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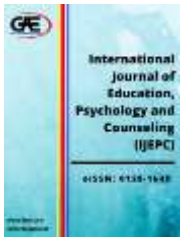

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A DECADE OF RESEARCH ON ACADEMIC BOREDOM IN HIGHER EDUCATION (2015-2025): A SYSTEMATIC REVIEW

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Abstract:

Academic boredom is a pervasive yet understudied academic emotion in higher education, with well-documented negative effects on student engagement, academic performance, and well-being. This systematic review synthesises empirical research published between 2015 and 2025 to trace the conceptual evolution, methodological approaches, antecedents, outcomes, and coping strategies related to academic boredom. Following PRISMA guidelines, 23 studies from Web of Science and Scopus-indexed databases were analysed. The findings point to a clear shift from unidimensional to multidimensional conceptualisations, while also revealing a continued predominance of cross-sectional designs despite the growing interest in intervention-based research. Cross-cultural differences emerge in both the antecedents and coping mechanisms, and the wide variation in measurement approaches poses challenges for comparability across studies. The predominance of undergraduate samples further limits the generalisability of existing findings to postgraduate and other professional learning contexts. Building on these patterns, this paper proposes a dynamic person-environment interaction model and argues for greater methodological coherence, including the use of validated measurement instruments, cross-cultural comparative designs, and more robust experimental or quasi-experimental approaches to strengthen causal claims. It further differentiates the mechanisms underlying major intervention types and shows that their effectiveness depends on contextual factors such as cultural background, individual characteristics, and disciplinary demands. The findings offer practical implications for educators and psychological counsellors to design

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more targeted, context-sensitive interventions aimed at reducing students' academic boredom and enhancing their well-being in higher education.

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Keyword:

Academic Boredom, Control-Value Theory, Coping Strategies, Higher Education, Student Well-Being

Introduction

Rapid changes in higher education, such as accelerated digitalisation and blended or hybrid teaching innovations, have expanded students' learning opportunities. However, these developments have also introduced new challenges to student engagement, potentially increasing the risk of academic boredom. These changes, combined with the expansion of online learning platforms and the increasing heterogeneity of student populations, encompass students' diverse cultural backgrounds and varied learning needs (Mohamed Hashim et al., 2022). Empirical studies consistently associate academic boredom with poorer learning outcomes and students' well-being (Tze et al., 2016), yet the research on the targeted solutions within higher-education settings remains limited (Furlong et al., 2021). Although earlier synthesises have already confirmed a negative relationship between learners' academic boredom and academic achievement (Sharp et al., 2020), studies are dispersed across participants' age groups, methodological approaches, and disciplines (e.g., psychological achievement-emotion studies vs. technology-mediated learning research). There is still a lack of a recent, theory-driven review that focuses specifically on higher education to integrate antecedents, mechanisms, and practical coping strategies of academic boredom.

Drawing on Pekrun's control-value theory, academic boredom is defined as a negative, deactivating achievement emotion that emerges when academic tasks are perceived as either monotonous or excessively demanding, characterised by feelings of emptiness, restlessness, and disinterest (Macklem, 2015; Qasim & Al-Hashimi, 2023). Survey-based evidence observed that undergraduates across various majors frequently report disengagement, describing much of their class time or coursework as uninteresting or even pointless, which points out the commonness of academic boredom as a pressing issue in higher education (Kökçam & Satan, 2022; Sharp et al., 2017). Far from being a minor inconvenience, academic boredom has been linked to a range of negative outcomes. For example, it can weaken students' learning

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motivation and impair their concentration, which in turn leads to lower academic performance (Yacek & Gary, 2023). What is worse, it can also increase students' feelings of burnout and stress, reduce their academic engagement, and ultimately increase the risk of dropping out (Özerk, 2020). However, the lack of an integrative synthesis makes it difficult to determine the underlying mechanisms of academic boredom and hinders the development of effective coping strategies (Sharp et al., 2020).

Beyond traditional classroom contexts, academic boredom also has new forms in this highly digitalised age. Online learning platforms provide flexible access to educational resources but often limit essential interaction between students and teachers (Ong & Quek, 2023). With constant connectivity to digital devices, students are more likely to experience prolonged inattention and reduced participation (He et al., 2021), which further hampers their critical thinking in virtual settings (Tagliaferri et al., 2025). These developments suggest that academic boredom is no longer confined to traditional classroom settings but increasingly shaped by digital learning environments. Thus, understanding academic boredom in higher education requires attention to both face-to-face and technology-mediated contexts, where students now spend much of their learning time.

Despite growing recognition, research on academic boredom in higher education is still relatively limited in depth and scope (Sharp et al., 2017; Sharp et al., 2020). The dominant theoretical framework used in the higher educational research field is control-value theory, which posits that learners' academic boredom arises from their perceptions of low value of tasks and their sense of limited control over academic tasks (Pekrun & Goetz, 2024). Yet, much of the existing empirical evidence relies heavily on self-report questionnaires, with limited use of behavioural or physiological measures that can capture the dynamic feature more objectively (Martarelli & Jost, 2024; Vodanovich & Watt, 2016). Moreover, few studies rigorously evaluate interventions to reduce the negative effects of academic boredom, and there is insufficient attention to cultural variations, particularly in non-Western contexts (Finkielsztein, 2019; Sharp et al., 2020). In addition, most existing studies focus predominantly on undergraduate populations, with limited attention to postgraduate or other professional learners. These gaps including theoretical fragmented research, over-reliance on self-report measures, limited intervention evaluations, and insufficient attention to cultural variations, impede a comprehensive understanding of the underlying causes of academic boredom and hinder the investigation of effective evidence-based solutions.

The present systematic review was conducted in accordance with the PRISMA 2020 guidelines to ensure transparency (Page et al., 2021) and the methodology proposed by Newman and Gough (2020) for rigorous educational literature syntheses (Pizard et al., 2021). This review examined studies on academic boredom in higher education published from 2015 to 2025. By integrating findings across quantitative, qualitative, and mixed-method studies, and by including cross-cultural comparisons, this review aims to clarify how academic boredom has been defined, triggered, and measured, highlight the impact of digital learning environments, and provide evidence-based guidance for researchers and educators. By synthesising intervention evidence, this review also aims to inform counselling practices that support students' emotional well-being in academic settings.

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Materials and Methods

This systematic review followed the established procedures outlined by Newman and Gough (2020)—a framework widely recognised for its rigour in guiding literature syntheses across social science disciplines and higher education (Paul et al., 2021). The review process was structured around three core stages proposed by Gough and Richardson (2024): identification (searching), screening (selecting), and synthesis (analysing findings). This three-stage structure was selected for its ability to ensure transparency and reduce bias at each step, and all steps were documented in detail to enable reproducibility. The research questions guided every phase of the process. We elaborate the search strategy, selection criteria, and quality assessment steps, including quality control measures (e.g., independent dual-reviewer operations) applied throughout.

Search Strategy

To capture global perspectives on academic boredom in higher education, we searched two widely used databases in education and psychology: Web of Science Core Collection and Scopus (Affandi et al., 2024). ERIC and PsycINFO were not included due to substantial overlap with the selected databases and resource considerations (Affandi et al., 2024).

The search was first conducted on July 2025, and double checked in September 2025, to ensure consistency with the "January 2015–July 2025" publication period, prioritising recent research to reflect the latest methodological and theoretical advances. A pilot search (conducted on March 2025) tested three keyword combinations; the final combination was refined to include synonyms and context-specific terms: ("academic boredom" OR "learning boredom" OR "student boredom" OR "boredom in higher education") AND ("higher education" OR "university" OR "college" OR "vocational education" OR "post-secondary education"). Search fields included title, abstract, and author-supplied keywords, as these fields are most likely to contain core concepts. Theses and conference proceedings were excluded due to challenges in verifying methodological rigour and peer review status.

Study Selection Process

A multi-stage study selection process was conducted in accordance with the PRISMA 2020 statement (Page et al., 2021) (see Figure 1: PRISMA Flow Diagram for Study Selection). Data extraction was performed using a standardised form adapted from the Cochrane Handbook for Systematic Review (Chandler et al., 2019)—the definitive guide for systematic review methodology—capturing key study characteristics including authors, publication year, country, research objectives, study design, sampling method, participant demographics, findings related to academic boredom, and quality assessment scores. Two reviewers independently extracted data using a shared Excel spreadsheet; discrepancies were logged in a dedicated "discrepancy log" and resolved within 24 hours through discussion or consultation with a third reviewer if consensus was not reached. Studies were initially categorised by methodological approach (quantitative, qualitative, or mixed methods) to facilitate subsequent synthesis. A summary of extracted features and findings for included studies is presented in Table 3.

