

A Systematic Review of Academic Buoyancy in Adolescents: Psychological and Environmental Predictors of Educational Resilience

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ABSTRACT

Academic buoyancy refers to adolescents' capacity to cope with and rebound from everyday academic setbacks. This study systematically reviews recent evidence on academic buoyancy and its psychological and environmental predictors. Using the PRISMA protocol, we searched peer-reviewed studies in Scopus, ScienceDirect, PubMed, and Google Scholar published in English between 2019 and 2023. Eligible articles reported quantitative findings on academic buoyancy among adolescents. After screening and full-text assessment, 17 studies were included and synthesized using thematic analysis. Across studies, academic buoyancy was consistently associated with both internal and external predictors. Key psychological predictors included self-compassion, academic self-efficacy, achievement goal orientation, and academic motivation. Environmental predictors included perceived support from teachers and parents, positive school climate, and supportive peer relationships. Several studies also positioned academic buoyancy as a mediating mechanism linking psychosocial resources (e.g., support and motivation) to academic outcomes such as engagement and achievement. Overall, the evidence suggests that academic buoyancy functions as a protective and promotive factor for adolescents' academic well-being and performance. However, the literature is dominated by cross-sectional, self-report designs, limiting causal inference and developmental conclusions. Future research should employ longitudinal and intervention-based approaches, examine cultural and contextual variation, and strengthen measurement across diverse adolescent populations. A limitation of this review is the restriction to four databases and English-language publications only.

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1. INTRODUCTION

Academic buoyancy refers to students' ability to effectively manage and rebound from everyday academic challenges such as receiving poor grades, coping with deadlines, and dealing with exam pressure (Martin & Marsh, 2013). Academic resilience generally pertains to overcoming major, chronic, or high-stakes adversities, such as poverty or family trauma. Academic buoyancy focuses on how

students handle recurring, low-level academic setbacks that are common in the school context. In short, resilience is about bouncing back from significant disruption, whereas buoyancy is about staying afloat amid the daily academic waves (Martin & Marsh, 2008).

A growing body of research has emphasized the significance of academic buoyancy in promoting students' emotional regulation, motivation, and achievement. Liu (2024) found that adolescents with high academic buoyancy are better able to engage with their learning environments, demonstrating enhanced academic outcomes and emotional well-being. Similarly, (Eslami & Hooshmandi, 2023) reported that buoyant students tend to have greater self-efficacy and persistence. In Indonesia, (Eslami & Hooshmandi, 2023; Safriani & Muhid, 2022) have also confirmed these findings, showing that academic buoyancy is positively associated with student engagement and mental health among secondary school students. These studies suggest that academic buoyancy acts as a psychological buffer, allowing students to maintain optimal functioning in the face of everyday academic stress.

Adolescence is a critical developmental period marked by rapid physical, cognitive, and socio-emotional changes. According to the Indonesian Ministry of Health (Kemenkes, 2024), adolescents are defined as individuals aged 10 to 18 years. This stage of identity versus role confusion is where individuals begin to explore their personal values, goals, and self-concept, including those related to academic competence and school engagement (Erikson, 1968). The ability to navigate academic challenges during this identity formation period becomes essential, as it may shape students' self-efficacy and motivation for future endeavors. Furthermore, Bronfenbrenner (1979) emphasizes that adolescent development is influenced by multiple interrelated environmental systems, such as family, school, peers, and the broader sociocultural context. Each of these systems contributes to how adolescents interpret and respond to academic demands. For instance, parental expectations, peer relationships, and school climate can either amplify academic pressure or serve as supportive buffers that foster buoyancy. Thus, academic buoyancy cannot be understood solely as an individual trait; it must be examined within a broader developmental and ecological framework.

In Indonesia, adolescents face a wide range of recurring stressors that impact their academic and psychological functioning. The National Population and Family Planning Agency (BKKBN, 2023) reports various adolescent concerns, including academic pressure, bullying, peer influence, body image dissatisfaction, and digital addiction. While these stressors may not be categorized as major adversities, they occur frequently and cumulatively, often leading to increased anxiety, loss of motivation, and poor academic performance when not managed effectively (D. Putwain & Daly, 2014). These findings reinforce the importance of equipping adolescents with adaptive strategies to navigate routine academic difficulties. Given these realities, academic buoyancy emerges as a critical protective factor that enables students to maintain psychological stability and motivation amidst the ongoing demands of schooling. However, despite growing academic interest, to date, no comprehensive synthesis has systematically examined the factors influencing academic buoyancy among adolescents, particularly across diverse cultural settings. Existing studies tend to explore the construct in isolation, and the diversity in research method, sample characteristics, and cultural contexts points to the need for an integrative and structured review.

