseling perspective, the findings highlight the importance of strengthening students' coping resources while examining the contextual conditions associated with academic buoyancy. Academic guidance services may incorporate problem-solving, adaptive coping, emotional regulation, and constructive responses to academic failure. School counselors may also collaborate with teachers to develop supportive classroom relationships and meaningful learning experiences (Destri Rahayu et al., 2024; Suhesty & Basuki, 2022). Such efforts are relevant because academic buoyancy has been associated with students' responses to academic anxiety and their capacity to maintain engagement during educational challenges (Hirvonen et al., 2020; Sam & McDowall, 2024).

Overall, the findings indicate that coping strategies were positively associated with academic buoyancy, whereas learning environment demonstrated an unexpected negative conditional association. Together, these predictors explained 19.4% of the variance in academic buoyancy, suggesting that other psychological and contextual factors warrant investigation. The study contributes to understanding academic buoyancy among public junior high school students by highlighting the relevance of coping resources and the complexity of learning environment associations. However, the cross-sectional regression design does not establish causality, and further research should examine the dimensions of coping strategies, measurement characteristics of the learning environment, and additional predictors through longitudinal or intervention-based designs.

Conclusion

The results of this study indicate that coping strategies and learning environments have a significant effect on the academic buoyancy of junior high school students in Malang Regency. This suggests that academic resilience is formed through the interaction between an individual's ability to manage stress and the quality of support from the learning environment. The application of adaptive coping strategies, especially problem-focused coping, as well as a supportive learning environment, plays an important role in helping students respond proactively to academic pressure. These findings emphasize that the development of academic resilience requires a comprehensive, contextual approach that takes into account social, cultural, and local educational conditions.

Author Contributions Statement

Nafaghis Tazkia Januba: Conceptualization, Investigation, Data curation, Visualization, Writing – original draft. **Heru Mugiarto:** Methodology, Formal analysis, Validation, Supervision, Writing – review & editing. All authors reviewed and approved the final manuscript for publication.

Declaration of Generative AI

The authors made use of ChatGPT during manuscript preparation to refine the language and enhance the clarity and readability of the text. All AI-assisted material was reviewed and revised as appropriate, and the authors accept full responsibility for the accuracy, integrity, and final content of the published manuscript.

Declaration of Competing Interest

The authors state that they are unaware of any financial interests or personal relationships that may have influenced the research process or the reporting of its findings.