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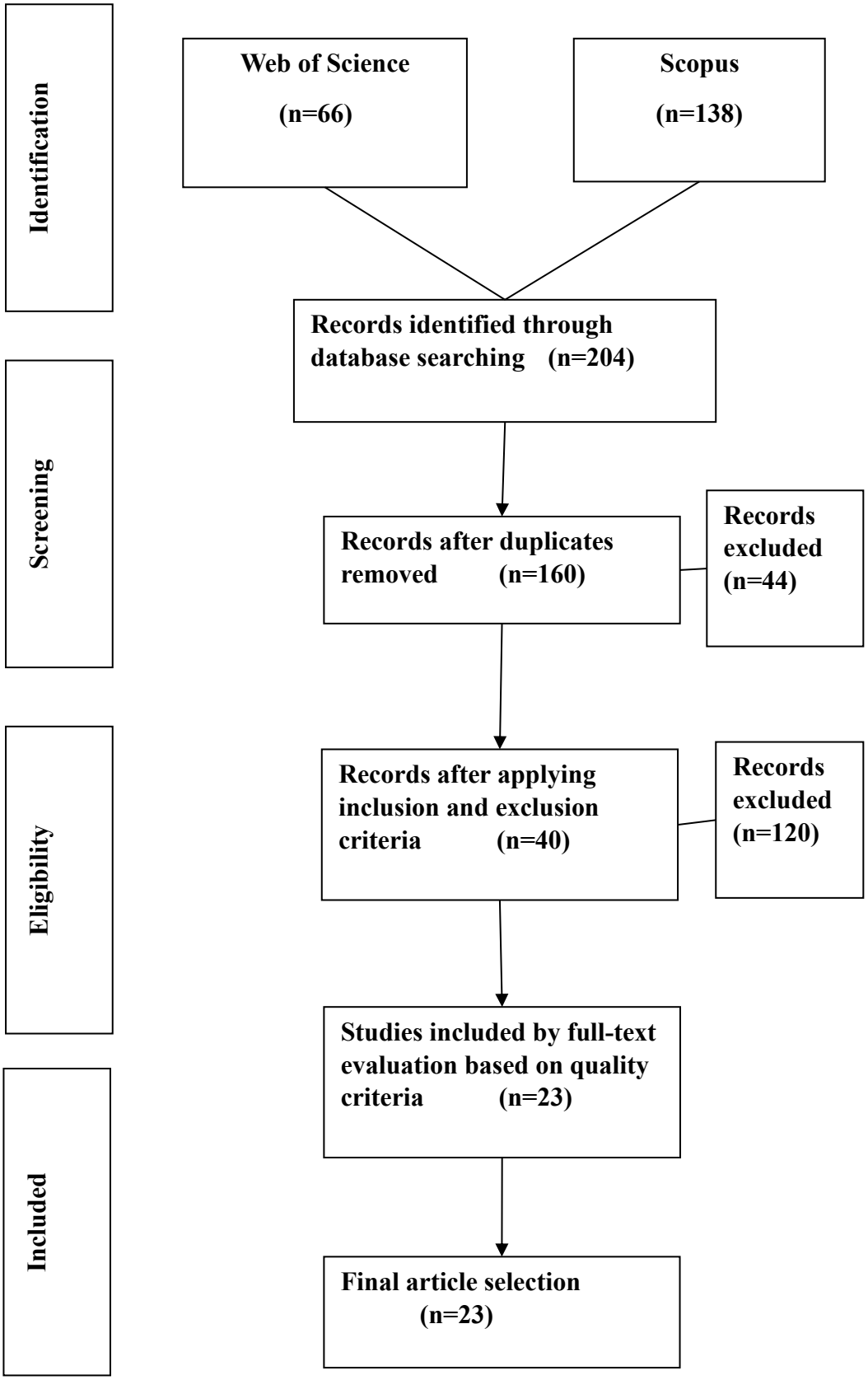

Figure 1: PRISMA Flow Diagram for Study Selection

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The screening process started with 204 articles identified from Web of Science (n=66) and Scopus (n=138). Duplicates were removed using EndNote 21.3 software, which employs a fuzzy matching algorithm (matching title, author, and publication year) to identify duplicates; 44 duplicates were removed, leaving 160 records. These 160 papers underwent title and abstract screening against predefined inclusion and exclusion criteria (see Section 2.2.1) by two reviewers independently. Inter-rater reliability was calculated using Cohen's kappa (κ=0.89), indicating excellent agreement (Landis & Koch, 1977). A total of 120 records were excluded at this stage, with reasons categorised as follows: 58 (48.3%) for irrelevance to academic boredom (e.g., focusing on boredom in other settings), 32 (26.7%) for non-higher education populations (e.g., K-12 students), and 30 (25.0%) for non-empirical study (e.g., theoretical essays and reviews).

Then these remaining 40 full-text articles were retrieved and assessed for eligibility by the same two reviewers (κ=0.85, excellent agreement). Seventeen articles were further excluded at this stage. Among them, nine (52.9%) were excluded due to inadequate methodological quality (e.g., unclear sampling methods or lack of valid boredom measures). One meta-analysis was excluded because quantitative effect-size pooling was not conducted, which was inconsistent with the heterogeneous study designs. The remaining eight (47.1%) were excluded due to a peripheral focus on boredom. Finally, 23 studies met all criteria and were included in this systematic literature review.

Inclusion and Exclusion Criteria

To ensure that the eligibility standards were closely aligned with the aims of this review, the inclusion and exclusion criteria were first formulated with reference to the research questions and structured according to the PICO (Population, Intervention, Concept, Context) framework. These draft criteria were then reviewed by an independent panel of three experts in education and educational psychology, who assessed their clarity, coverage, and alignment with the scope of higher educational systematic literature research. Their feedback was incorporated through several rounds of consultation to achieve a refined set of criteria (see Table 1: Eligibility Criteria for Study Selection) tailored to capture specific studies on academic boredom in higher education.

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Table 1: Eligibility Criteria for Study Selection

Domain	Inclusion Criteria	Exclusion Criteria
Population	Students in higher education institutions (e.g., undergraduate, postgraduate)	Studies conducted in K-12, vocational, or workplace settings
Study Design	Empirical research (e.g., quantitative, qualitative, mixed-methods)	Non-empirical publications (e.g., reviews without new analysis, editorials, commentaries, theoretical essays)
Publication	Published in peer-reviewed journals Date Range: January 2015 – July 2025	Publications outside the specified date range or non-journal articles (e.g., theses, preprints)
Concept	Academic boredom is a central variable of the study (e.g., measured as a primary outcome, predictor, or main theme)	Studies where boredom is a peripheral or incidental variable
Accessibility	Full text available in English	Full text not accessible or in a language other than English

Source: Summarised by the authors from the PICO framework for the purpose of this systematic review.

Quality Criteria

The methodological quality and risk of bias were assessed independently by two reviewers, with disagreements resolved through immediate discussion or, when necessary, consultation with a third reviewer. Quantitative studies were appraised using the Joanna Briggs Institute (JBI) Critical Appraisal Tool for Analytical Cross-Sectional Studies (Munn et al., 2020). This instrument was selected for its demonstrated reliability and its relevance to the observational study designs most frequently represented in the review. It consists of eight items covering domains such as sample representativeness, measurement validity, handling of confounding variables, and appropriateness of statistical analysis. Each item was rated as "Yes" (1 point), "No" (0 point), or "Unclear/Not applicable" (0 point). The adapted criteria for this study are summarised in Table 2.

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Table 2: Quality Assessment Criteria for Quantitative Studies

Criteria
1. Were the inclusion criteria explicitly stated and appropriate to the study aims?
2. Are the study population and institutional/learning context described in sufficient detail to allow replication?
3. Was academic boredom assessed using instruments with demonstrated validity and reliability?
4. Were standardised and transparent procedures applied in the measurement of academic boredom or related constructs?
5. Were potential confounding variables (e.g., demographic, cultural, or contextual factors) identified?
6. Did the study report clear strategies to address or control for confounding factors?
7. Were learning or psychological outcomes measured with valid and reliable tools?
8. Was the statistical analysis appropriate to the research questions and data characteristics?

Source: Adapted from the JBI Critical Appraisal Checklist for Analytical Cross-Sectional Studies (Munn et al., 2020)

Qualitative studies were evaluated using the Critical Appraisal Skills Programme (CASP) checklist (CASP, 2018). The CASP tool comprises ten items grouped into three domains (see Table 3: Quality Assessment Criteria for Qualitative Studies): credibility of findings, methodological soundness, and ethical considerations. Items were rated using an adapted binary scoring system ("Yes" = 1; "No/Unclear" = 0), a method commonly used in systematic reviews to enhance scoring consistency. For each study type, a total quality score was calculated as the percentage of points obtained relative to the maximum applicable score. Based on these percentages, studies were categorised as high (>80%), moderate (60–80%), or low (<60%) quality. These thresholds are consistent with those commonly applied in previous systematic reviews in educational research, e.g., Ghamrawi et al. (2025). Studies classified as "low quality" were included in a sensitivity analysis to determine their influence on the overall review findings. Sensitivity analysis involved re-examining synthesis outcomes after excluding low-quality studies to assess their potential influence on the overall conclusions.

