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Social Support and Self-Efficacy as Protective Factors Against Academic Procrastination: A Systematic Literature Review

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A B S T R A C T

Academic procrastination is a widespread barrier to student success in various educational and cultural contexts. Personal and interpersonal resources, particularly self-efficacy and social support, are increasingly viewed as protective factors against this tendency. Objective: This Systematic Literature Review (SLR) aims to synthesise empirical evidence regarding the role of self-efficacy and social support as protective factors against academic procrastination. Method: The review was conducted based on the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. Literature was searched through Scopus, Web of Science, and Google Scholar for publications from 2020–2026. Inclusion criteria include peer-reviewed empirical articles, available in full text, discussing academic procrastination, and examining self-efficacy and/or social support in educational populations. Out of the 142 identified articles, 18 duplicates were removed, 72 articles were excluded at the screening stage, and 28 articles were excluded after full-text evaluation. A total of 24 empirical studies met all the criteria and were included in the qualitative synthesis. Results: Academic self-efficacy consistently has a negative relationship with academic procrastination and often serves as a mediator linking social support to a reduction in procrastination. The influence of social support tends to be stronger indirectly through the enhancement of self-efficacy, motivation, and self-regulation. Conclusion: Self-efficacy and social support are complementary protective resources in reducing academic procrastination. The findings support the perspective of Bandura's Social Cognitive Theory and the social support buffering hypothesis, and indicate the need for further research in the context of Islamic higher education and cross-cultural settings.

A B S T R A K

Penundaan akademik merupakan hambatan yang luas terhadap keberhasilan mahasiswa di berbagai konteks pendidikan dan budaya. Sumber daya personal dan interpersonal, khususnya efikasi diri dan social support, semakin dipandang sebagai faktor protektif terhadap kecenderungan tersebut. Tujuan: Systematic Literature Review (SLR) ini bertujuan mensintesis bukti empiris mengenai peran efikasi diri dan social support sebagai faktor pelindung terhadap penundaan akademik. Metode: Tinjauan dilakukan berdasarkan pedoman Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA). Literatur ditelusuri melalui Scopus, Web of Science, dan Google Scholar untuk publikasi tahun 2020–2026. Kriteria inklusi mencakup artikel empiris peer-reviewed, tersedia dalam teks lengkap, membahas penundaan akademik, serta menguji efikasi diri dan/atau social support pada populasi pendidikan. Dari 142 artikel yang teridentifikasi, 18 duplikat dihapus, 72 artikel dikeluarkan pada tahap penyaringan, dan 28 artikel dikeluarkan setelah evaluasi teks lengkap. Sebanyak 24 studi empiris memenuhi seluruh kriteria dan dimasukkan dalam sintesis kualitatif. Hasil: Efikasi diri akademik secara konsisten berhubungan negatif dengan penundaan akademik dan sering berperan sebagai mediator yang menghubungkan social support dengan penurunan penundaan. Pengaruh social support cenderung lebih kuat secara tidak langsung melalui peningkatan efikasi diri, motivasi, dan regulasi diri. Kesimpulan: Efikasi diri dan social support merupakan sumber daya protektif yang saling melengkapi dalam mengurangi penundaan akademik. Temuan mendukung perspektif Teori Kognitif Sosial Bandura

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dan social support buffering hypothesis, serta menunjukkan perlunya penelitian lebih lanjut pada konteks pendidikan tinggi Islam dan lintas budaya.

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A. Introduction

Academic procrastination has become one of the most prevalent psychological and educational challenges in higher education, affecting students' academic performance, psychological well-being, and learning engagement. Recent evidence indicates that procrastination is not merely a matter of poor time management but reflects a complex failure of self-regulation influenced by cognitive, motivational, emotional, and environmental factors. Numerous studies have shown that students who frequently delay academic tasks experience lower academic achievement, higher stress and anxiety, and reduced learning satisfaction, highlighting procrastination as an important issue requiring comprehensive psychological understanding (Delgado et al., 2025; Swain et al., 2026). Although interventions such as cognitive-behavioral strategies and self-regulation training have demonstrated promising outcomes, considerable variation remains regarding which protective factors most effectively reduce academic procrastination across different educational contexts (Sadoughi & Professor, 2018; Swain et al., 2026).

Among the protective factors that have attracted increasing scholarly attention, social support and self-efficacy are consistently identified as important psychological resources that facilitate adaptive academic behavior. According to Social Cognitive Theory, self-efficacy enhances students' confidence in managing academic demands, whereas supportive relationships with family, peers, teachers, and supervisors provide emotional, informational, and instrumental resources that strengthen learning persistence (Meng et al., 2025; Wang et al., 2022). Recent empirical findings further demonstrate that social support indirectly reduces academic procrastination by enhancing intrinsic learning motivation and academic self-efficacy, suggesting that these variables operate through interconnected psychological mechanisms rather than independent effects (Chen et al., 2026; Meng et al., 2025). Despite this growing body of evidence, existing studies have reported diverse conceptual models and mediating pathways, making it difficult to establish an integrated understanding of how these protective factors collectively influence academic procrastination.

The literature also reveals several important research gaps. First, previous empirical studies have predominantly examined either social support or self-efficacy independently, while relatively few have synthesized their combined protective mechanisms within a single conceptual framework (Chen et al., 2026; Wang et al., 2025). Second, although numerous cross-sectional studies have identified significant associations among these variables, there remains limited evidence regarding consistent mediating processes involving intrinsic motivation, self-regulated learning, emotional regulation, or persistence intention across different student populations (Meng et al., 2025; Swain et al., 2026). Third, no

recent systematic literature review has specifically synthesized evidence concerning the interaction between social support and self-efficacy as protective factors against academic procrastination among university students using a comprehensive PRISMA-based approach. Consequently, a systematic synthesis is needed to integrate current empirical evidence, identify consistent patterns, and establish a stronger theoretical foundation for future psychological and educational interventions.

Despite the growing body of empirical evidence, several important research gaps remain. First, previous studies have predominantly examined the direct relationships between social support, academic self-efficacy, and academic procrastination, while comparatively few have synthesized the underlying psychological mechanisms through which these variables interact to influence students' academic behavior (Chen et al., 2024; Meng et al., 2025; Wang et al., 2022). Although mediation analyses have increasingly incorporated variables such as intrinsic motivation, resilience, emotional regulation, and self-regulated learning, the findings remain fragmented and have not been integrated into a comprehensive psychological framework (Rad et al., 2025; Zhang et al., 2024). Second, the existing evidence is methodologically dominated by cross-sectional survey designs, limiting the ability to explain the developmental and causal processes underlying academic procrastination. Consequently, the directionality and temporal dynamics between social support, self-efficacy, and procrastination remain insufficiently understood (Meng et al., 2025; Rad et al., 2025; Steel, 2007).

Third, considerable heterogeneity exists regarding the conceptualization and measurement of social support. Previous studies have examined different sources of support—including peer, family, teacher, and supervisory support—using diverse theoretical perspectives and measurement instruments, resulting in fragmented evidence concerning which dimensions of social support most effectively function as protective resources against academic procrastination (Cohen & Wills, 1985; Wang et al., 2022). This conceptual diversity makes it difficult to establish a coherent understanding of how various forms of social support contribute to students' adaptive academic functioning across educational contexts. Finally, although several systematic reviews have synthesized determinants, prevalence, or intervention strategies related to academic procrastination, they have generally treated social support and academic self-efficacy as separate variables rather than integrating them into a unified psychological framework that explains their complementary protective functions (Ma et al., 2026; Rad et al., 2025; Svartdal et al., 2020). Consequently, a comprehensive synthesis that explains how external interpersonal resources are transformed into internal psychological capacities remains largely absent from the current literature.