Therefore, this article aims to conduct a systematic literature review using the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) method to explore internal and external factors that influence academic buoyancy in adolescents. By synthesizing empirical studies published within the last decade, this review seeks to provide a deeper understanding of how academic buoyancy can be a contextual support. The findings are expected to inform the development of school-based interventions and educational policies that promote adolescents' academic well-being and adaptive functioning in various educational environments.

2. METHODS

This systematic review employed the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) methodology, which provides standardized guidance for conducting and reporting systematic reviews with transparency and rigor (Page et al., 2021). The PRISMA framework includes four primary stages: identification, screening, eligibility, and inclusion.

2.1. Search Strategy

The article search was conducted using Publish or Perish 8 software, which allows access to database such as Google Scholar and Scopus. The search terms used were: “academic buoyancy” and “adolescents” or “teenagers” or “youth”. The initial search included articles published within the last ten years (2014-2024) to obtain a board dataset. However, to ensure the relevance and currency of findings, particularly considering the rapid development of adolescent mental health research and education in the post-pandemic context. This review focused on literature from the last five years (2019-2023).

2.2. Inclusion and Exclusion Criteria

- a. Articles were selected based on the following inclusion criteria:
 - Peer-reviewed empirical studies
 - Quantitative research method (cross-sectional or longitudinal)
 - Focus on adolescent participants aged 10 to 18 years
 - Explicit measurement or discussion of academic buoyancy as a variable
 - Publish in English
- b. Exclusion criteria included:
 - Qualitative studies, review papers, editorials, or commentaries
 - Studies involving university students or adults above 18 years
 - Articles that did not report on academic buoyancy as a distinct construct

2.3. Study Selection Process

The identification phase yielded 200 articles. In the screening phase, articles were filtered by age relevance (adolescent population), which reduced the data set to 32 articles. Subsequently, the publication range was narrowed to the last five years (2019-2023), resulting in 19 articles. Following the eligibility assessment, 2 articles were excluded for not meeting the methodological inclusion criteria (qualitative design), leaving a final sample of 17 eligible studies for the systematic review. The detailed process of study selection is illustrated in the PRISMA flow diagram (Figure 1), and the completed PRISMA checklist is provided in Appendix A.

2.4. Data Extraction and Synthesis

Data were extracted systematically from each article using a pre-designed coding sheet that included:

- a. Author (s) and year of publication
- b. Country and sample characteristics (age, gender, number of participants)
- c. Research design and instruments used
- d. Variables measured and statistical analyses
- e. Key findings related to academic

The synthesis process involved a thematic analysis to categorize the factors influencing academic buoyancy. Both pre-identified themes based on theoretical framework (e.g., personal strengths, social support) and emerging themes from the data were analyzed. The identified factors were then grouped

into internal factors (e.g., self-efficacy, motivation, emotional regulation) and external factors (e.g., parental support, teacher relationships, peer influence).