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Table 3: Quality Assessment Criteria for Qualitative Studies

Assessment Criteria
1. Is the specific research aim clearly stated?
2. If the research adopts a qualitative methodology (such as interviews, case studies, participant observation, etc.), is this methodology suitable for the research needs of "academic boredom"?
3. Is the research design (such as longitudinal tracking, cross-sectional survey, action research, etc.) effective in achieving the research aims of "academic boredom"?
4. Is the recruitment strategy for research participants (such as random sampling, purposive sampling, snowball sampling, etc.) in line with the research aims of "academic boredom"?
5. Is the data collection method (such as semi-structured interview outlines, open-ended questionnaires, classroom observation scales, etc.) able to directly respond to the research issues of "academic boredom"?
6. Has the relationship between the researcher and the participants been fully considered in the context of "academic boredom" research?
7. Have ethical issues been properly taken into account in the research on "academic boredom"?
8. Is the data analysis process sufficiently rigorous for the research on "academic boredom"?
9. Is there a clear statement of the research findings regarding "academic boredom"?
10. How valuable is the research for the field of "academic boredom"?

Source: Adapted from Critical Appraisal Skills Programme (CASP) checklist) (CASP, 2018)

Data Extraction

Data were extracted with a piloted form developed according to the PICO framework and guidance from the Cochrane Handbook (Chandler et al., 2019). Two reviewers independently extracted the data, with disagreements resolved through discussion or consultation with a third reviewer. The extraction template recorded study identifiers (author, year, country), methodological information (design, sampling, sample size, and participant characteristics such as discipline and age), and intervention-related details (e.g., research type, duration, frequency) or other variables in observational studies. Outcomes extracted included quantitative indicators (e.g., means, standard deviations, correlations, p-values, and effect sizes) and qualitative findings (e.g., definitions, antecedents, correlates, and reported consequences of academic boredom). Finally, key conclusions relevant to the review questions were also marked.

Given the substantial heterogeneity in study designs and outcome measures, a narrative synthesis approach was adopted, guided by the methodological framework proposed by Popay et al. (2006). The synthesis was structured around the five review questions and proceeded in three stages: first, a preliminary synthesis was developed through grouping and tabulation of findings; next, relationships within and between studies were explored; and finally, the robustness of the synthesis was critically assessed. To enhance analytical depth, within-method analysis was conducted to identify consistent patterns, such as recurring antecedents across quantitative studies. In addition, cross-method triangulation was used to compare and integrate findings from quantitative and qualitative studies, identifying points of convergence and divergence. Additionally, a contextual analysis was performed to interpret findings in light of study-specific characteristics, including cultural and pedagogical contexts. This contextual analysis specifically examined cultural, disciplinary, and pedagogical variations to better interpret differences across educational settings. The characteristics of the included studies are summarised in Table 4 below.

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Author (Year)	Type	Country	Design	Sample (n)	Academic Boredom Measurement	KeyFocus	Quality (JBI/CASP Criteria)
Sharp et al. (2016)	Mixed Methods	UK	Survey and Interviews	320 (survey) and 24 (interviews)	Boredom proneness scale (10 items; Cronbach's α=0.82); Interviews: Semi-structured	Model for assessing student boredom/proneness in UK HE	High (85%, CASP/JBI): 9/10 (CASP) and 7/8 (JBI) criteria met.
Sharp et al. (2017)	Mixed Methods	UK	Survey and Interviews	456 (survey) and 30 (interviews)	Boredom scale (6 items; Cronbach's α=0.85); Interviews: Focused on characteristics/consequences	Characteristics, contributors, and consequences of academic boredom	High (92.9%, CASP/JBI): 9/10 (CASP) and 8/8 (JBI) criteria met.
Sharp et al. (2018)	Quantitative	UK	Longitudinal (1 academic year)	289 (final-year undergraduates)	Boredom scale (5 items; Cronbach's α=0.84)	Boredom, learning approaches, and final degree outcomes	High (87.5%, JBI): 7/8 criteria met (only "Objective measurement criteria" = Not Applicable).
Sharp et al. (2019)	Quantitative	UK	Analytical Cross-sectional	231 (final-year Education students)	Boredom scale (7 items; Cronbach's α=0.87)	Boredom and perceived course experiences (workload, support)	High (75%, JBI): 6/8 criteria met (missing "Objective measurement criteria" and "Confounding factors addressed").
Finkielsztein (2019)	Qualitative	Poland	Interviews and Participant Observation, and Online Survey (qualitative-led)	26 (semi-structured interviews) and 365 (open survey)	Semi-structured interviews (boredom experiences/coping) and open survey questions	Boredom coping strategies of university students	High (90%, CASP): 9/10 criteria met (only "Researcher position stated" = Unclear).
Ghensi et al. (2020)	Quantitative	Australia	Analytical Cross-sectional	584	Adapted boredom scale (6 items; Cronbach's α=0.86)	Conditional process model of boredom's antecedents (course relevance, self-efficacy) and effects (performance)	High (87.5%, JBI): 7/8 criteria met (only "Objective measurement criteria" = Not Applicable).
Cho et al. (2021)	Quantitative	South Korea	Analytical Cross-sectional	350 (in 12 flipped courses)	Adapted boredom scale (Artino, 2009; 5 items; Cronbach's α=0.93)	Student characteristics and teaching factors predicting boredom in flipped classrooms	High (87.5%, JBI): 7/8 criteria met (only "Objective measurement criteria" = Not Applicable).

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Author (Year)	Type	Country	Design	Sample (n)	Academic Boredom Measurement	KeyFocus	Quality (JBI/CASP Criteria)
Parker et al. (2021)	Quantitative	Canada	Longitudinal (10-week online course)	227	Single-item boredom measure (adapted from Pekrun et al., 2010; test-retest r=0.72)	Motivation (expectancy-value) as an antecedent of boredom and performance	High (87.5%, JBI): 7/8 criteria met (only "Objective measurement criteria" = Not Applicable).
Sharp et al. (2021)	Quantitative	UK	Cross-sectional (2 waves; scale development)	684 (Wave1) and 421 (Wave2)	Academic Boredom Survey Instrument (ABSI; 15 items; Cronbach's α=0.91; test-retest r=0.78)	Development/validation of ABSI (trait/state/contextual boredom)	High (91.7%, JBI): 7/8 criteria met (only "Objective measurement criteria" = Not Applicable).
Abdellatif (2022)	Quantitative	Egypt	Analytical Cross-sectional	384	Adapted self-report questionnaire (Cronbach's α = 0.82)	Relationships between academic boredom, self-compassion, and quality of academic life	High (87.5%, JBI): 7/8 criteria met (only "Objective measurement criteria" = Not Applicable).
Berweger et al. (2022)	Quantitative	Germany	Longitudinal (4 time points; within-between person analysis)	159 (blended learning)	Single-item measure (adapted from Gogol et al., 2014; test-retest r=0.76)	Expectancy-value appraisals and achievement emotions (including boredom) in online learning	High (87.5%, JBI): 7/8 criteria met (only "Objective measurement criteria" = Not Applicable).
Bieg et al. (2022)	Quantitative	Germany	Latent trait-state model (4 lectures; 3 measurements/lecture)	559	Single-item measure (adapted from Marsh & Bailey, 1993; AEQ; Cronbach's α=0.73-0.81)	Lagged links between perceived teacher enthusiasm/humour and students' enjoyment/boredom	High (87.5%, JBI): 7/8 criteria met (only "Objective measurement criteria" = Not Applicable).
Dubovi and Adler (2022)	Quantitative	Israel	Analytical Cross-sectional (COVID-19 quarantine)	187 (nursing students)	AEQ Learning-Related Boredom scale (Pekrun et al., 2002; 8 items; Cronbach's α=0.87)	Mediating role of boredom between COVID-19 anxiety and learning engagement	High (100%, JBI): All 8 criteria met.