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References

- Addison, C., Jenkins, B., & White, M. (2024). *User manual for Coping Strategies Inventory Short Form (CSI-SF)—The Jackson Heart Study* [Preprint]. Preprints.org. <https://doi.org/10.20944/preprints202402.1536.v1>
- Al-farisi, H., & Ashshiddiqi, A. M. (2024). Relationship between effectiveness of teleworking and job performance on online shop employees. *Psikologia: Jurnal Psikologi*, 9(1), 13–31. <https://doi.org/10.21070/psikologia.v11i1.1812>
- ‘Aliyah, S. M., Ramli, M., & Wahyuni, F. (2023). Modification of rational emotive behavior therapy (REBT) approach with cognitive disputation techniques in group counseling based on cyber counseling. In *Proceedings of the International Conference on Educational Management and Technology (ICEMT 2022)* (pp. 85–95). Atlantis Press. https://doi.org/10.2991/978-2-494069-95-4_11
- Amiri, E., & El Karfa, A. (2021). The impact of learning environment on EFL students’ academic achievement: A study of socio-cultural factors affecting academic achievement. *Arab World English Journal*, 12(4), 387–400. <https://doi.org/10.24093/awej/vol12no4.25>
- Carver, C. S. (1997). You want to measure coping but your protocol’s too long: Consider the Brief COPE. *International Journal of Behavioral Medicine*, 4(1), 92–100. https://doi.org/10.1207/s15327558ijbm0401_6
- Chakraborty, S., Stokes, E. C., & Alexander, O. (2025). Global urban activity changes from COVID-19 physical distancing restrictions. *Scientific Data*, 12, Article 98. <https://doi.org/10.1038/s41597-025-04398-x>
- Collie, R. J., Caldecott-Davis, K., & Martin, A. J. (2024). Academic buoyancy among female secondary school students: An examination of predictors and outcomes up to age 22. *Social Psychology of Education*, 27(2), 363–388. <https://doi.org/10.1007/s11218-023-09843-6>
- Colmar, S., Liem, G. A. D., Connor, J., & Martin, A. J. (2019). Exploring the relationships between academic buoyancy, academic self-concept, and academic performance: A study of mathematics and reading among primary school students. *Educational Psychology*, 39(8), 1068–1089. <https://doi.org/10.1080/01443410.2019.1617409>
- Eccles, J. S., & Roeser, R. W. (2011). Schools as developmental contexts during adolescence. *Journal of Research on Adolescence*, 21(1), 225–241. <https://doi.org/10.1111/j.1532-7795.2010.00725.x>
- Faturrohman, A., & Sagita, D. D. (2022). Resiliensi akademik siswa sekolah menengah pertama dalam mengikuti pembelajaran tatap muka terbatas (TMT) di Daerah Khusus Ibukota (DKI) Jakarta. *Bulletin of Counseling and Psychotherapy*, 4(2), 167–178. <https://doi.org/10.51214/bocp.v4i2.188>
- Folkman, S., Lazarus, R. S., Dunkel-Schetter, C., DeLongis, A., & Gruen, R. J. (1986). Dynamics of a stressful encounter: Cognitive appraisal, coping, and encounter outcomes. *Journal of Personality and Social Psychology*, 50(5), 992–1003. <https://doi.org/10.1037/0022-3514.50.5.992>
- Hanson, J. (2009). Displaced but not replaced: The impact of e-learning on academic identities in higher education. *Teaching in Higher Education*, 14(5), 553–564. <https://doi.org/10.1080/13562510903186774>
- Hirvonen, R., Putwain, D. W., Määttä, S., Ahonen, T., & Kiuru, N. (2020). The role of academic buoyancy and emotions in students’ learning-related expectations and behaviours in primary school. *British Journal of Educational Psychology*, 90(4), 948–963. <https://doi.org/10.1111/bjep.12336>
- Lewis, R., & Frydenberg, E. (2004). Adolescents least able to cope: How do they respond to their stresses? *British Journal of Guidance & Counselling*, 32(1), 25–37. <https://doi.org/10.1080/03069880310001648094>
- Liu, W. (2024). Academic buoyancy: The necessary ability for teenagers to succeed in school. *International Journal of Education and Humanities*, 14(1), 101–104. <https://doi.org/10.54097/p50zvr20>
- Martin, A. J., & Marsh, H. W. (2008). Academic buoyancy: Towards an understanding of students’ everyday academic resilience. *Journal of School Psychology*, 46(1), 53–83. <https://doi.org/10.1016/j.jsp.2007.01.002>