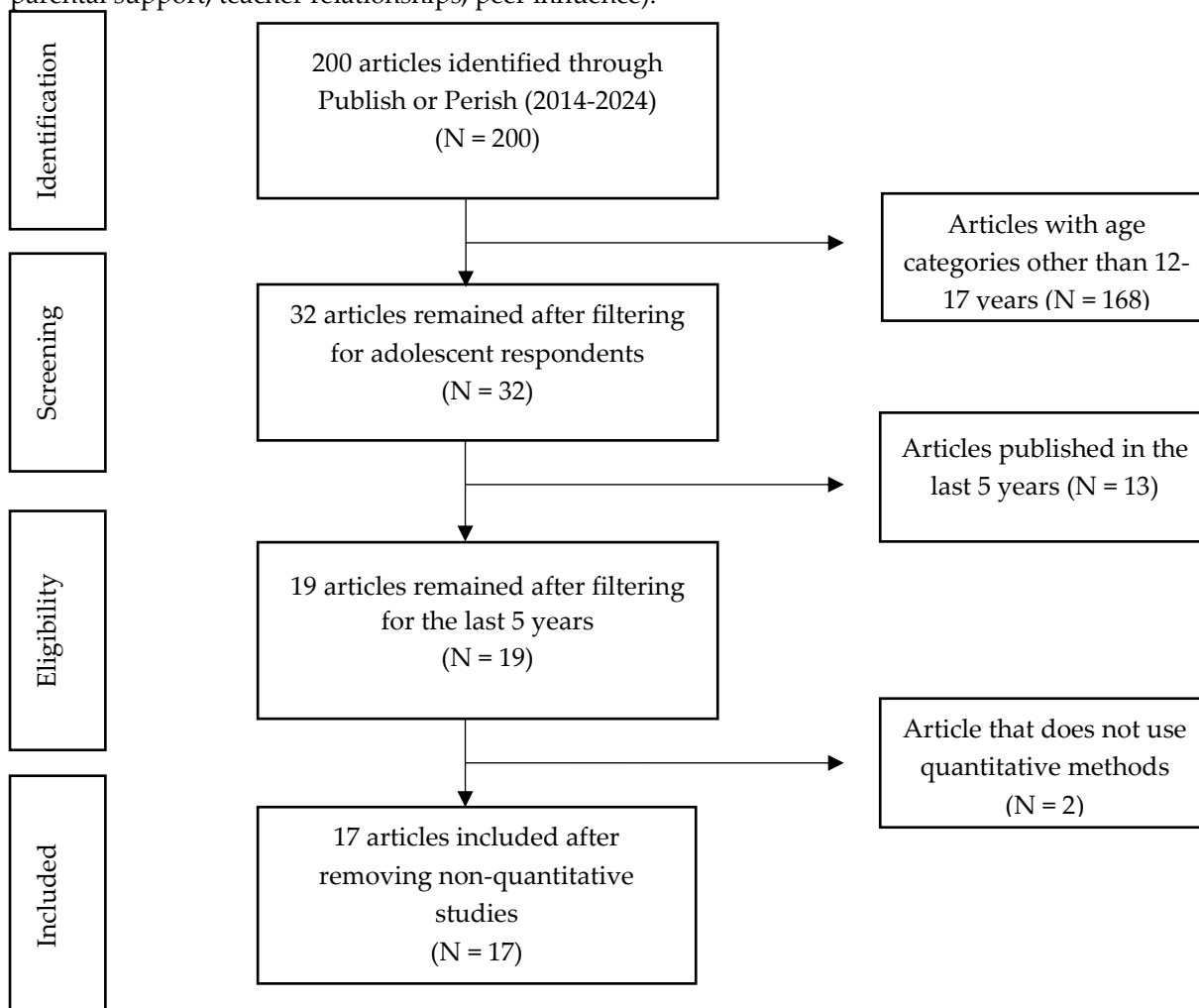


Figure 1. PRISMA Flow Diagram of Article Selection

Although risk of bias tools such as ROBIN-I or MMAT are commonly used in systematic reviews involving clinical or intervention studies, they were not applied in the present review due to the descriptive and exploratory nature of the included studies. This review focused on mapping themes across observational and cross-sectional quantitative studies, where formal risk of bias assessments are less standardized. However, rigorous inclusion criteria (peer-reviewed, adolescent samples, and use of validated instruments) were employed to minimize methodological bias.

3. FINDINGS AND DISCUSSION

3.1. Findings

The following table summarizes the characteristics and main findings of 17 selected studies that explored academic buoyancy among adolescents. These studies vary in terms of variables studied, sample sizes, geographical locations, and measurement tools.

Table 1. Summary of Included Articles on Academic Buoyancy Among Adolescents.

No	Author(s)	Title	Respondents	Country	Findings
1	A. Puolakanaho, Lappalainen, Muotka, Hivornen, Eklund, Ahonen, Kiuru (2019)	Reducing Stress and Enhancing Academic Buoyancy among Adolescents Using a Brief Web-based Program Based on Acceptance and Commitment Therapy: A Randomized Controlled Trial	243 9th-grade students	Australia	The intervention group showed reduced stress and improved academic buoyancy vs the control group.
2	R. Hirvonen, Yli-Kivisto, Putwain, Ahonen, Kiuru (2019)	School-related stress among sixth-grade students – Associations with academic buoyancy and temperament	845 6th-grade students	Finland	High buoyancy and effortful control are linked to lower school stress.
3	K. Yu, Martin, Hou, Osborn, Zhan (2019)	Motivation, Engagement, Academic Buoyancy, and Adaptability: The Roles of Socio-Demographics among Middle School Students in China	2,434 middle school students	China	Buoyancy linked to adaptability; demographic factors play predictive roles.
4	M. Rohinsa, Cahyadi, Djunaidi, Iskandar (2019)	The role of Teacher Support in Predicting Engagement through Academic Buoyancy	131 senior high school students	Indonesia	Buoyancy mediates teacher support and engagement.
5	A.J. Martin & Marsh (2020)	Investigating the reciprocal relations between academic buoyancy and academic adversity: Evidence for the protective role of academic buoyancy in reducing academic adversity over time	481 secondary school students	Australia	Academic buoyancy reduces future adversity; past adversity does not increase academic buoyancy.