Unlike previous systematic reviews that primarily summarize predictors or intervention strategies for academic procrastination, the present review offers three original contributions. First, it synthesizes evidence on social support and academic self-efficacy within a single protective-resource framework rather than examining these variables independently. Second, it integrates findings across diverse sources of social support—including peer, family, teacher, supervisor, and online support—to identify common psychological mechanisms underlying procrastination reduction. Third, this review develops an integrative conceptual framework grounded in Social Cognitive Theory and the buffering hypothesis of

social support, providing a theoretical basis for future empirical and intervention studies, particularly within higher education and Islamic educational contexts.

Therefore, this study aims to systematically review recent empirical evidence regarding the protective roles of social support and self-efficacy in reducing academic procrastination among university students by following the PRISMA 2020 guidelines. Beyond summarizing previous findings, this review seeks to identify recurring psychological mechanisms, compare methodological trends, and develop an integrative conceptual understanding of how external and internal protective resources interact to reduce academic procrastination. Specifically, this review addresses three research questions: (RQ1) What are the characteristics and methodological trends of empirical studies investigating social support, self-efficacy, and academic procrastination? (RQ2) How do social support and self-efficacy individually and jointly function as protective factors against academic procrastination among university students? (RQ3) What psychological mechanisms, mediators, moderators, and research gaps emerge from existing studies, and how can these findings contribute to the development of an integrated conceptual framework for future research and intervention?

B. Literature Review

1. Academic Procrastination

Recent psychological literature has shifted from viewing academic procrastination as merely a problem of poor time management to conceptualizing it as a multidimensional failure of self-regulation involving motivational, cognitive, emotional, and behavioral processes. Although procrastination is commonly defined as the intentional delay of academic tasks despite anticipating negative consequences, accumulating evidence suggests that this behavior reflects a complex interaction among maladaptive cognitions, deficient self-regulatory capacity, and contextual influences rather than a simple deficit in planning skills (Ma et al., 2026; Rad et al., 2025). Across recent empirical studies, fear of failure, perfectionism, emotional dysregulation, and diminished academic motivation consistently emerge as the strongest psychological antecedents of procrastination because they reduce students' willingness to initiate and sustain effort toward challenging academic tasks (Ma et al., 2026; Swain et al., 2026). These findings collectively indicate that academic procrastination should be understood as a dynamic psychological process in which internal vulnerabilities interact with environmental demands, ultimately undermining academic performance and psychological well-being.

From a theoretical perspective, both Self-Regulation Theory and Temporal Motivation Theory explain procrastination as the consequence of impaired regulation of motivation, emotions, and goal-directed behavior over time. Students who experience difficulties in monitoring learning progress, regulating emotional responses, and maintaining commitment to long-term academic goals are more likely to prioritize immediate mood repair over delayed academic rewards, thereby increasing procrastination tendencies (Rad et al., 2025; Steel, 2007). Nevertheless, recent empirical evidence increasingly demonstrates that procrastination cannot be adequately explained by individual factors alone. Rather, its development is shaped by the interaction between internal psychological resources and external environmental conditions. In particular, academic self-efficacy consistently functions as a proximal cognitive resource that strengthens

persistence and self-regulation, whereas social support provides contextual resources that indirectly reduce procrastination by enhancing students' confidence, motivation, and adaptive coping capacities (Chen et al., 2024; Meng et al., 2025; Wang et al., 2022). Collectively, these findings suggest that effective interventions should move beyond behavioral management strategies toward integrated approaches that simultaneously strengthen students' internal psychological capacities and supportive academic environments.

2. Social Support

Recent literature conceptualizes social support as a multidimensional psychosocial resource that helps university students manage academic demands, regulate stress, and adapt to challenging educational environments. This support may originate from family members, friends, teachers, and other significant individuals, providing emotional reassurance, informational guidance, practical assistance, and feedback that strengthen students' capacity to cope with academic difficulties. In higher education, social support is particularly relevant because students must navigate increasing academic responsibilities while maintaining psychological adjustment and motivation. Recent empirical evidence indicates that perceived social support is associated with lower academic procrastination and more adaptive academic functioning, suggesting that supportive social environments may facilitate students' engagement with academic responsibilities (Chen et al., 2024; Miller et al., 2024). Furthermore, research examining medical students has identified a positive association between perceived social support and academic life satisfaction, with academic procrastination partially mediating this relationship (Lone et al., 2026). These findings suggest that social support should be understood not merely as a source of emotional comfort but also as a contextual resource that may contribute to students' academic adjustment, persistence, and psychological well-being.

Although empirical studies generally indicate a negative association between social support and academic procrastination, emerging evidence suggests that this relationship can operate through multiple psychological and motivational mechanisms rather than exclusively through a direct effect. Specifically, Chen et al. (2025) demonstrated that academic self-efficacy and intrinsic learning motivation partially mediated the relationship between social support and academic procrastination, including a significant sequential mediation pathway. Similarly, research involving vocational college students identified self-efficacy and resilience as mediating mechanisms linking social support with procrastination, highlighting the importance of students' internal psychological resources in explaining this association (Zhang et al., 2024). More recent research on online learning further demonstrated that fear of failure and expectancy-value beliefs sequentially mediated the relationship between online social support and academic procrastination (Wu et al., 2026). Taken together, these findings suggest that social support may help reduce procrastination by strengthening students' confidence in their academic capabilities, supporting motivational processes, and facilitating adaptive responses to academic challenges. This interpretation is consistent with Social Cognitive Theory, which emphasizes the role of environmental influences in shaping self-efficacy and behavioral regulation (Bandura & Wessels, 1994; Bandura Albert, 2014), and with Self-Determination Theory, which highlights the importance of supportive social environments in

fostering motivation and adaptive functioning (Ryan & Deci, 2024). Accordingly, social support can be conceptualized as an external psychosocial resource whose association with academic procrastination may be partly explained by internal cognitive, motivational, and self-regulatory processes.

3. Self-Efficacy

Recent psychological research increasingly positions academic self-efficacy as one of the most influential cognitive resources underlying students' academic functioning rather than merely a belief in personal capability. Rooted in Bandura's Social Cognitive Theory, academic self-efficacy reflects students' confidence in their ability to organize, regulate, and successfully execute learning-related behaviors in the face of academic challenges. Across diverse educational contexts, students with higher academic self-efficacy consistently demonstrate greater persistence, stronger intrinsic motivation, more effective emotional regulation, and higher resilience, enabling them to approach demanding academic tasks as manageable challenges instead of threatening obligations (Bandura & Wessels, 1994; Demir et al., 2025; Rad et al., 2025). Conversely, insufficient self-efficacy is associated with heightened self-doubt, avoidance-oriented coping, and diminished self-regulation, thereby increasing the likelihood of academic procrastination. Collectively, these findings suggest that self-efficacy is not simply an individual disposition but a dynamic psychological resource that determines how students interpret, respond to, and persist through academic demands.