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Author (Year)	Type	Country	Design	Sample (n)	Academic Boredom Measurement	KeyFocus	Quality (JBI/CASP Criteria)
Wang et al. (2022)	Quantitative	China	Analytical Cross-sectional	586 (online learning)	Academic emotions scale (boredom subscale; Cronbach's α=0.83)	Mediating role of academic emotions (including boredom) between interaction and learning engagement	High (87.5%, JBI): 7/8 criteria met (only "Objective measurement criteria" = Not Applicable).
Solhi and Önen (2023)	Quantitative	Turkey	Analytical Cross-sectional (COVID-19 emergency remote education)	327	Adapted boredom scale (Tze et al., 2013; 5 items; Cronbach's α=0.83)	Boredom levels and coping strategies in emergency remote education	Moderate (75%, JBI): 6/8 criteria met (missing "Confounding factors addressed" and "Objective measurement criteria").
Sánchez-San-José et al. (2023)	Quantitative	Spain	Quasi-experiment (intervention vs. control)	120 (intervention=60; control=60)	AEQ-M Boredom subscale (Pekrun et al., 2011; 4 items; Cronbach's α=0.83)	Alternative teaching (PBL) to counter academic boredom	Moderate (75%, JBI): 6/8 criteria met (missing "Random assignment" and "Objective measurement criteria").
Tam et al. (2023)	Quantitative	Hong Kong, China	Cross-sectional and experimental manipulation (quantitative-led)	302 (survey) and 120 (experiment)	Adapted boredom scale (Pekrun et al., 2010; 4 items; Cronbach's α=0.81)	Effect of boredom anticipation on actual lecture boredom	High (87.5%, JBI): 7/8 criteria met (only "Objective measurement criteria" = Not Applicable).
Wu et al. (2023)	Quantitative	Taiwan (China)	Cross-group comparison (analytical cross-sectional)	412 (online learning)	Academic emotions scale (boredom subscale; Cronbach's α=0.84)	Parallel mediating role of academic emotions (including boredom) between interaction and satisfaction	High (87.5%, JBI): 7/8 criteria met (only "Objective measurement criteria" = Not Applicable).
Nakamura et al. (2024)	Quantitative	Thailand	Quasi-experiment (pre-test/post-test)	42 (EFL students)	Adapted boredom scale (Nakamura et al., 2021; 4 items; Cronbach's α=0.78)	Implementation of boredom regulation strategy instruction	Moderate (75%, JBI): 6/8 criteria met (missing "Confounding factors addressed" and "Objective measurement criteria").

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Author (Year)	Type	Country	Design	Sample (n)	Academic Boredom Measurement	KeyFocus	Quality (JBI/CASP Criteria)
Tze et al. (2024)	Quantitative	Canada	Quasi-experiment (intervention vs. control)	156 (intervention=78; control=78)	Boredom misbeliefs scale (adapted from Tze et al., 2021; 6 items; Cronbach's α=0.84)	Effect of Targeted Boredom Intervention on Boredom Misbeliefs	High (87.5%, JBI): 7/8 criteria met (only "Objective measurement criteria" = Not Applicable).
Stockinger et al. (2025)	Quantitative	Germany	Within-person longitudinal (5 time points)	89	Single-item boredom measure (adapted from Bieg et al., 2022; test-retest r=0.74)	Within-person differences in motivation/emotion regulation (including boredom)	Moderate (62.5%, JBI): 5/8 criteria met (missing "Power analysis" "CI for key results", and "Objective measurement criteria").
Ulfah et al. (2025)	Qualitative	Indonesia	Semi-structured Interviews	23 (PhD candidates)	Interviews (focus on context-dependent boredom triggers	introduced a "boredom-free" perspective in doctoral education.	High CASP: 9/10 = 90%
Wang et al. (2025)	Quantitative	China	longitudinal (LGCM within SEM)	798 university students (3 institutions; online surveys)	Sharp et al. (2021) Academic Boredom Scale (31 items).	Examined how Autonomous-Supportive Learning Climate (ASLC) predicts intercept and growth rates of boredom	High JBI: 7/8 = 87.5%

Source: Summarised by the authors based on the findings of this systematic review.

Table 4. Characteristics of Included Studies (N=23, Chronological Order)

The key characteristics of the 23 included studies are summarised in Table 3 and visualised in Figures 2–4. As shown in Figure 2, quantitative designs constituted the majority (N=19, 82.6%), followed by mixed-methods (N=2, 8.7%) and qualitative designs (N=2, 8.7%). This predominance of quantitative approaches reflects the field's reliance on survey-based methodologies, which facilitates large-scale data collection but may limit the exploration of contextual and experiential aspects of academic boredom that are typically captured through qualitative inquiry.

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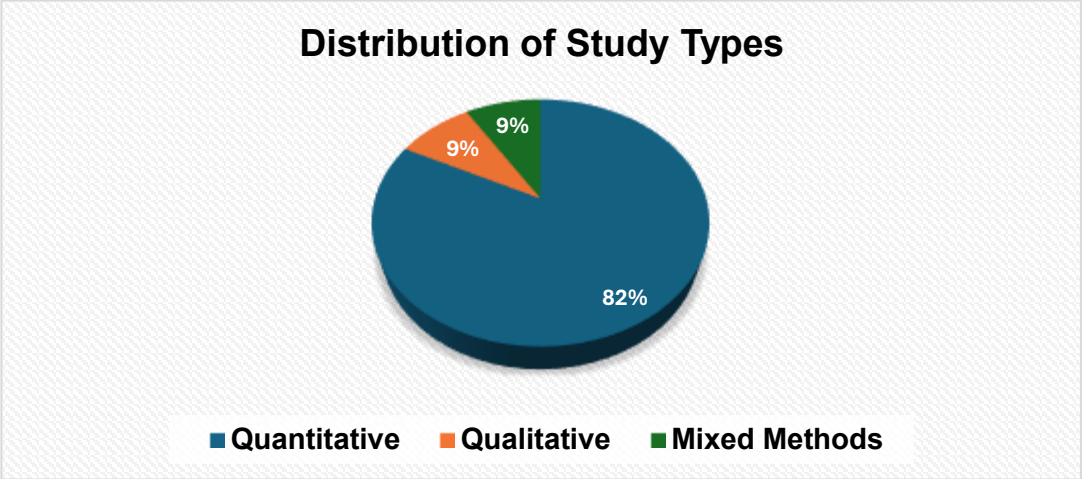

Figure 2: Distribution of Study Types

Geographically, the studies encompassed a diverse range of countries and regions (Figure 3). The United Kingdom was the most represented (N=5, 21.7%), followed by China (N=4, including mainland China, Hong Kong, and Taiwan; 17.4%) and Germany (N=3, 13.0%). Additional single studies were conducted in Australia, Canada, Egypt, Israel, Poland, South Korea, Spain, Thailand, and Turkey (N=1, 4.3% each). Despite this geographical diversity, studies remained concentrated in Western and East Asian contexts, with limited representation from developing regions. This uneven distribution suggests that current knowledge of academic boredom may be shaped primarily by specific educational cultures, highlighting the importance of expanding research to underrepresented regions to enhance cross-cultural generalisability.

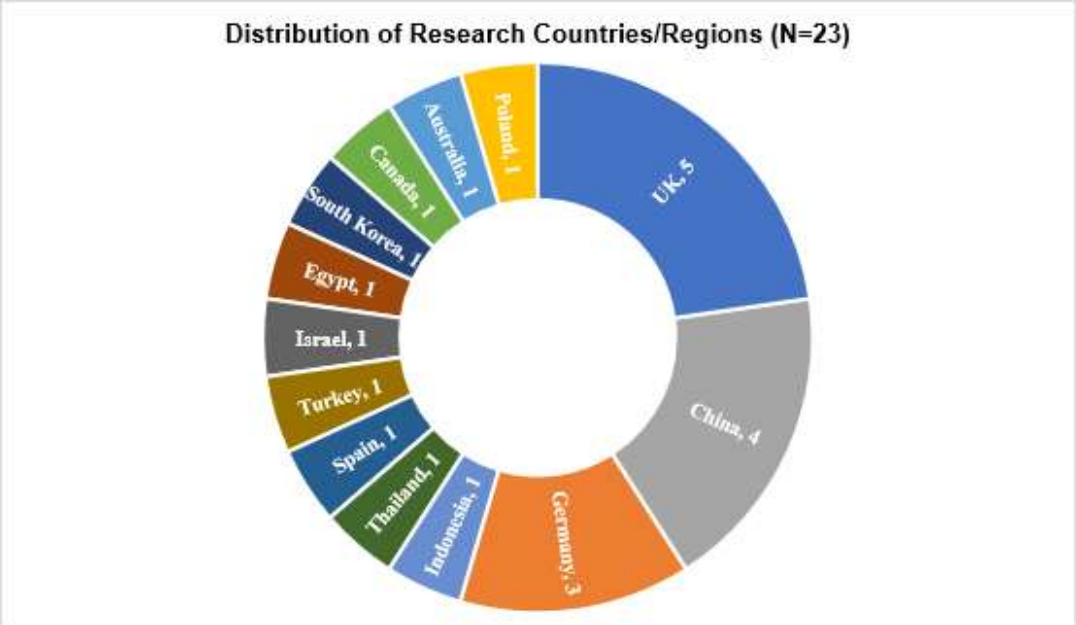

Figure 3: Distribution of Research Countries/Regions (N=23)

The research designs were further categorised into different types (Figure 4). Cross-sectional surveys were the most common design (39.1%), indicating a strong reliance on correlational approaches within the field. Longitudinal designs (17.4%) and quasi-experimental designs (17.4%) were less frequently employed, while only one fully experimental study was identified.