6	R. Hirvonen, Yli-Kivistö, Putwain, Ahonen, & Kiuru (2020)	The role of academic buoyancy and emotions in students' learning-related expectations and behaviours in primary school	845 6th-grade students	Finland	Buoyancy predicts emotions, which affect learning behaviours.
7	D.W. Putwain, Gallard, & Beaumont (2020)	Academic buoyancy protects achievement against minor academic adversities	535 Year 12 students.	UK	Higher buoyancy is linked to better grades despite adversities.
8	M. Rohinsa, Cahyadi, Djunaidi, Zulriska (2020)	Effect of parent support on engagement through need satisfaction and academic buoyancy	1,352 middle and high school students	Indonesia	Parent support affects engagement via needs and buoyancy.
9	F. Hoferichter, Hirvonen, & Kiuru (2021)	The development of school well-being in secondary school: High academic buoyancy and supportive class- and school climate as buffers	797–880 middle school students	Finland	Academic buoyancy and positive climate buffer school stress.
10	J.A.D. Datu & W. Yang (2021)	Academic buoyancy, academic motivation, and academic achievement among Filipino high school students	393 high school students	Philippine	Academic buoyancy predicts motivation and academic success.
11	K.C.P. Bostwick, Martin, Collie, Burns, Hare, Cox, Flesken, McCarthy (2022)	Academic Buoyancy in High School: A Cross-Lagged Multilevel Modelling Approach Exploring Reciprocal Effects with Perceived School Support, Motivation, and Engagement	71,681 secondary students	Australia	Reciprocal link between support and academic buoyancy.
12	M. Chen & Mok (2023)	Perceived parental involvement influences students' academic buoyancy	1,164 8th graders and their parents.	China	Goal orientation mediates parental

		and adaptability: the mediating roles of goal orientations			involvement and academic buoyancy.
13	A.A. Kingsford-Smith, Alonzo Beswick, Loughland, Reberts (2024)	Perceived autonomy support as a predictor of rural students' academic buoyancy and academic self-efficacy	974 rural students	Australia	Autonomy support predicts both academic buoyancy and academic self-efficacy.
14	Ü. Kul, Aksu, Satici (2024)	Adaptation of the modified abbreviated math anxiety scale: its relationship with mathematics self-efficacy and academic buoyancy.	224 in grades 7–8	Türkiye	1. A significant negative relationship was found between math anxiety and academic achievement, MSE, and AB. 2. The adapted scale demonstrated an appropriate factor structure for the student population in Türkiye.
15	Z. Aksu, Kul, Satici (2024)	Number sense and academic buoyancy among middle school students: A serial mediation model of mathematical metacognition awareness and math anxiety	231 7th and 8th-grade students (ages 12–14) from middle schools	Türkiye	1. Number sense was positively associated with mathematical metacognition awareness. 2. Number sense was negatively associated with math anxiety. 3. Number sense contributed to academic buoyancy through metacognition and reduced math anxiety.
16	L. Fathi, Bakhtiarpour, Mahdad (2024)	The Correlation of Self-Compassion and Benefits of Empathy with Academic Well-Being in High School Students: The Mediating Role of Academic Buoyancy	384 students (aged 13-18 years) from 12 high schools in Ahvaz	Iran	Self-compassion was significantly correlated with academic well-being ($P = 0.008$) and academic buoyancy ($P = 0.001$). Benefits of empathy also positively correlated with academic buoyancy ($P = 0.001$). The proposed

					model showed good fit (RMSEA = 0.054).
17	T.S. Hoon, Mohamed, Hong, Rameli, Alhassora, Mazlan (2024)	The Relationship Between Achievement Goal Orientation and Academic Buoyancy in Mathematics among Secondary School Students in FELDA Areas, Malaysia	463 secondary school students (ages 15–16) from four FELDA-area schools	Malaysia	<p>1. Students' average academic buoyancy level was moderate (M = 2.82 out of 4), indicating a moderate capacity to handle academic challenges.</p> <p>2. All goal orientation domains were moderate, with avoidance goals scoring higher than approach goals, suggesting a tendency to avoid failure over striving for mastery.</p>