- Martin, A. J., & Marsh, H. W. (2009). Academic resilience and academic buoyancy: Multidimensional and hierarchical conceptual framing of causes, correlates and cognate constructs. *Oxford Review of Education*, 35(3), 353–370. <https://doi.org/10.1080/03054980902934639>
- Mattebo, M., Östlund, G., & Elfström, M. L. (2022). Availability of attachment relations and safe school environment are associated with subjective well-being in 15-year-olds—With girls reporting less well-being and less equality. *International Journal of Educational Research Open*, 3, Article 100145. <https://doi.org/10.1016/j.ijedro.2022.100145>
- Mohamad, S. L. (2024). Learning environment and academic engagement in science of junior high school students. *International Journal of Research Publications*, 141(1), 233–240. <https://doi.org/10.47119/IJRP1001411120246031>
- Moos, R. H. (1973). Conceptualizations of human environments. *American Psychologist*, 28(8), 652–665. <https://doi.org/10.1037/h0035722>
- Nadia, A. A., & Andriany, A. R. (2025). Strategi coping siswa SMPN 180 Jakarta untuk mengurangi stres akademik. *As-Sidanah: Jurnal Pengabdian Masyarakat*, 7(1), 103–120. <https://doi.org/10.35316/assidanah.v7i1.103-120>
- Nahla, Z., Setiawan, B., & Ulandari, T. (2023). Kurangnya ketertarikan siswa terhadap mata pelajaran IPS di tingkat SMP. *Jurnal Pendidikan dan Ilmu Sosial (JUPENDIS)*, 2(1), 88–101. <https://doi.org/10.54066/jupendis.v2i1.1181>
- Nainggolan, A. N. (2024). The influence of environment and facilities on student learning in elementary schools. *International Journal of Students Education*, 2(2), 247–250. <https://doi.org/10.62966/ijose.vi.773>
- Putwain, D. W., Connors, L., Symes, W., & Douglas-Osborn, E. (2012). Is academic buoyancy anything more than adaptive coping? *Anxiety, Stress & Coping*, 25(3), 349–358. <https://doi.org/10.1080/10615806.2011.582459>
- Rahayu, D., Syaf, A., & Nasution, I. N. (2024). School well being dengan academic buoyancy pada mahasiswa bekerja di Pekanbaru. *AL-MURABBI: Jurnal Studi Kependidikan dan Keislaman*, 11(1), 48–57. <https://doi.org/10.53627/jam.v11i1.5673>
- Rameli, M. R. M., Alhassora, N. S. A., Mazlan, A. N., Hoon, T. S., Mohamed, S. R., & Hong, J. B. Z. (2025). Relationship between self-regulated learning with academic buoyancy: A case study among Malaysia FELDA secondary school students. *Journal of Advanced Research in Applied Sciences and Engineering Technology*, 45(1), 202–214. <https://doi.org/10.37934/araset.45.1.202214>
- Rohinsa, M., Gunawan, G., & Kadiyono, A. L. (2021). Penerapan self determination theory: Peran dukungan orangtua terhadap academic buoyancy siswa menjalani pembelajaran jarak jauh. *Journal An-Nafs: Kajian Penelitian Psikologi*, 6(2), 278–292. <https://doi.org/10.33367/psi.v6i2.1806>
- Rusticus, S. A., Pashootan, T., & Mah, A. (2023). What are the key elements of a positive learning environment? Perspectives from students and faculty. *Learning Environments Research*, 26(1), 161–175. <https://doi.org/10.1007/s10984-022-09410-4>
- Sam, T., & McDowall, A. (2024). “Smooth seas never made a skilled sailor”: Indigenous students’ academic buoyancy and the locale of the learner. *The Australian Journal of Indigenous Education*, 53(1). <https://doi.org/10.55146/ajie.v53i1.1016>
- Samari Safa, J., Dashti Esfhani, M., & Poordel, M. (2021). Development of a model of academic buoyancy based on with school connection, family’s emotional atmosphere, motivation, self-efficacy and academic engagement of students. *Journal of Counseling Research*, 20(77). <https://doi.org/10.18502/qjcr.v20i77.6149>
- Selye, H. (1984). *The stress of life* (Rev. ed.). McGraw-Hill.
- Shochet, R. B., Colbert-Getz, J. M., Levine, R. B., & Wright, S. M. (2013). Gauging events that influence students’ perceptions of the medical school learning environment. *Academic Medicine*, 88(2), 246–252. <https://doi.org/10.1097/ACM.0b013e31827bfa14>
- Skinner, E. A., Edge, K., Altman, J., & Sherwood, H. (2003). Searching for the structure of coping: A review and critique of category systems for classifying ways of coping. *Psychological Bulletin*, 129(2), 216–269. <https://doi.org/10.1037/0033-2909.129.2.216>
- Suhesty, A., & Basuki, Z. N. (2022). Penyesuaian diri dan efikasi diri akademik terhadap academic buoyancy. *Jurnal Basicedu*, 6(3), 5456–5466. <https://doi.org/10.31004/basicedu.v6i3.2763>
- Tharani, A., Husain, Y., & Warwick, I. (2017). Learning environment and emotional well-being: A qualitative study of undergraduate nursing students. *Nurse Education Today*, 59, 82–87. <https://doi.org/10.1016/j.nedt.2017.09.008>

- Theiyab Alazemi, A. F., Heydarnejad, T., Ismail, S. M., & Gheisari, A. (2023). A model of academic buoyancy, L2 grit, academic emotion regulation, and personal best: An evidence from EFL context. *Heliyon*, 9(2), Article e13149. <https://doi.org/10.1016/j.heliyon.2023.e13149>
- Weißenfels, M., Hoffmann, D., Dörrenbächer-Ulrich, L., & Perels, F. (2023). Linking academic buoyancy and math achievement in secondary school students: Does academic self-efficacy play a role? *Current Psychology*, 42(27), 23422–23436. <https://doi.org/10.1007/s12144-022-03488-y>
- Yang, Z., & Xiao, G. (2022). An investigation of the relationship between English classroom environment in rural junior middle school and students' English learning boredom. *International Journal of Education and Humanities*, 2(3), 48–52. <https://doi.org/10.54097/ijeh.v2i3.343>
- Zhang, Y. (2025). The influence of learning environment on college students' learning effectiveness. In *Connecting ideas, cultures, and communities* (pp. 523–527). Routledge. <https://doi.org/10.1201/9781003591511-81>