Beyond its direct influence on procrastination, recent empirical evidence consistently identifies academic self-efficacy as a central mediating mechanism through which environmental and personal resources shape students' academic behavior. Across mediation and structural equation modeling studies, self-efficacy repeatedly explains how various forms of social support—including peer, teacher, parental, and supervisory support—translate into lower levels of academic procrastination by strengthening intrinsic motivation, persistence intention, emotional regulation, resilience, and self-regulated learning (Chen et al., 2024; Meng et al., 2025; Zhang et al., 2024). Notably, several studies report that the direct effect of social support becomes substantially weaker or statistically non-significant once academic self-efficacy is incorporated into structural models, highlighting its pivotal role as a proximal psychological mechanism linking contextual resources to adaptive academic behavior. This converging evidence aligns with Social Cognitive Theory, which proposes that environmental experiences influence behavioral outcomes primarily through cognitive processes, particularly efficacy beliefs (Bandura & Wessels, 1994). Therefore, academic self-efficacy should be understood not only as an independent predictor of academic procrastination but also as the principal internal protective resource that transforms external support into sustained academic engagement and effective self-regulation.

4. Research Gap and Proposed Conceptual Contribution

Recent empirical evidence has substantially advanced the understanding of academic procrastination by identifying both social support and academic self-efficacy as important protective factors. Nevertheless, the existing literature remains conceptually fragmented because these constructs have predominantly been examined as independent predictors rather than as complementary

components within a unified psychological framework. Across empirical studies, academic self-efficacy consistently demonstrates the strongest direct association with reduced academic procrastination, whereas the influence of social support is more frequently reported as indirect and contingent upon intermediary psychological processes, including intrinsic motivation, self-regulated learning, emotional regulation, resilience, and persistence intention (Chen et al., 2024; Meng et al., 2025; Wang et al., 2025; Zhang et al., 2024). This recurring pattern suggests that the relationship between environmental resources and academic behavior is considerably more complex than simple direct-effect models imply.

A second limitation concerns the conceptualization of social support itself. Previous studies have operationalized social support inconsistently by focusing on different sources, including peer support, family support, teacher support, or supervisory support, without integrating these findings into a coherent theoretical framework (Nada et al., 2024; Wang et al., 2022). Such variation has generated fragmented evidence regarding which dimensions of social support are most influential and through what psychological pathways they contribute to reducing academic procrastination. Moreover, while many studies acknowledge the importance of academic self-efficacy, they often treat it as a direct predictor rather than as a central cognitive mechanism linking environmental experiences with students' academic behavior. This conceptual fragmentation limits the development of cumulative theoretical knowledge and constrains the design of comprehensive intervention strategies.

Methodologically, the current evidence is also characterized by several limitations. Most studies employ cross-sectional survey designs, making it difficult to infer developmental or causal processes underlying academic procrastination. Furthermore, although mediation analyses and structural equation modeling have become increasingly common, relatively few studies have systematically integrated their findings to identify recurring psychological mechanisms across different populations and educational settings (Chen et al., 2025; Meng et al., 2025). Consequently, the literature lacks an overarching synthesis capable of explaining how contextual resources, cognitive beliefs, motivational processes, and self-regulatory capacities operate as an interconnected psychological system rather than as isolated determinants of procrastination.

Drawing upon Social Cognitive Theory (Bandura & Wessels, 1994) and Social Support Theory (Cohen & Wills, 1985), the present systematic literature review addresses these conceptual and methodological limitations by proposing an integrated protective-resource framework. Within this framework, social support is conceptualized as an external protective resource that provides emotional, informational, appraisal, and instrumental assistance, whereas academic self-efficacy functions as an internal protective resource that translates supportive interpersonal experiences into adaptive academic behavior. Rather than conceptualizing these variables as independent predictors, this framework emphasizes their complementary roles in strengthening self-regulation, intrinsic motivation, emotional regulation, resilience, and persistence, thereby reducing students' tendency to engage in academic procrastination.

Accordingly, the principal conceptual contribution of this review lies in integrating fragmented empirical findings into a unified psychological explanation of academic procrastination. By synthesizing evidence from diverse educational contexts, this review advances current literature in three important ways. First, it

reconceptualizes academic procrastination as the outcome of interactions between contextual and cognitive protective resources rather than as a purely individual self-regulation failure. Second, it identifies academic self-efficacy as the primary psychological mechanism through which social support exerts its protective influence on academic behavior. Third, it provides an integrative framework that can guide future longitudinal research and inform evidence-based intervention programs aimed at strengthening supportive learning environments while simultaneously enhancing students' psychological capacities for self-regulated learning. The conceptual frame work looks like in figure 1.

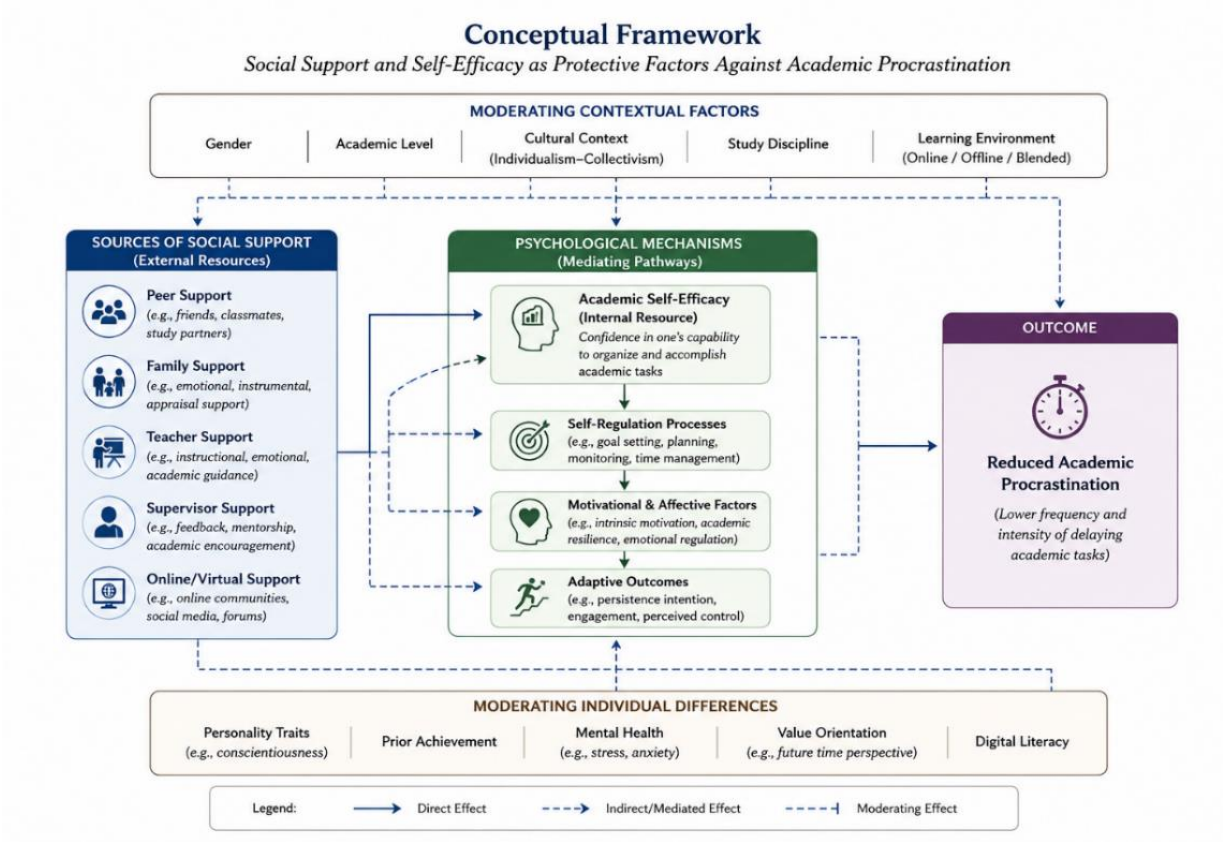


Figure 1. Conceptual Framework

C. Methods

1. Research Design

This study employed a Systematic Literature Review (SLR) using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA 2020) guidelines to systematically identify, screen, evaluate, and synthesize empirical evidence concerning the protective roles of peer social support and self-efficacy in reducing academic procrastination among university students (Page et al., 2021). The PRISMA framework was selected because it provides a transparent and reproducible procedure for conducting systematic reviews while minimizing selection bias and improving methodological rigor. The review focused exclusively on empirical studies investigating the relationships among academic procrastination, peer social support, and self-efficacy in higher education contexts.