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Three studies (13.0%) adopted qualitative methodologies, including open-ended interviews and classroom observations. The predominance of cross-sectional designs suggests that much of the existing evidence is correlational in nature, which limits the ability to establish causal relationships between antecedents, interventions, and outcomes of academic boredom.

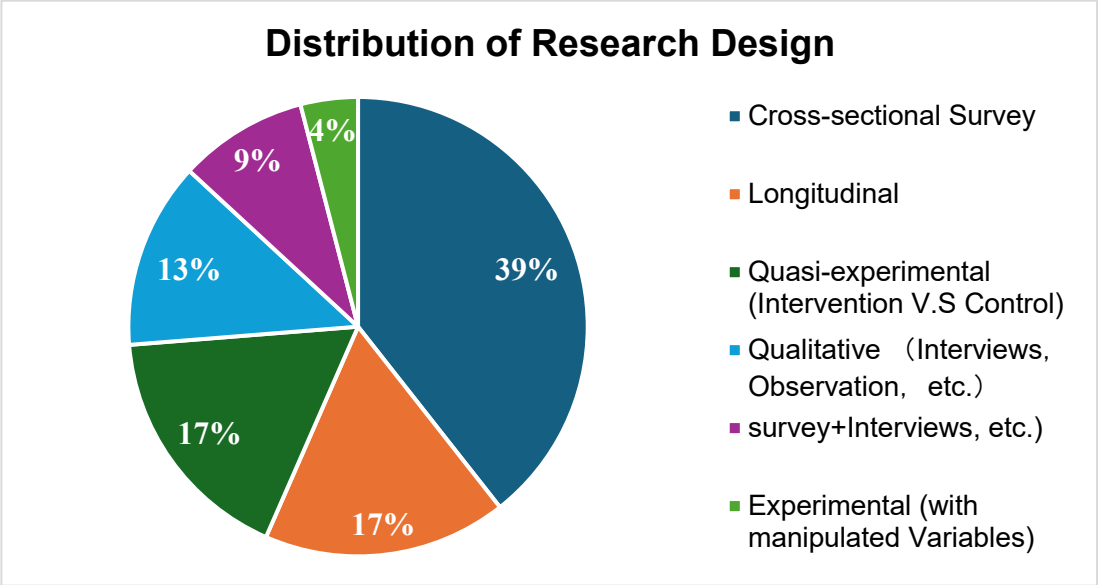

Figure 4：Distribution of Research Designs

Sample sizes also varied across the included studies, as detailed in Table 3. The distribution was as follows: fewer than 100 participants (N=4), 100–200 (N=4), 201–300 (N=3), 301–400 (N=5), 401–500 (N=2), and over 500 participants (N=5). This variation reflects differing research scopes, ranging from small-scale qualitative investigations to large survey-based studies. However, most samples were drawn from undergraduate populations, with relatively limited representation of postgraduate or professional learners, which may restrict the generalisability of findings across different educational stages.

Findings

This systematic review maps the methodological complexity and traces the theoretical evolution of academic boredom research in higher education. Based on an in-depth analysis of 23 empirical studies, this review proposes a multi-dimensional integrative framework (Figure 5) that synthesises findings across five interactive dimensions.

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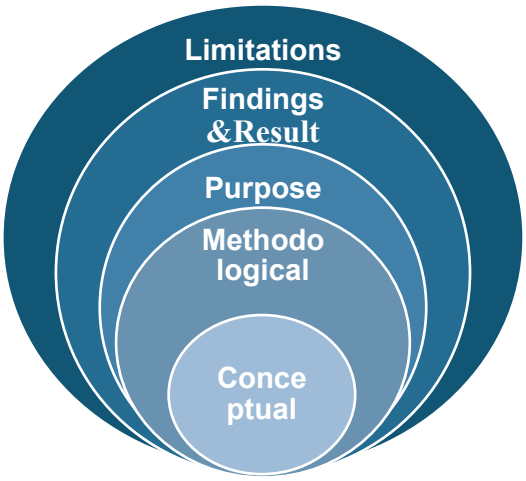

Figure 5: Multi-Dimensional Framework of Academic Boredom Research

Conceptual Evolution

Academic boredom was initially conceptualised as a unidimensional affective state, but contemporary research increasingly views it as a construct encompassing cognitive, affective, and motivational dimensions. Early empirical studies were grounded in discrete emotion theory (Sharp et al., 2016). They distinguished between 'boredom proneness' (trait) and 'state boredom' (situational). Reported correlations (e.g., $r=0.45$, $p < 0.001$) indicated that academic boredom exhibits both stable and situational characteristics (Tze et al., 2016). More recent studies have shifted attention from this dual framework to broader theoretical perspectives. Notably, Pekrun's (2006) control-value theory conceptualises academic boredom as arising from students' appraisals of control over and the value of academic tasks. Literature suggests three interrelated dimensions: cognitive, affective, and motivational.

The cognitive dimension reflects students' perception of task value and sense of control. Ghensi et al. (2020) found that low perceived course relevance ($\beta= -0.32$, $p < 0.001$) and limited academic self-efficacy ($\beta= -0.25$, $p < 0.001$) predicted higher academic boredom. The affective dimension captures emotional experiences, including dullness, weariness, and restlessness; qualitative semi-structured interviews with 26 university students revealed that students often described academic boredom as "emotional disengagement" or irritation toward repetitive content (Finkielsztein, 2019). The motivational dimension relates to diminished persistence and goal-directed behaviour, with academic boredom negatively predicting students' effort ($r=-0.28$, $p<0.01$) and persistence in challenging tasks ($r=-0.31$, $p<0.001$) (Parker et al., 2021).

Abdellatif (2022) proposed a relational perspective, showing that academic boredom mediates the relationship between self-compassion and quality of academic life. Significant negative correlations were observed between boredom and both self-compassion ($r=-0.31$, $p < .001$) and quality of academic life ($r=-0.42$, $p < .001$). These findings broaden the theoretical scope of academic boredom beyond individual psychology to encompass social and well-being dynamics.

Methodology and Measurement Innovation

Geographically, these studies spanned 14 countries yet showed concentration in Western Europe (34.7%) and East Asia (13.0%), indicating the need for broader cultural representation.

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Sample sizes varied appropriately with methodological purposes: smaller samples (n<100) supported deep qualitative investigation, while larger samples (n>500) enabled quantitative generalisability. A closer comparison of studies across cultural contexts reveals both convergence and divergence in the mechanisms of academic boredom. For example, studies conducted in Western contexts, such as the UK (Sharp et al., 2017, 2019), consistently highlight the role of perceived course structure and institutional support in shaping boredom. In contrast, studies from East Asian contexts, including China (Wang et al., 2022) and South Korea (Cho et al., 2021), place greater emphasis on instructional design features such as interaction patterns and task organisation. Moreover, intervention-based studies suggest culturally contingent responses. Problem-based learning showed strong effects in structured learning environments (Sánchez-San-José et al., 2023), whereas cognitive reappraisal strategies demonstrated effectiveness student-centered instructional contexts (Ghensi et al., 2020). These comparisons indicate that while the core control-value mechanisms appear robust across contexts, the pathways through which boredom is experienced and regulated may differ across educational cultures.

Research methodology on academic boredom has expanded beyond traditional cross-sectional surveys to include longitudinal, experimental, and mixed-methods designs. Alongside this diversification, measurement approaches have also evolved, with various tools offering complementary strengths and limitations depending on the research objectives and context. Figure 6 summarises these developments, showing the temporal shift in research design alongside the evolution of measurement tools in the past decade.