This systematic review identified and analyzed 17 empirical studies focusing on factors influencing academic buoyancy among adolescents. The findings are organized thematically to highlight common patterns and theoretical emphases across the literature. Three overarching themes emerge:

a. Psychological Predictors of Academic Buoyancy

Several studies explored internal psychological factors that contribute to students' academic buoyancy. Self-compassion was found to significantly enhance academic well-being and buoyancy in Iranian adolescents (Fathi, et al., 2024), while academic motivation was positively associated with buoyancy and academic achievement among Filipino students (Datu & Yang, 2021). Goal orientation, particularly mastery goals, emerged as significant mediator between parental involvement and buoyancy in Chinese samples (Chen & Mok, 2023; Hoon et al., 2024). Similarly, students' academic self-efficacy was predicted by perceived autonomy support in rural Australian settings (Kingsford-Smith et al., 2024).

b. Social Support and Its Impact

Social support emerged as a dominant theme in the reviewed literature. Teacher support was found to predict students' engagement through academic buoyancy (Rohinsa et al., 2019), and school support showed reciprocal relationship with academic buoyancy, motivation, and engagement (Bostwick et al., 2022). Parental involvement, particularly through need satisfaction, influenced engagement through the academic buoyancy mechanism (Chen & Mok, 2023; Rohinsa et al., 2020). Notably, these relationships were consistently found in both Western and Asian context, suggesting the universal importance of support systems.

c. Academic and Emotional-Cognitive Factors

Several articles highlighted academic and emotional-cognitive contributors to academic buoyancy. Academic emotions such as hope, pride, and anxiety significantly mediated the relationship

between buoyancy and learning behavior in Finnish students (Hirvonen, et al., 2020). Metacognitive awareness and number sense also contributed to academic buoyancy indirectly through reducing math anxiety (Aksu et al., 2024). Math anxiety showed a consistently negative correlation with academic buoyancy and achievement across studies in Turkey (Kul et al., 2024).

This thematic categorization highlights the breadth of factors that contribute to academic buoyancy in adolescents, reflecting its multifaceted nature. Table 2 summarizes the core findings from each thematic group, alongside the country of study and sample characteristics.

Table 2. Thematic Summary of Included Articles of Academic Buoyancy Among Adolescents

Thematic Group	Sample Characteristics	Country	Key Findings
1. Psychological Predictors	Adolescents, Secondary school	Iran	Self-compassion improves academic well-being
	Highschool students	Philippines	Academic motivation correlates with academic buoyancy and achievement
	Adolescents, Urban area	China	Mastery goals orientation mediates parental involvement and academic buoyancy
	Rural secondary students	Australia	Autonomy support predicts academic self-efficacy and academic buoyancy
2. Social Support Factors	Junior high students	Indonesia	Teacher support enhances engagement via academic buoyancy
	High school students, diverse backgrounds	USA	School support is reciprocally linked to academic buoyancy and motivation
	Middle school students	China, Indonesia	Parental involvement fosters need satisfaction and engagement through academic buoyancy.
3. Academic & Emotional Cognitive	Middle adolescents	Finland	Hope, pride, and anxiety mediate academic buoyancy's impact on learning behavior
	Junior high school students	Turkey	Metacognition and number sense reduce math anxiety and boost academic buoyancy
	Middle school adolescents	Turkey	Math anxiety negatively related to academic buoyancy and performance

In addition to thematic grouping of findings, a synthesis of key predictors across the reviewed studies was conducted to identify the most frequently examined factors associated with academic buoyancy among adolescents. The predictors span psychological, social, and academic emotional domains, reflecting the multidimensional nature of academic buoyancy. Table 3 presents a summary of these predictors along with the number of studies in which each factor was reported to significantly relate to academic buoyancy. This overview highlights the relative emphasis placed on certain variables within the current literature, such as academic motivation and social support, and provides a concise reference point for identifying dominant and emerging themes in the fields.