2. Search Strategy

The literature search was conducted between May and June 2025 using a researcher-developed database consisting of 142 scientific articles from internationally indexed databases. The databases included Scopus, Web of Science, ScienceDirect, SpringerLink, Taylor & Francis Online, Sage Journals, ERIC, Wiley Online Library, Frontiers, Google Scholar, and ProQuest. These databases were selected because they provide comprehensive coverage of high-quality peer-reviewed publications in psychology, education, and behavioral sciences.

The search strategy combined keywords related to the three principal constructs using Boolean operators (AND, OR) to maximize search sensitivity while maintaining relevance. The following search syntax was adapted according to the requirements of each database: ("academic procrastination" OR procrastination) AND ("peer social support" OR "social support") AND ("academic self-efficacy" OR "self-efficacy"). Additional searches were performed by examining the reference lists of relevant articles to identify potentially eligible studies that were not captured during the initial database search.

3. Eligibility Criteria

The inclusion and exclusion criteria were established before the screening process to ensure consistency and transparency throughout the review.

a. Inclusion Criteria

Studies were included when they fulfilled all of the following criteria:

1. Published between 2020 and 2025.
2. Published in peer-reviewed international journals.
3. Written in English.
4. Reported empirical quantitative or mixed-methods research.
5. Included university or college students as participants.
6. Examined academic procrastination together with peer social support and/or self-efficacy.
7. Reported sufficient methodological information and research findings for synthesis.
8. Available in full-text format.

b. Exclusion Criteria

Studies were excluded when they met one or more of the following conditions:

1. Literature reviews, systematic reviews, or meta-analyses.
2. Conference proceedings, editorials, books, book chapters, dissertations, or theses.
3. Instrument validation studies without empirical testing of relationships among variables.
4. Studies involving elementary or secondary school students.
5. Studies focusing solely on one variable without discussing academic procrastination.
6. Duplicate publications.
7. Articles with inaccessible full texts.

The study selection process is summarized as follows:

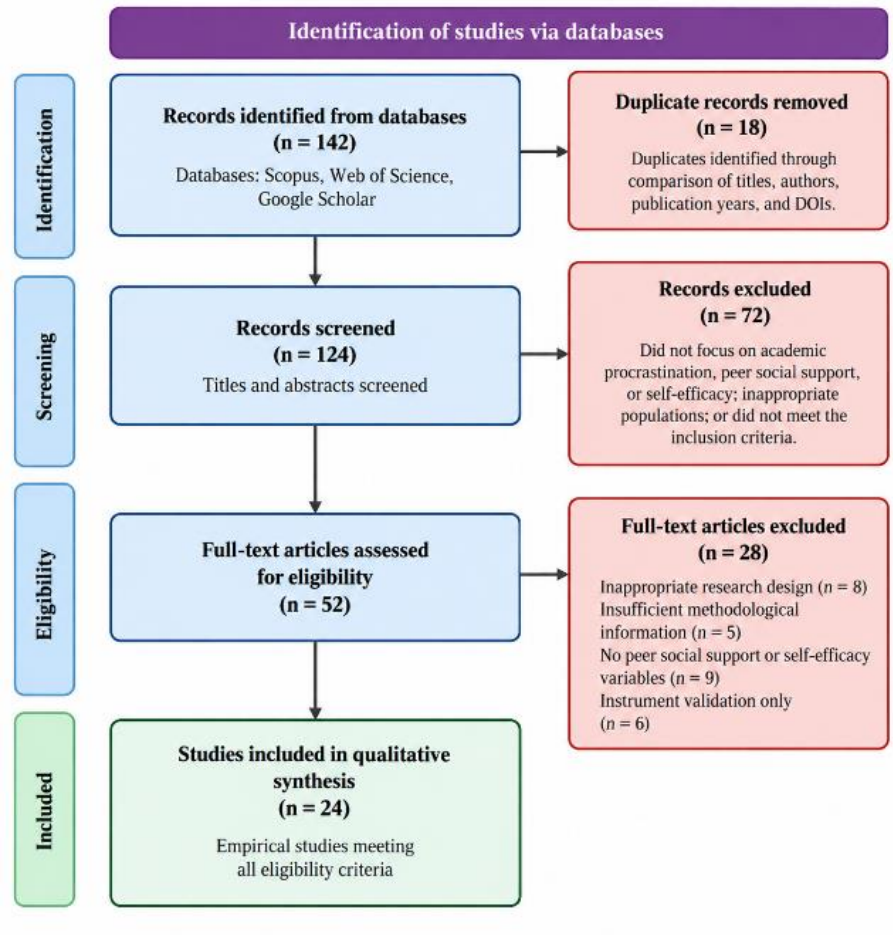


Figure 2. PRISMA Flow Diagram

4. Data Extraction

A standardized data extraction form was developed to systematically record information from each included study. The extracted information comprised: author(s) & publication year, country, sample characteristics, research design, measurement instruments, statistical analysis, major findings, theoretical framework, relevance to the review questions.

5. Quality Assessment

To ensure the methodological quality of the studies included in this systematic literature review, a quality assessment was conducted using the Joanna Briggs Institute (JBI) Critical Appraisal Checklist for Analytical Cross-Sectional Studies (Aromataris et al., 2024). The JBI checklist was selected because most of the included studies employed cross-sectional survey designs to investigate the relationships among social support, academic self-efficacy, and academic procrastination**.**

The appraisal process was independently performed by two reviewers (AB and ID). Each reviewer evaluated every eligible study against the eight JBI quality criteria. Each criterion was scored as "Yes" (1 point), "No" (0 points), "Unclear" (0 points), or "Not Applicable (N/A)"**,** following the JBI guidelines. Any disagreements between the two reviewers were resolved through discussion until consensus was

reached. When consensus could not be achieved, the assessment was re-examined based on the original article and the JBI appraisal manual. Only studies that achieved at least six of the eight quality criteria (≥75%) were considered to have sufficient methodological quality and were retained for the final synthesis.

Overall, the methodological quality of the included studies was considered satisfactory. Most studies clearly defined their inclusion criteria, described participants and research settings adequately, used valid and reliable measurement instruments, and employed appropriate statistical analyses, including regression analysis, mediation analysis, and structural equation modeling. Minor methodological limitations were primarily related to the identification and control of potential confounding variables, which were inconsistently addressed across studies.

6. Data Synthesis

A narrative synthesis approach was employed to integrate findings across the included studies. Rather than summarizing each study individually, the synthesis identified recurring themes concerning the protective mechanisms of peer social support and self-efficacy in reducing academic procrastination.