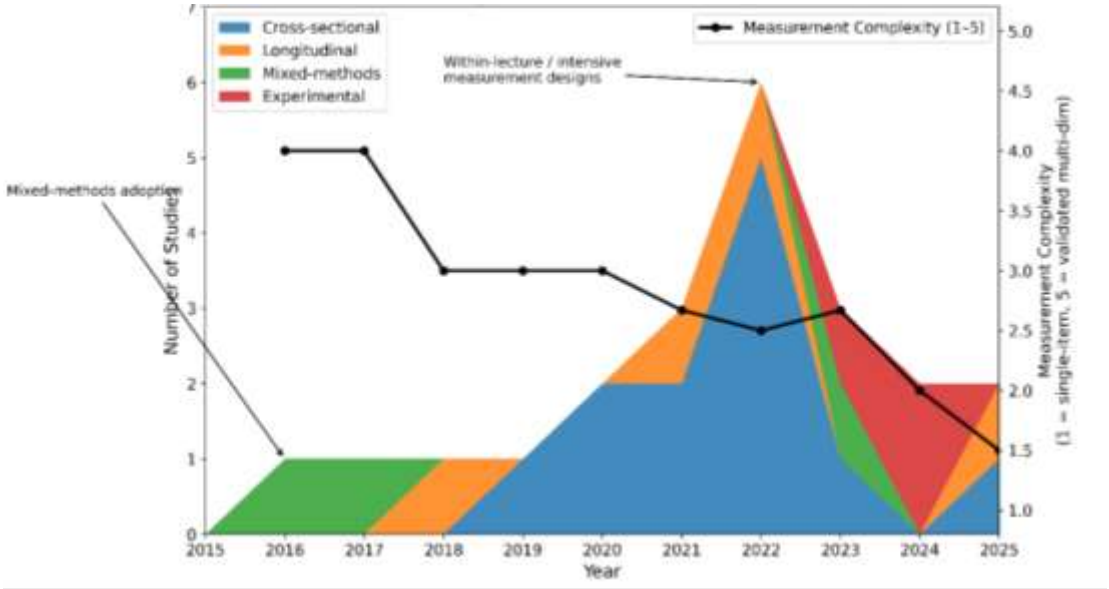

Figure 6: Temporal Trends in Research Methods and Measurements

Quantitative approaches predominate in these 23 selected studies, reflecting the emphasis on identifying and quantifying academic boredom's correlation through psychometric measures. Nine studies employed adapted versions of Pekrun's Achievement Emotions Questionnaire and its adapted versions, with reliability coefficients ranging from α=0.82 to α=0.93. For example, Ghensi et al. (2020) used a 6-item boredom scale with high reliability (α=0.86), while Cho et al. (2021) tailored a 5-item version to flipped classrooms (α=0.93). Despite strong psychometric properties, these tools often struggled with cross-cultural adaptation. Scales

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validated in Western contexts (Sharp et al., 2016) were seldom tested in non-Western samples, as Solhi and Önen (2023) noted in their study of Turkish undergraduates. This quantitative orientation has effectively shaped academic boredom's network of associations, but it also faces certain limitations.

Across the reviewed studies, measurement approaches can be broadly categorised into three types: (1) multi-item validated scales (e.g., AEQ-based instruments), (2) adapted short-form scales, and (3) single-item measures used in experience sampling designs. The reviewed studies exhibit substantial variation in the operationalisation of academic boredom, which complicates cross-study comparison. For instance, Sharp et al. (2021) employed the Academic Boredom Survey Instrument (ABSI), a multidimensional scale capturing trait, state, and contextual boredom, whereas Parker et al. (2021) and Berweger et al. (2022) relied on single-item measures within longitudinal or experience sampling designs. While multi-item scales offer stronger construct validity, single-item approaches are more sensitive to momentary fluctuations. However, this methodological divergence leads to inconsistencies in reported prevalence and effect sizes, as single-item measures tend to capture situational variability, whereas multidimensional scales reflect more stable patterns. As a result, synthesising findings across studies becomes challenging without clearer standardisation or at least explicit differentiation between measurement purposes. This methodological divergence leads to inconsistencies in reported prevalence and effect sizes, complicating cross-study synthesis.
Next, the longitudinal designs provide temporal perspectives, capturing academic boredom's fluctuations across various learning periods and academic terms. Berweger et al. (2022) applied the experience sampling method, originally developed in the psychological research field, to capture the dynamic nature of academic boredom. Single-item measures were administered 3-5 times per week throughout a whole semester, yielding a test-retest reliability of r=0.76. Findings indicated that within-person variability took about 30% of learners' academic boredom experiences.

However, the limited number of fully experimental studies indicates that causal inference in this field remains relatively weak. Present quasi-experimental studies marked progress in evaluating interventions, including pedagogical restructuring (Sánchez-San-José et al., 2023) and metacognitive training (Tze et al., 2024). Qualitative studies accounted for only 13.0%, and the single experimental study (4.3%) showed key methodological gaps in the field. Qualitative research provides rich contextual insights. For example, Finkielsztein (2019) conducted over 300 hours of ethnographic observation, showing that offline classroom seating influenced boredom: students seated at the back reported noticeably higher disengagement than those at the front. However, experimental studies are further constrained by practical and ethical considerations in the real-world educational contexts, limiting their feasibility and popularity.

Across the 23 studies, research design exhibited a clear developmental progress: early reliance on cross-sectional surveys (2016–2019), followed by growth in longitudinal and experimental designs (2020–2025). This methodological shift indicates increasing recognition of the need to capture both temporal dynamics and intervention effects in academic boredom research.

Research Purposes and Theoretical Contributions

The purposes of academic boredom research have evolved across four different phases, ranging from descriptive studies to integrative theoretical syntheses, reflecting the research field's

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maturation in scope and depth. These phases were identified through chronological clustering of research aims and methodological trends across the included studies.

To begin with, the phenomenon description phase (2015-2018), studies mainly focused on reporting this common phenomenon and started to find basic correlations. For example, Sharp et al. (2016) surveyed 320 undergraduates and reported that a substantial proportion of students frequently experienced academic boredom during lectures, highlighting its prevalence as an early research concern. Next year, Sharp et al. (2017) linked academic boredom with students missed classes ($r=0.32$, $p<0.001$), providing early evidence of its behavioural consequences.

Later, in the mechanism exploration phase (2019–2021), scholars began testing theoretical models. Ghensi et al. (2020) validated a control-value theory-based model, showing that boredom mediated the relationship between course relevance and academic performance ($\beta = -0.08$). Also, Wang et al. (2022) demonstrated similar mediation effects in online learning contexts.

Then, in the intervention validation phase (2022–2024), researchers' attention turned to test more practical strategies. For instance, Sánchez-San-José et al. (2023) demonstrated that problem-based learning reduced academic boredom compared to traditional lectures. More specifically, structured group collaboration and task-based problem-solving were identified as key elements that sustained students' engagement and reduced their passive learning behaviours. Nakamura et al. (2024) examined academic boredom's regulation strategies, reporting substantial reductions in post-test academic boredom levels.

Most recently, a theoretical integration phase (2025-) has emerged. Stockinger et al. (2025) combined control-value theory with self-determination theory, revealing how basic psychology needs moderate control appraisals and academic boredom. This cross-theoretical synthesis reflects increasing efforts to integrate motivational and emotional perspectives in explaining academic boredom. It represents the creative attempt at cross-theoretical synthesis. This evolution reflects the field's progression from description to intervention, and from single-factor explanation to systematic understanding with theoretical integration and practical application.

Integrated Findings: An Evidence-Based Path Model

Synthesising evidence from the 23 studies, this review constructs an evidence-based path model that depicts the antecedent, mediating, and outcome pathways of academic boredom (see Figure 7: Evidence-Based Path Model of Academic Boredom). This structural-style diagram illustrates the relationships among antecedents, mediators, and outcomes of academic boredom.

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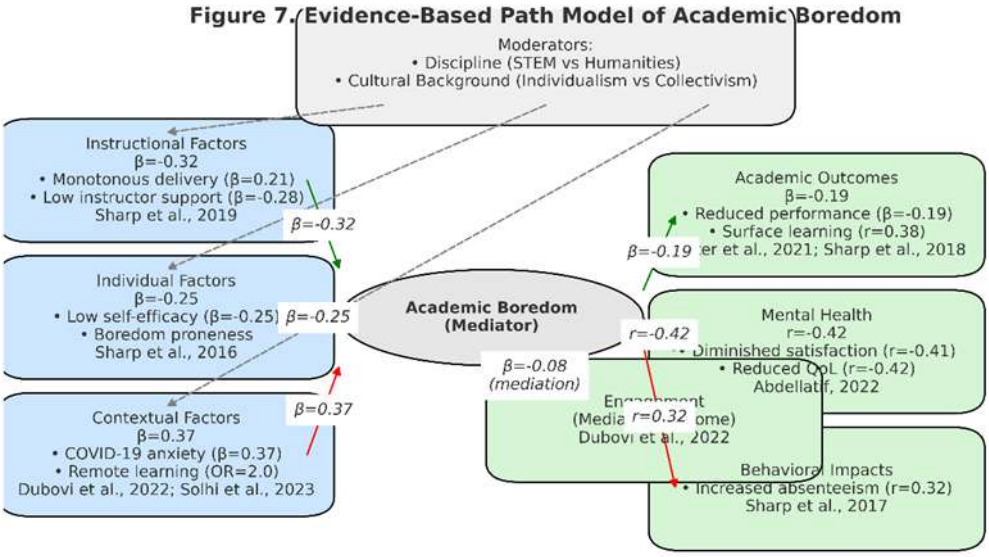

Figure 7: Evidence-Based Path Model of Academic Boredom

Empirical studies suggest that multiple antecedents lead to academic boredom, and these factors can be systematically identified. Among instructional factors, monotonous lectures and limited instructor support consistently emerged as key predictors of academic boredom across multiple studies (Sharp et al., 2019). Individual characteristics, particularly low self-efficacy and boredom proneness, were also repeatedly identified as risk factors (Sharp et al., 2016). Environmental influences, such as pandemic-related disruptions and remote learning conditions, further intensified boredom experiences, highlighting the sensitivity of boredom to contextual changes. For example, Dubovi and Adler (2022) reported that COVID-19-related anxiety increased academic boredom ($\beta=0.37$, $p < .001$), and Solhi and Önen (2023) observed that students in remote learning environments were twice as likely as those in face-to-face settings to experience academic boredom. In contrast to the more stable effects of instructional and individual personal factors, these environmental influences appear context-dependent, reflecting the impact of large-scale disruptions on student learning engagement.