Table 3. Summary of Key Predictors of Academic Buoyancy Among Adolescents

Predictor Category	Number of Studies
Academic Motivation (Intrinsic/Extrinsic)	3
Self-Compassion	1
Goal Orientation	2
Academic Self-Efficacy	1
Teacher Support	2
Parental Involvement	2
School Support	1
Academic Emotion (Hope, Anxiety, Pride)	2
Metacognitive Awareness	1
Math Anxiety	2
Number Sense	1

While most findings were consistent across countries, some regional nuances were observed. For example, reciprocal effects between support and academic buoyancy were more emphasized in Australian samples (Bostwick et al., 2022), while studies in Indonesia and China highlighted indirect pathways through need satisfaction and goal orientation. In terms of age, emotional predictors, such as anxiety and pride, were more frequently examined in younger (elementary to early secondary) students, whereas goal orientation and motivation were common among older adolescents.

The included studies varied significantly in terms of study design, sample size, measurement instruments, and cultural context. This heterogeneity posed both a challenge and an opportunity: while it limited direct comparability, it also enriched the synthesis by offering a broader picture of how academic buoyancy operates across diverse settings. Variations in scales (e.g., versions of ABS, PSS, AEQ), educational systems, and sample demographics were considered during thematic synthesis.

3.2 Discussion

Across the 17 studies reviewed, the most consistently cited predictors of academic buoyancy were psychological factors, such as motivation, goal orientation, and academic self-efficacy, followed by social support systems, including teacher and parental support. Emotional and cognitive regulation factors, such as anxiety, hope, and metacognition, were also strongly associated with academic buoyancy outcomes. These studies collectively reinforce the role of academic buoyancy as a multifaceted construct influenced by both internal dispositions and contextual dynamics during adolescence.

3.2.1. Academic Buoyancy as a Protective and Mediating Factor

Most studies confirmed that academic buoyancy functions as a protective factor against academic adversity (Martin & Marsh, 2020; D. W. Putwain et al., 2020), school-related stress (Hirvonen et al., 2019; Hoferichter et al., 2021), and disengagement (Rohinsa et al., 2019; Rohinsa et al., 2020). Academic buoyancy was also identified as a mediator between parental or teacher support and engagement outcomes (Chen & Mok, 2023; Rohinsa et al., 2019).

3.2.2. Psychological Predictors: Motivation, Goal Orientation, and Self-Compassion

Internal psychological factors, such as motivation (Datu & Yang, 2021; Yu, Martin, Hou, Osborn, & Zhan, 2019), goal orientation (Chen & Mok, 2023; Hoon et al., 2024), self-compassion (Fathi et al., 2024), and autonomy support (Kingsford-Smith et al., 2024), were consistently found to be positively

associated with academic buoyancy. These factors play a central role in enhancing students' capacity to cope with academic demands.

3.2.3. The Role of Emotion and Cognitive Regulation

Studies by Hirvonen et al. (2020) and Aksu, Kul, & Satic (2024) emphasized the importance of emotional regulation and cognitive strategies such as metacognition. Emotional factors like anxiety and hope mediated the relationship between buoyancy and learning behaviors. Similarly, metacognitive awareness and reduced math anxiety contributed to buoyancy (Aksu et al., 2024).

3.2.4. Sociodemographic and Environmental Influences

Sociodemographic aspects (e.g., SES, location, and gender) and environmental influences such as school climate and parental involvement were also found to impact academic buoyancy (Chen & Mok, 2023; Hoferichter, et al., 2021; Yu et al., 2019). Notably, Bostwick et al. (2022) demonstrated reciprocal links between school support and buoyancy in a large sample of over 70,000 students, suggesting systemic influence.

3.2.5. Methodological Considerations and Limitations

Although the studies yielded meaningful insights, several limitations were observed. Most relied on self-report measures, which are subject to biases such as social desirability and recall inaccuracy. Cross-sectional designs dominated the literature, limiting causal inference. There was also an overrepresentation of urban and middle-income student populations, leaving gaps in neurodiverse adolescents.

3.2.6. Cross-Cultural Insights

Cultural context appears to shape the salience and functioning of key predictors of academic buoyancy. In collectivist societies as China, Indonesia, and Iran, factors like parental involvement, need satisfaction, and teacher support were strongly linked to students' academic engagement and buoyancy. This may reflect the cultural emphasis on interdependence, family obligations, and respect for authority figures, values that align closely with externally anchored motivational systems.