The narrative synthesis was organized into four thematic domains:

1. Characteristics and methodological trends of the included studies.
2. The protective role of peer social support against academic procrastination.
3. The protective role of self-efficacy against academic procrastination.
4. Psychological mechanisms, mediators, moderators, research gaps, and the development of an integrated conceptual framework.

This approach enabled the review to move beyond descriptive reporting and generate a comprehensive conceptual understanding of how external social resources and internal psychological resources interact to reduce academic procrastination among university students.

D. Results

Table 2 presents the extended characteristics of the 24 included studies, mapped against measurement instruments, statistical analysis, theoretical framework, and relevance to the review questions. The study selection process followed the four stages recommended in PRISMA 2020: identification, screening, eligibility, and inclusion. During the identification stage, 142 records were identified from the selected databases. Duplicate records were identified through comparison of titles, authors, publication years, and Digital Object Identifiers (DOIs), resulting in the removal of 18 duplicate articles. The remaining 124 articles underwent title and abstract screening. At this stage, 72 studies were excluded because they did not focus on academic procrastination, peer social support, or self-efficacy, involved inappropriate populations, or did not meet the inclusion criteria. Subsequently, 52 full-text articles were assessed for eligibility. Following full-text evaluation, 28 studies were excluded for several reasons, including inappropriate research design (n = 8), insufficient methodological information (n = 5), absence of peer social support or self-efficacy variables (n = 9), and instrument validation without empirical relationship testing (n = 6). Consequently, 24 empirical studies fulfilled all eligibility criteria and were included in the final qualitative synthesis.

Table 2. Extended Characteristics, Theoretical Framework, and Relevance to Review Questions of Included Studies (n = 24)

Author(s) & Year	Country	Sample	Design	Measurement Instruments	Statistical Analysis	Major Findings	Theoretical Framework	Relevance to Review Questions
(Liu et al., 2020)	China	577 full-time postgraduates (351 F, 226 M)	Cross-sectional survey	Postgraduate Academic Self-Efficacy Questionnaire (Li, 2010); Academic Self-Control Questionnaire (Zhang, 2006); Academic Procrastination Questionnaire	CFA; latent moderated structural equation modeling (moderated mediation)	Self-efficacy negatively predicted procrastination, fully mediated by academic self-control; mediation stronger for female postgraduates	Temporal Decision Model of procrastination; Strength Model of Self-Control; Bandura's self-efficacy theory	RQ2 (SE mechanism); RQ3 (moderator: gender)
(Yerdelen et al., 2016)	Turkey / Canada	182 undergraduates, 4-wave longitudinal	Longitudinal survey (latent growth curve modeling)	Ackerman & Gross Procrastination Scale; Achievement Emotions Questionnaire (anxiety); Self-Efficacy for Self-Regulated Learning Scale (Usher & Pajares)	Latent Growth Curve Modeling in AMOS 19	Low self-efficacy for self-regulated learning at baseline linked to higher initial anxiety and procrastination; procrastination increased and anxiety decreased over the semester	Bandura's self-efficacy theory; Temporal Motivation Theory (Steel)	RQ1 (longitudinal design trend); RQ2; RQ3 (temporal mechanism)
(Shaked et al., 2023)	Israel	M.Ed. students completing final graduation projects	Cross-sectional quantitative survey	Academic Procrastination Questionnaire (Milgram et al., 1993); Active Procrastination Scale (Choi & Moran, 2009); Self-Efficacy Scale (Chen, Gully & Eden, 2001)	Stepwise multiple regression; Structural Equation Modeling	Self-efficacy inversely related to (passive) procrastination and positively to achievement; unexpectedly, higher self-efficacy also co-occurred with active procrastination	Bandura's four sources of self-efficacy	RQ2; RQ3 (boundary condition: active vs. passive procrastination)
(Zheng et al., 2023)	China	453 adolescents, 4-wave longitudinal	Longitudinal chain-mediation design	Self-report scales for parental/teacher social support, cognitive-regulatory learning (focusing, metacognition), procrastination, and subjective well-being	Chain-mediation structural equation modeling (longitudinal panel)	Parental support directly and indirectly linked to later well-being; teacher support linked only indirectly, via cognitive regulation and procrastination	Ecological/social-support framework (parent–teacher support model)	RQ1 (longitudinal design); RQ2 (SS pathway to procrastination)
(Q. Wang et al., 2022)	China	818 postgraduates, multiple universities	Cross-sectional survey	Supervisor–Student Relationship Questionnaire; Academic Self-Efficacy Questionnaire; Learning Adaptation Questionnaire; Academic Procrastination Questionnaire	SPSS descriptive /CFA; Mplus structural equation modeling with bootstrap mediation	Supervisor–student relationship (support source) negatively predicted procrastination; self-efficacy and learning adaptation each independently mediated the relationship	Social Exchange Theory (reciprocity); Bandura's Social Cognitive Theory	RQ2 (joint SS–SE function); RQ3 (dual independent mediators)

(Meng et al., 2025)	China	236 doctoral students	Cross-sectional survey	Supervisory Support Scale (academic/emotional/autonomy subscales, adapted from Van der Linden et al., 2018); General Academic Self-Efficacy Scale; Persistence Intention Scale; Behavioral Academic Procrastination Scale	Partial Least Squares Structural Equation Modeling (PLS-SEM); common-method-variance test	Academic and autonomy supervisory support reduced procrastination sequentially via research self-efficacy and persistence intention; emotional support alone had no significant effect	Social Cognitive Theory (Bandura)	RQ2 (source-specific joint function); RQ3 (serial mediators; null-effect as research gap)
(H. Huang et al., 2023)	China	587 undergraduate nursing students	Cross-sectional survey	Frost Multidimensional Perfectionism Scale; Aitken Procrastination Inventory; General Self-Efficacy Scale (Schwarzer & Jerusalem); Resilience Scale	Regression-based moderated-mediation analysis (SPSS PROCESS)	Self-efficacy mediated the perfectionism–procrastination relationship; resilience moderated the strength of this mediating pathway	Bandura's Social Cognitive Theory / self-efficacy theory	RQ2 (SE mediator); RQ3 (moderator: resilience)
(Tian et al., 2024)	China	388 undergraduates, 22 technology universities (Hubei)	Cross-sectional survey	Online questionnaire measuring procrastination, performance, self-efficacy, and satisfaction (EFA/CFA-validated scales)	Pearson correlation; Structural Equation Modeling with bootstrap mediation	Academic self-efficacy mediated the relationships between procrastination, academic performance, and academic satisfaction	Bandura's Social Cognitive Theory (triarchic reciprocal causality)	RQ2 (SE mechanism); RQ1 (methodological rigor: EFA/CFA/SEM)
(X. Chen et al., 2024)	China	596 health-profession students	Cross-sectional survey	Procrastination Assessment Scale–Students (PASS); Multidimensional Scale of Perceived Social Support (MSPSS, Zimet et al.); Intrinsic Learning Motivation Scale; Academic Self-Efficacy Scale	Serial-mediation regression with bootstrap confidence intervals	Social support negatively correlated with procrastination; intrinsic learning motivation and academic self-efficacy jointly and partially mediated this relationship	Self-Determination Theory (SDT)	RQ2 (core joint SS–SE model); RQ3 (serial mediators)
(Zhang et al., 2024)	China	1,379 vocational college students	Cross-sectional survey	General Procrastination Scale (GPS-9); Multidimensional Scale of Perceived Social Support (MSPSS); General Self-Efficacy Scale (GSES); Resilience Scale-14 (RS-14)	Hierarchical linear regression; Hayes PROCESS macro (multiple mediation)	Social support, self-efficacy, and resilience were all negatively associated with procrastination; self-efficacy and resilience mediated the social-support–procrastination link, with no significant residual direct effect of support	Social Cognitive Theory (Bandura)	RQ2 (core joint model); RQ3 (mediators explain absence of direct SS effect)