The outcomes of academic boredom are clear across academic, emotional, and behavioural domains. Across the reviewed studies, academic boredom demonstrated consistent negative effects across three domains: academic performance, emotional well-being, and behavioural engagement. For instance, Parker et al. (2021) found a negative effect on course performance ($\beta=-0.19$), while Sharp et al. (2018) linked academic boredom to increased use of surface learning strategies ($r=0.38$). At the same time, Abdellatif (2022) showed that academic boredom was tied to psychological and behavioural impacts, such as lower course satisfaction ($r=-0.41$) and poorer quality of academic life ($r=-0.42$). Behaviourally, it is associated with higher absenteeism ($r=0.32$; Sharp et al., 2017). These findings suggest that academic boredom has a direct impact on students' academic achievement and well-being and may also drive their academic avoidance behaviours. What is less clear, however, is how these consequences interact over time, as most studies treat them separately.

Recent work has also examined academic boredom as a mediator. During the COVID-19 pandemic period, Dubovi et al. (2022) found that academic boredom fully explained the link between anxiety and engagement. Other studies reported partial mediation, such as between online interaction quality and engagement (Wang et al., 2022) and between course relevance

and students' academic performance (Ghensi et al., 2020). These findings point to academic boredom as an active process rather than a simple outcome, although the scope of this role across various disciplines and cultural contexts remains uncertain and needs further examination. These mediation findings highlight the dynamic role of academic boredom as an explanatory mechanism linking environmental conditions to learning outcomes, although the predominance of correlational designs limits strong causal inference.

Taken together, the above literature indicates that academic boredom is caused by a combination of instructional, individual, and contextual conditions, and that its consequences extend from learners' academic performance to well-being and behaviour. At the same time, the strength and consistency of these effects appear uneven. Future research would benefit from closer examination of which pathways remain stable across different cultural and disciplinary contexts, and which vary according to institutional and pedagogical conditions.

Intervention Efficacy: What Works and for Whom

This review identifies three distinct intervention approaches with varying effect sizes and moderating factors based upon the research evidence included. They are pedagogical restructuring, meta-cognitive and cognitive-behaviour training, and technology-enhanced learning strategies. These intervention categories reflect three underlying mechanisms: instructional redesign, cognitive regulation, and contextual engagement. As summarised in Table 5: Systematic Review of Intervention Studies for Academic Boredom below, the instructional restructuring strategies showed the strongest effects, with problem-based learning (PBL) exhibiting large effects (d=1.24), particularly among engineering students in a highly structured instructional context (e.g., South Korea). These approaches were especially effective in STEM contexts, where they significantly enhanced both student perceived task value (β=0.31, $p < 0.001$) and feelings of control (β=0.27, $p < 0.001$), two core antecedents of academic boredom according to the control-value theory.

Metacognitive training interventions, such as cognitive reappraisal and academic boredom regulation strategies, produced moderate but durable effects (d=0.45-0.67), with flipped classroom optimisation showing greater benefits for older students (≥22 years old) and cognitive reappraisal training (CBT) being more effective for students with low initial self-efficacy (d=0.69). Also, Ghensi et al. (2020) found that reappraisal training students to reframe apparently boring content as personally meaningful or future-relevant reduced boredom proneness by nearly a quarter over eight weeks, with gains maintained at a three-month follow-up. These findings demonstrate the potential of interventions that strengthen students' regulatory skills, particularly among those already vulnerable to academic boredom.

Moreover, the technology-enhanced interventions produced substantial effects (d=0.73), particularly in practical courses and contexts where anxiety might otherwise exacerbate academic boredom, such as nursing, where repeated practical skill development is essential. This pattern suggests that technology works best when aligned with the practical demands of the curriculum, rather than as a generic solution. From a counselling perspective, these findings suggest that academic boredom can be conceptualised not merely as an unpleasant emotional state, but as a maladaptive cognitive-affective pattern amenable to therapeutic intervention. University counsellors might therefore integrate boredom-focused modules into existing CBT-based programs for academic stress or anxiety, helping students identify and challenge

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boredom-inducing cognitions (e.g., "This task is pointless"; "I'll never need this information") and develop adaptive behavioural responses.

Taken together, these interventions operated through distinct mechanisms and exhibit clear boundary conditions. Pedagogical redesign enhances perceived value and control, especially in collectivistic settings. It primarily enhanced perceived academic task value (β=0.31) and sense of self-control (β=0.27). Metacognitive strategies focused on reappraisal and adaptive regulation were particularly beneficial for students with low self-efficacy. Technology-based learning showed stronger effects in applied disciplines than in theoretical ones. To sum up, the effectiveness of these interventions was moderated by individual characteristics (age, self-efficacy, boredom proneness), disciplinary context, and various cultural factors, highlighting the importance of tailored implementation rather than one-size-fits-all solutions.

Table 5: Systematic Review of Intervention Studies for Academic Boredom

Intervention Category	Intervention Type	Sample Characteristics	Outcome Measure	Effect Size (d)	95% CI	Moderating factors	Quality Score[1]	Reference
Pedagogical Restructuring	Problem-Based Learning (PBL)	120 STEM undergraduates (Turkey)	Boredom scale score	1.24	[0.87, 1.61]	Stronger for engineering students	8/10	Sánchez-San-José et al. (2023)
	Flipped Classroom Optimisation	350 undergraduates (South Korea)	Boredom frequency	0.82	[0.59, 1.05]	More effective for older students (≥22 yrs)	7/10	Cho et al. (2021)
Metacognitive & Cognitive Training	Boredom Regulation Strategies	95 education students (Germany)	Boredom intensity	0.67	[0.38, 0.96]	No significant moderators identified	7/10	Nakamura et al. (2021)
	Cognitive Reappraisal Training	177 undergraduates (Australia)	Boredom proneness	0.45	[0.21, 0.69]	Stronger for low self-efficacy students	6/10	Ghensi et al. (2020)
Technology-Enhanced Learning	Interactive Simulation-Based Learning	187 nursing students (Israel)	Task-specific boredom	0.73	[0.45, 1.01]	More effective in practical courses	8/10	Dubovi et al. (2022)

(Note: d = Cohen's d; CI = Confidence Interval.
1 *Methodological quality was assessed on a 10-point scale based on the Joanna Briggs Institute (JBI) critical appraisal tools for quasi-experimental studies.
2 Scored on a 10-point scale (1 = lowest quality, 10 = highest) considering randomisation, blinding, and follow-up duration.
3 Included optimised preview materials and interactive in-class activities.
4 Effect sizes were extracted directly from the original studies where available.)

A closer examination of intervention studies suggests that different strategies operate through distinct mechanisms and are differential effective across contexts. For example, problem-based learning interventions (Sánchez-San-José et al., 2023) primarily reduce boredom by increasing perceived task value and relevance, particularly in structured STEM contexts. In contrast, cognitive reappraisal interventions (Ghensi et al., 2020) target students' interpretation of

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learning tasks, proving especially beneficial for those with low self-efficacy. Technology-enhanced approaches (Dubovi & Adler, 2022) appear most effective in applied disciplines such as nursing, where interactive simulations align closely with practical skill development. These findings indicate that intervention effectiveness is contingent upon both learner characteristics and disciplinary context, rather than being universally applicable.

Pedagogical restructuring primarily enhances perceived task value and control, whereas meta-cognitive approaches target cognitive reappraisal and self-regulation processes. Importantly, their effectiveness is not uniform, but varies depending on individual characteristics (e.g., self-efficacy, age), disciplinary context, and cultural background. This suggests that intervention design should move toward more adaptive and context-sensitive approaches rather than one-size-fits-all solutions.

Limitations

The current body of research on academic boredom is shaped by four principal limitations that warrant careful consideration. Geographically, existing studies demonstrate a substantial imbalance, with more research conducted in Western educational contexts (e.g., the United Kingdom, Australia, Germany) than originating from non-Western regions (e.g., China, Turkey, South Korea, Egypt, Indonesia). This uneven distribution raises concerns regarding the cross-cultural generalizability of existing theoretical models. For instance, Abdellatif's (2022) finding on the protective role of self-compassion against boredom among Egyptian students may not be readily applicable to other populations may not be readily applicable to other populations due to differences in educational practices and emotional expression norms across contexts.

Methodologically, considerable heterogeneity in measurement instruments presents challenges for comparative analysis. Studies have employed diverse assessment approaches, ranging from multi-dimensional trait scales to single-aspect state measures, creating obstacles for systematic synthesis. This inconsistency in operationalisation likely causes the substantial disparity in reported academic boredom prevalence rates, which range from 40% (Sharp et al., 2016) to 62% (Solhi et al., 2023). This variation is partly attributable to differences in measurement definitions and scale sensitivity across studies.