In contrast, studies from more individualistic cultures such as Australia and the UK tended to emphasize autonomy support, personal goal-setting, and self-efficacy as primary predictors. These findings suggest that while academic buoyancy may exhibit universal characteristics as a construct, the mechanisms that drive it are often culturally contingent.

The contrast between collectivist and individualist contexts underscores the importance of culturally responsive interpretations and interventions. Educators and policymakers must consider how local cultural norms and value systems influence students' academic coping mechanisms. For instance, interventions promoting academic buoyancy in collectivist cultures may benefit from strengthening family-school collaboration, while those in individualist contexts might focus more on fostering personal agency and autonomous motivation.

Future research should further investigate how specific cultural dimensions, such as power distance, uncertainty avoidance, and individualism-collectivism, moderate the relationships between psychological predictors and academic buoyancy across different populations.

3.2.7. Implications for Practice

For educators and school counselors, these findings highlight the importance of fostering motivational and emotional regulation skills in tandem with creating a supportive learning environment. Integrating goal-setting strategies, autonomy-supportive teaching, and socio-emotional

learning into the curriculum may enhance students' academic buoyancy. Parental engagement programs, especially in early adolescence, may further reinforce students' confidence in managing academic setbacks.

3.2.8 Consistency with Prior Literature

These findings align with Martin and Marsh's conceptualization of academic buoyancy as a capacity to overcome everyday academic challenges. Across diverse contexts from Finland to Australia to Indonesia, academic buoyancy consistently emerged as both an outcome and a process shaped by affective, cognitive, and contextual variables.

3.2.9. Comparison to Prior Reviews

Compared to previous conceptual reviews (e.g., Martin & Marsh, 2009), this synthesis offers an updated, adolescent-focused lens and integrates recent findings on emotional-cognitive variables and cultural context. To date, few meta-analyses have quantitatively compared predictors of academic buoyancy across nations, underscoring a future direction for cumulative research.

3.2.10 Future Research Directions

Given the robust yet varied relationships observed, future research should:

1. Explore longitudinal effects of buoyancy on long-term outcomes.
2. Examine interventions that integrate emotional, motivational, and contextual factors. Investigate buoyancy in underrepresented populations (e.g., rural, low-SES, or neurodiverse students).

The findings offer several practical implications for schools and educators. To foster academic buoyancy, schools may consider integrating emotional regulation training (e.g., identifying and managing academic-related anxiety), promoting self-compassion practices, and designing a goal-setting workshop that cultivates mastery-oriented motivation. Teacher development programs can also include modules on providing autonomy-supportive feedback and creating psychologically safe classroom environments. Moreover, structured parental involvement strategies, such as regular check, can enhance students' resilience toward everyday academic stressors.

4. CONCLUSION

This systematic review highlights academic buoyancy as a crucial adaptive capacity that enables adolescents to effectively respond to the everyday setbacks and pressures inherent in academic life. The synthesis of 17 studies reveals that academic buoyancy is shaped by a dynamic interplay of internal psychological factors, such as self-compassion, motivation, goal orientation, self-regulation, and external contextual supports, particularly from teachers, parents, and the school.

These findings are significant for educators and policymakers because they position academic buoyancy not merely as an outcome of successful learning, but as a core process that mediates students' engagement, emotional well-being, and academic success. The capacity for academic buoyancy enables students to sustain effort, maintain optimism, and recover from failure, making it a protective buffer against academic stress and disengagement.

Given its protective and promotive functions, educational practices should intentionally foster both the internal and external conditions that support academic buoyancy. This includes implementing school-based programs that strengthen emotional regulation, build mastery-oriented motivation, and enhance the quality of teacher-student and parent-student relationships. Interventions that integrate

professional development on autonomy-supportive teaching, and active family engagement strategies may significantly enhance students' buoyancy in academic settings.

Furthermore, the findings suggest that academic buoyancy should be recognized as a developmental competence that can be cultivated through targeted, context-sensitive strategies. Schools, therefore, are in a strategic position to support adolescent learners not only to endure academic difficulties, but to grow from them with greater self-efficacy, motivation, and emotional balance.

Future research should explore the long-term impacts of academic buoyancy-oriented interventions, particularly across diverse cultural and socioeconomic contexts. In doing so, the field can advance a more inclusive and effective understanding of how to empower all students to navigate academic life with confidence and adaptability.

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