(M. Chen et al., 2026)	China	332 college student-athletes	Cross-sectional survey	Physical Activity Rating Scale-3; Peer Support Scale; Academic Self-Efficacy Scale; Procrastination Assessment Scale–Students (PASS)	Pearson correlation; linear regression; mediation analysis (SPSS PROCESS macro compared with AMOS)	Only the full serial pathway (exercise → peer support → academic self-efficacy → procrastination) was statistically significant	Bandura's Social Cognitive Theory (triadic reciprocity)	RQ2 (sequential joint function); RQ3 (chain-mediation mechanism)
(Wu et al., 2026)	China	969 online university students	Cross-sectional survey	Multidimensional Scale of Perceived Social Support (adapted for online learning); fear-of-failure and expectancy-value belief scales (MSLQ subscale); Personal Development Competitiveness Attitude Scale	Structural Equation Modeling; moderated-mediation analysis	Online social support reduced procrastination indirectly through lower fear of failure and stronger expectancy-value beliefs; competitiveness attitude moderated the pathway	Protection Motivation Theory; Self-Determination Theory	RQ2 (SS mechanism); RQ3 (moderator; novel theoretical integration)
(Rahmawati et al., 2024)	Indonesia	212 thesis-writing undergraduates, 2 state universities (UNS, UNNES)	Cross-sectional survey	Adversity Quotient Scale; Family Social Support Scale; Self-Regulated Learning Scale; Academic Procrastination in Completing Bachelor Theses Scale	Moderated Regression Analysis (MRA)	Family social support negatively associated with thesis-related procrastination; self-regulated learning moderated (buffered) the influence of adversity and low family support	Social Cognitive Theory (Bandura, 1977)	RQ2 (SS as protective factor); RQ3 (moderator: self-regulated learning)
(Muarifah et al., 2022))	Indonesia / Malaysia	University students during COVID-19 remote learning	Cross-sectional survey	Academic Procrastination Scale (adapted, Ferrari et al.); Parental Social Support Scale; Adversity Quotient Scale	Structural Equation Modeling (AMOS Graphics)	Parental social support reduced academic procrastination; adversity quotient partially mediated this relationship during pandemic remote learning	Adversity/resilience framework (not a single named grand theory)	RQ2 (SS mechanism); RQ3 (mediator: adversity quotient); RQ1 (pandemic context)
(Abdul Zabar et al., 2025)	Indonesia	221 undergraduates, Universitas Siliwangi	Cross-sectional survey	General Procrastination Scale (Lodha et al.); Self-Control instrument (Ghufron & Suminta); Procrastination Assessment Scale for Students (PASS); Social Provisions Scale (Weiss) for peer social support	Moderated Regression Analysis (MRA)	Peer social support functioned as a pure moderator, strengthening the negative effect of self-control on academic procrastination	Strength model of self-control (implied); social-support moderation framework	RQ2; RQ3 (moderator role – core review evidence)
(Nada et al., 2024)	Indonesia (Islamic higher educatio	120 undergraduates	Cross-sectional survey	Brief Self-Efficacy Questionnaire (3 domains);	Descriptive statistics; simple and	Self-efficacy and social support each partially, and jointly,	Bandura's Social Learning/Soci	RQ2 (core joint model in Islamic HE

	n, IAIN Kerinci)			Social Support Scale (Zimet et al., 1988); Academic Procrastination Scale (adapted from Tuckman, 1991)	multiple regression	predicted lower academic procrastination among students at an Islamic higher-education institution	al Cognitive Theory	context); RQ3 (context/gap-filling evidence)
(X. Li et al., 2024)	China	595 medical students, during COVID-19	Cross-sectional survey	Generalized Anxiety Disorder 7-item Scale (GAD-7); Academic Procrastination Scale (PASS); Connor-Davidson Resilience Scale (CD-RISC); Perceived Social Support Scale	Regression-based moderated-mediation analysis	Resilience and social support mediated/moderated the procrastination–anxiety relationship, buffering psychological impact during the pandemic	Stress-buffering model of social support	RQ2 (SS buffering function); RQ3 (moderated mediation mechanism)
(Demir & Kuşcu Karatepe, 2025))	Turkey	467 nursing/midwifery students	Cross-sectional survey	Academic Procrastination Scale–Short Form; Academic Self-Efficacy Scale; Self-Control Scale; Satisfaction with Life Scale	SPSS and AMOS; serial-mediation Structural Equation Modeling	Procrastination reduced life satisfaction partly through lower academic self-efficacy and weaker self-control	Bandura's Social Cognitive Theory (1986)	RQ2 (SE as proximal protective mechanism); RQ3 (serial mediators)
(Fan et al., 2026)	China	College students	Cross-sectional survey	Academic Self-Determination Motivation Scale (adapted Vallerand et al.); Irrational Procrastination Scale; Trait Anxiety Inventory (STAI); Academic Self-Efficacy Scale; Autonomous Learning Motivation Scale	SPSS 26; regression-based moderated-mediation analysis	Academic self-efficacy mediated the positive link between trait anxiety and procrastination; autonomous learning motivation moderated (buffered) this indirect effect	Self-Determination Theory; self-consistency theory	RQ2 (SE mediator); RQ3 (moderator: autonomous motivation)
(D. Li & Bai, 2026)	China	College/online (MOOC) learners, 3-wave survey	Cross-sectional /short-term longitudinal survey (3 waves, 4-week intervals)	Achievement Goal Orientation Scale; Academic Self-Efficacy Scale; Self-Control Scale; Online Academic Procrastination Scale	Structural Equation Modeling	Academic self-efficacy and self-control mediated the relationship between achievement-goal orientation and online academic procrastination	Achievement Goal Theory; Social Cognitive Theory; Theory of Limited Self-Control Resources	RQ2 (SE mechanism); RQ1 (multi-wave design trend)
(Santos et al., 2025)	Portugal	522 PhD students	Cross-sectional survey	Motivation for PhD Studies Scale (MPhD); General Self-Efficacy Scale (Schwarzer & Jerusalem); Irrational Procrastination Scale	Regression/mediation analysis of self-report survey data	General self-efficacy mediated the association between autonomous (but not fully controlled) motivation and lower academic procrastination	Self-Determination Theory; Bandura's self-efficacy theory	RQ2 (SE mediator); RQ3 (boundary condition: motivation type)