In addition, much of the evidence rests on correlational designs due to methodological constraints. Only about 26% of studies adopted experimental or quasi-experimental designs, with the majority relying on cross-sectional data that cannot establish directional relationships. The observed correlation between academic boredom and impaired academic performance, for example, may reflect reverse causality or the influence of unmeasured third variables.

In terms of sampling, the representative participant group emerges from undergraduate populations (91%), particularly those enrolled in psychology (38%) and education (29%) programs. The under-representation of graduate students and those in professional disciplines such as engineering and nursing limits the generalisability of findings across diverse academic stages and specialised educational contexts. The dominance of undergraduate samples also shapes the current understanding of academic boredom. Most included studies (e.g., Sharp et al., 2017; Cho et al., 2021) focus on structured classroom-based learning environments, where boredom is often linked to instructional design and course delivery. In contrast, the limited evidence from postgraduate populations (e.g., Ulfah et al., 2025) suggests that boredom may

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arise from different sources, such as research uncertainty or prolonged independent work. This imbalance implies that existing models of academic boredom may be more reflective of structured undergraduate learning contexts and may not fully capture the dynamics of self-directed or professional learning environments. This limitation is particularly significant because postgraduate students often engage in research-oriented and independent learning tasks, which may alter both the sources and regulation of boredom compared to undergraduate settings.

Taken together, these limitations highlight the need for more culturally inclusive, methodologically rigorous, and context-sensitive research designs to advance theoretical and practical understanding of academic boredom in higher education.

Identified Gaps and Future Research

Based on the identified limitations, several promising directions for future research emerge across theoretical validation, methodological innovation, intervention design, and measurement development. Moving forward, the field would benefit from cross-cultural comparative studies that examine whether established theoretical models, such as control-value theory and self-determination theory, operate similarly across diverse educational contexts. Such studies should adopt parallel research designs and comparable measurement instruments to allow direct comparison of control and value appraisals across cultural settings. For instance, it remains to be seen whether control and value appraisals predict academic boredom in similar ways across different cultures, or whether culture-specific factors shape learners' distinct experiences of academic boredom.

Meanwhile, a shift toward dynamic process investigations is strongly recommended. The use of intensive longitudinal designs, including daily diaries, weekly, or monthly reflections, and experience sampling methods, could capture short-term intra-individual fluctuations in academic boredom. Such designs may support stronger inference about temporal ordering between antecedents and boredom outcomes. For example, they can be used to examine how academic boredom evolves over time and interacts with academic events such as examinations and project deadlines. Complementing this, personalised intervention research represents another promising direction. Future studies may explore adaptive intervention models that tailor coping strategies to individual learner profiles, for instance, providing meta-cognitive training for students high in trait boredom, and instructional restructuring for those experiencing situational boredom.

Finally, multi-level analyses are also needed to examine how academic boredom emerges from interactions between micro-level factors (e.g., individual motivation), meso-level factors (e.g., classroom practices), and macro-level influences (e.g., institutional policies). Such approaches would help identify which intervention components operate most effectively at different systemic levels. Future research might explore, for example, how teacher characteristics like teacher enthusiasm and humour interact with broader institutional policies such as course flexibility to collectively influence student academic boredom.

Future research should also prioritise the use of standardised and culturally validated measurement instruments. Developing core measurement sets of comparable boredom measures would improve cross-study synthesis and facilitate more reliable comparisons across disciplines and educational systems. Future reviews may also benefit from adopting core

measurement frameworks to improve synthesis reliability. In addition, future studies should extend sampling frameworks to include postgraduate students and learners in various professional disciplines, where learning structures and motivational dynamics may differ substantially from undergraduate settings.

Discussions

This review synthesises conceptual, methodological, empirical, and intervention-focused findings from academic boredom research in higher education. Through a multi-dimensional integrative framework, this paper traced a disciplinary shift from descriptive inquiry toward studies focused on underlying mechanisms and interventions. Theoretically, the field has progressed from viewing boredom as a singular emotional state to framing it within integrated, dynamic, cognitive-affective-motivational models synthesised from empirical patterns. The central theoretical contribution is the proposal of a dynamic individual–environment interaction model, which conceptualises academic boredom as emerging from reciprocal influences among individual traits (e.g., boredom proneness), instructional contexts (such as problem-based learning versus traditional one-way lectures), and situational factors (e.g., the shift to remote learning during COVID-19). This model emphasises academic boredom as a fluid process rather than a fixed trait, for example, monotonous teaching may amplify predispositions to academic boredom, whereas supportive teacher/peer interactions can mitigate them (Finkielsztein, 2019).

Practically, the findings advocate for multi-level coping strategies. At the instructional level, adopting evidence-backed approaches such as problem-based learning and optimised flipped classrooms (effect sizes d=0.82-1.24) can enhance task value and student control; incorporating real-world problems, for instance, strengthens perceived relevance (Ghensi et al., 2020). From the student perspective, metacognitive training, including cognitive reappraisal techniques, helps learners reframe disengaging content, for example, by linking boring academic learning material to students' career relevance, thereby reducing their boredom proneness. These cognitive reappraisal techniques are conceptually aligned with Cognitive Behavioural Therapy (CBT) approaches commonly used in counselling settings (Ghensi et al., 2020; Tze et al., 2024). Institutions play a critical role by mitigating structural sources of academic boredom, such as overcrowded lectures or inflexible course sequences, and supporting instructor training in engaging pedagogical methods (Bieg et al., 2022). It is important to note that intervention efficacy is often moderated by cultural and individual differences; problem-based learning, to illustrate, may require adaptation in culturally diverse learning environments to align with communal learning values (Cho et al., 2021), which underscores the need for contextual and personalised approaches. For counsellors and student affairs practitioners, this suggests that boredom interventions should be adaptable to students' diverse cultural backgrounds and psychological profiles.

To support these theoretical and practical advances, several methodological recommendations emerge. Future studies can embrace multi-method triangulation, combining quantitative reliable scales, experience sampling, and qualitative approaches, to capture academic boredom's multifaceted nature, as demonstrated in mixed-methods designs (Sharp et al., 2017). Cross-cultural collaborative research is also essential to validate measures and theoretical models across diverse educational settings, for instance, by comparing academic boredom antecedents in Turkish versus German contexts. Furthermore, intervention studies should disaggregate complex programs to identify active components and incorporate long-term

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follow-ups, such as six-month post-experimental assessments, to evaluate the sustainability of academic boredom-reduction efforts (Nakamura et al., 2021). From a counselling perspective, such longitudinal data would be valuable for understanding how boredom interventions impact students' psychological well-being over time. In addition, the adoption of standardised and culturally validated boredom measurement tools would enhance comparability across studies.

Although cross-sectional designs continue to dominate the field, several recent studies have begun to address causal relationships through quasi-experimental and longitudinal approaches. For example, Sánchez-San-José et al. (2023) demonstrated that problem-based learning significantly reduced academic boredom compared to traditional instruction, while Nakamura et al. (2024) reported measurable improvements following boredom regulation training. However, the limited number of such designs restricts the strength of causal claims, as most evidence remains correlational. To strengthen causal inference, future studies should incorporate experimental or quasi-experimental designs with control conditions, pre-post comparisons, and extended follow-up periods. Combining such designs with longitudinal or experience sampling methods would further allow researchers to capture both directional effects and temporal dynamics in academic boredom processes.

Taken together, the proposed dynamic individual-environment interaction model offers a conceptual lens for understanding academic boredom not as a static emotional response, but as a context-sensitive process shaped by ongoing interactions between learners and their learning environments.

Conclusion

Research on academic boredom in higher education is evolving into a more mature, theory-driven, and practice-oriented field. This progression reflects a broader shift from purely descriptive studies. Researchers are increasingly adopting integrative frameworks that combine cognitive, affective, and motivational dimensions. The future research needs to actively confront its persistent limitations, particularly geographic bias, which currently skews findings toward Western, educated, industrialised populations, and the widespread lack of causal inference in study designs. For counselling practice, the findings underscore the need for university counsellors to recognise academic boredom not merely as a transient feeling but as a potential indicator of deeper issues related to control and value appraisals. Counselling interventions could, therefore, focus on helping students reappraise the value of their academic tasks; they could also support the development of metacognitive strategies to regulate boredom, thereby enhancing both academic success and psychological well-being.

By embracing more diverse, cross-cultural participants and employing longitudinal and experimental methods, future research can generate more robust, transferable insights to improve learners' academic experiences and support student well-being. Ultimately, addressing academic boredom is not merely about alleviating a transient negative emotional state; it is a crucial step toward cultivating learning environments that are more engaging, meaningful, and equitable across higher education worldwide.

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