(H. F. Rad et al., 2025)	Iran	290 medical-sciences students	Cross-sectional descriptive-analytical survey	Solomon & Rothblum (1984) Academic Procrastination Questionnaire; Morgan-Jinks Academic Self-Efficacy Questionnaire; Emotional Regulation Difficulty Questionnaire	t-test; ANOVA; Pearson correlation; multiple linear regression	Higher academic self-efficacy and lower emotional-regulation difficulty jointly predicted lower academic procrastination	Bandura's self-efficacy theory	RQ2 (SE predictor); RQ1 (instrumentation/methodological detail)
(Yuan et al., 2024)	China	659 medical students	Cross-sectional survey	Digital Literacy Scale (Bayrakci et al.); Academic Self-Efficacy Scale (Joo et al., from MSLQ); Academic Procrastination Scale	Mediation regression; multicollinearity (VIF) diagnostics	Digital literacy positively influenced academic self-efficacy, which was negatively associated with academic procrastination	Bandura's Social Cognitive Theory	RQ2 (SE mechanism); RQ3 (novel antecedent: digital literacy)
(S. Huang et al., 2025a)	China	681 medical students	Cross-sectional network-analytic study	Self-rating scales for fear, conscientiousness (BFI-10 subscale), self-efficacy, impulsivity, depression, task nature, and teacher traits, plus a procrastination scale	Regularized partial correlation network analysis (EBICglasso); centrality indices	Self-efficacy was among the more central protective nodes in the procrastination network, alongside conscientiousness, while impulsivity and depression were the most central risk nodes	Bandura's self-efficacy theory, applied within a network-analytic framework	RQ3 (novel method for identifying mechanisms/gaps); RQ1 (methodological trend: network analysis)

SE = self-efficacy; SS = social support; RQ1–RQ3 = Research Questions 1–3 as defined in the Introduction.

1. Self Efficacy as a Protective Factor

Of the 24 included studies, 21 modeled academic self-efficacy in relation to procrastination, and the majority of studies, either directly or indirectly through mediating pathways. This finding aligns with recent evidence demonstrating that students with stronger academic self-efficacy exhibit greater confidence in managing academic demands, better self-regulation, and substantially lower tendencies to delay academic tasks, regardless of educational context (Aslan & Terzi, 2026; Nemtcan et al., 2022; Rad et al., 2025). Self-efficacy most frequently emerged not merely as an independent predictor but as the principal psychological mechanism explaining how contextual resources—including supervisor relationships, teacher and peer support, digital literacy, achievement-goal orientation, and autonomous motivation—translate into lower academic procrastination. This interpretation is consistent with contemporary motivational theories suggesting that environmental support primarily influences procrastination through enhancing students' beliefs in their own academic competence rather than exerting a strong direct effect.

2. Social Peer Support as aProtective Factor

Fourteen of the 24 reviewed studies examined social support originating from parents, teachers, supervisors, peers, or online communities, and all consistently

demonstrated a negative association with academic procrastination. Recent international evidence similarly indicates that supportive academic environments reduce procrastination primarily by fostering students' confidence, emotional security, and motivation to persist when facing challenging academic tasks (Nada et al., 2024). However, when mediating variables were incorporated into structural models, the direct influence of social support frequently diminished or became statistically insignificant, indicating that its protective effect operates indirectly through psychological resources such as academic self-efficacy, resilience, and intrinsic motivation. Evidence from recent mediation studies likewise suggests that family, peer, and supervisory support become effective only after strengthening students' perceived academic capability, highlighting self-efficacy as the principal mechanism linking social relationships to reduced procrastination (Nemtcan et al., 2022).

3. Join and Combined Models

Nine studies simultaneously modeled self-efficacy and social support within the same analytical framework, providing the strongest evidence regarding their complementary protective roles against academic procrastination. Across culturally diverse contexts, the findings consistently indicate that social support functions as a distal contextual resource, whereas self-efficacy represents the proximal psychological mechanism through which supportive relationships reduce procrastination behaviors (Shaked et al., 2023). This pattern remained remarkably stable across undergraduate, postgraduate, doctoral, health-profession, vocational-college, and student-athlete populations despite differences in educational systems and cultural settings. Such consistency supports contemporary social-cognitive perspectives proposing that supportive interpersonal environments primarily strengthen students' efficacy beliefs, which subsequently improve persistence, self-regulation, and timely academic engagement rather than influencing procrastination directly (Ghufron & Suminta, 2022; Liang & Bautista, 2025).

4. Moderators and Boundary Conditions

Several studies further demonstrated that the protective effects of self-efficacy and social support are conditional rather than universal. Gender, resilience, autonomous learning motivation, competitiveness orientation, and the specific source of social support all modified the magnitude of the relationship between self-efficacy, social support, and academic procrastination, indicating that these mechanisms operate differently across individual and educational (Aslan & Terzi, 2026; Rad et al., 2025). Collectively, these findings suggest that interventions aimed at reducing academic procrastination should move beyond simply increasing social support or self-efficacy independently and instead consider contextual moderators that influence the effectiveness of these protective mechanisms. Recent empirical evidence similarly recommends developing integrated intervention models that strengthen academic competence beliefs while simultaneously enhancing supportive learning environments tailored to students' motivational characteristics and resilience (Aslan & Terzi, 2026; Nada et al., 2024; Rad et al., 2025).

E. Discussion

The synthesized evidence supports a dual-resource model in which self-efficacy and social support jointly, but non-redundantly, protect students against academic procrastination. This interpretation is consistent with Bandura's social cognitive theory, which conceptualizes self-efficacy as a central determinant of goal-directed behavior and emphasizes mastery experiences, vicarious experiences, verbal persuasion, and physiological or affective states as major sources of efficacy beliefs (Bandura & Wessels, 1994). Recent empirical evidence provides further support for positioning self-efficacy as a proximal psychological mechanism through which contextual resources may influence procrastination. In particular, Research on social support suggests that the relationship between social support and academic procrastination operates through intrinsic learning motivation and academic self-efficacy, suggesting that social support does not always exert the strongest influence as a direct determinant of behavior (Chen et al., 2025). Similarly, identified academic self-efficacy as a mediator of the relationship between social support and academic procrastination among university students (Şenocak et al., 2026; Zhao & Huang, 2026). These findings converge with evidence from vocational college students showing that self-efficacy and resilience simultaneously mediated the association between social support and procrastination (Zhang et al., 2024). Thus, the reviewed evidence suggests that social support may function primarily as an upstream contextual resource, whereas academic self-efficacy represents a more proximal psychological mechanism translating supportive environments into greater task initiation, persistence, and reduced procrastination. This interpretation is also consistent with meta-analytic evidence indicating a robust relationship between self-efficacy and academic procrastination (Aslan & Terzi, 2026; Wang et al., 2022).

This pattern further refines the buffering hypothesis of social support in the academic domain. Cohen and Wills (1985) proposed that social support can buffer the adverse effects of stressful circumstances by providing psychological and coping resources. Within the academic procrastination literature, however, the present synthesis suggests that this protective process is frequently embedded within broader motivational and self-regulatory mechanisms rather than operating exclusively as a direct buffering effect. For example, Chen et al. (2025) identified a serial pathway involving social support, intrinsic learning motivation, and academic self-efficacy, whereas Zhang et al. (2024) demonstrated multiple mediating pathways involving self-efficacy and resilience. Other studies similarly indicate that self-efficacy interacts with motivational and self-regulatory processes in explaining procrastination. Tian et al. (2024), for instance, demonstrated the mediating role of academic self-efficacy in relation to academic procrastination, performance, and satisfaction, while Demir and Kuşcu Karatepe (2025) identified a sequential role of academic self-efficacy and self-control in the relationship between procrastination and life satisfaction. Taken together, these findings indicate that the buffering function of social support may be psychologically translated through confidence, motivation, resilience, and self-regulation, rather than appearing uniformly as a strong direct effect on procrastination. Accordingly, interventions that provide social support without simultaneously strengthening students' task-specific self-efficacy may have more limited effects than interventions that deliberately use supportive relationships to create mastery experiences, provide constructive feedback, model

effective academic behaviors, and progressively strengthen perceived competence (Bandura & Wessels, 1994; Chen et al., 2024; Wang et al., 2022).

The review also surfaces a source-specificity pattern that has important implications for intervention design: not all forms of social support appear to be equally protective against academic procrastination. The distinction between emotional, informational, academic, and autonomy-supportive forms of assistance is particularly important because support becomes more psychologically consequential when it addresses students' actual competence and self-regulatory needs. Evidence concerning supervisor–student relationships indicates that supervisory relationships can influence procrastination through academic self-efficacy and learning adaptation (Wang et al., 2022). Likewise, research among doctoral students has specifically examined supervisory support, research self-efficacy, and persistence intention as interconnected mechanisms associated with academic procrastination (Meng et al., 2025). The importance of competence-relevant support is also consistent with evidence that peer support may operate through academic self-efficacy, including among college student-athletes (Chen et al., 2026). Therefore, institutional interventions—such as academic advising, mentoring, supervisory systems, and peer-support programs—should not conceptualize support simply as the presence of interpersonal assistance. Instead, support should be structured to provide actionable feedback, academic guidance, opportunities for skill development, autonomy, modeling, and progressive mastery. Such an approach is theoretically more consistent with Bandura's conception of efficacy development and empirically more consistent with studies showing that self-efficacy functions as a mediator or proximal predictor of procrastination.

The present synthesis also highlights the importance of resilience and self-regulation as complementary protective mechanisms. Social support does not appear to operate exclusively through self-efficacy; rather, several studies suggest that supportive environments may activate multiple psychological resources simultaneously. Zhang et al. (2024) found multiple mediating effects of self-efficacy and resilience in the relationship between social support and procrastination, while Li et al. (2024) demonstrated that resilience and social support were relevant to the relationship between academic procrastination and anxiety among medical students. Similarly, Huang et al. (2023) identified self-efficacy and resilience as relevant mechanisms in the association between perfectionism and academic procrastination. These findings suggest that the protective architecture surrounding procrastination is better understood as a network of interacting psychological resources rather than a single pathway. Self-efficacy may provide the confidence necessary to initiate academic behavior, resilience may facilitate recovery from setbacks and sustained effort, while self-control and self-regulation may translate these psychological resources into actual behavioral persistence (Demir & Kuşcu Karatepe, 2025; Li & Bai, 2026; Rahmawati et al., 2024). Such an interpretation is consistent with contemporary conceptualizations of procrastination as a self-regulatory problem involving motivation, emotion, cognition, and behavioral control.

A further contribution of the review concerns the role of motivation as a boundary condition and intermediary mechanism. The findings suggest that the effect of social support and self-efficacy on procrastination cannot be completely separated from the type and quality of students' motivation. Chen et al. (2025) showed that intrinsic learning motivation and academic self-efficacy formed a serial mediating pathway between social support and academic procrastination. Similarly,

Santos et al. (2025) found that self-efficacy mediated the relationship between motivation type and academic procrastination among PhD students. (Fan et al., 2026) further demonstrated that autonomous learning motivation moderated the relationship involving academic self-efficacy and procrastination in the context of trait anxiety. These findings indicate that supportive environments may be particularly effective when they strengthen students' sense of competence while simultaneously supporting autonomous and intrinsically regulated motivation. Consequently, interventions focused exclusively on external monitoring or pressure may be less effective than approaches that combine academic support with opportunities for autonomy, competence, and meaningful engagement.

A clear contextual gap also emerged from the present review. The included literature is disproportionately represented by students in health professions, nursing, medicine, and related fields. This concentration is evident across studies examining social support, anxiety, resilience, self-efficacy, and procrastination among health-profession students (Chen et al., 2024; Huang et al., 2025b; Huang et al., 2023; Li et al., 2024). Such populations may experience distinctive academic pressures, including intensive workloads, clinical requirements, performance evaluation, and high-stakes assessment, potentially amplifying the importance of both social support and academic self-efficacy. The generalizability of the dual-resource mechanism to students in humanities, social sciences, education, technology, and religious studies therefore remains insufficiently established. Although Indonesian evidence indicates that self-efficacy and social support are relevant to academic procrastination among university students (Nada et al., 2024), the available reference set does not provide sufficient evidence to conclude that the mechanism has been adequately tested within Islamic higher-education institutions. Therefore, the claim that only one of the 24 included studies was conducted in an explicitly Islamic higher-education institution should be retained only if the corresponding primary study can be identified and cited directly. The present reference list alone does not contain an unambiguous bibliographic marker establishing that institutional context. This is an important methodological caution because inserting an unsupported citation could weaken the credibility of the SLR.

Methodologically, the predominance of cross-sectional evidence limits the extent to which the proposed support → self-efficacy → procrastination pathway can be interpreted causally. Cross-sectional mediation analyses can demonstrate statistical compatibility with a hypothesized mechanism, but they cannot establish temporal precedence. Several studies in the reference set nevertheless provide evidence that moves beyond a purely static interpretation. For example, (Yerdelen et al., 2016) used longitudinal latent growth modeling to examine the relationships among procrastination, anxiety, and self-efficacy for self-regulated learning, while the broader recent literature continues to emphasize the dynamic and self-regulatory nature of procrastination (Mahy et al., 2024). The limitation is particularly important because the proposed dual-resource model implies temporal ordering: social support should precede or contribute to changes in self-efficacy, which should subsequently influence procrastination behavior. Future studies should therefore employ longitudinal panel designs, cross-lagged models, longitudinal mediation, or intervention-based designs to test whether changes in social support predict subsequent changes in self-efficacy and whether these changes subsequently predict reductions in procrastination. Such designs would provide substantially stronger evidence for the causal architecture proposed by this SLR.

1. Toward an Integrated Conceptual Framework

Synthesizing the mechanisms identified above, an integrated conceptual framework for future research and intervention can be proposed with three layers: (1) distal contextual resources — parental, teacher, supervisor, peer, and online social support; (2) proximal psychological mechanisms — academic self-efficacy, intrinsic motivation, and self-regulatory/self-control capacity, through which distal support is converted into reduced procrastination; and (3) boundary conditions — gender, resilience, autonomous motivation orientation, and support type/source — that strengthen or weaken the pathway from layer 1 to layer 2 to the outcome (Chen et al., 2024; Muarifah et al., 2022; Wang et al., 2022; Wu et al., 2026). This framework positions academic procrastination as the final behavioral outcome of a support-to-efficacy pathway rather than of either resource in isolation, and it explicitly flags religiosity/spiritual support and Islamic higher-education context as an untested boundary condition warranting empirical attention.

2. Practical Implications

a. **Combine social support with confidence-building.**
Mentoring, supervision, peer-support, and family-engagement programs aimed at reducing procrastination should be explicitly designed to strengthen task-specific academic self-efficacy, rather than providing emotional encouragement alone. Interventions should incorporate mastery experiences, graduated challenges, modeling, constructive feedback, and opportunities for students to experience successful task completion (Bandura & Wessels, 1994). This recommendation is supported by findings showing the mediating role of self-efficacy in the relationship between social support and procrastination (Zhang et al., 2024) and by the meta-analytic evidence linking academic self-efficacy with procrastination (Aslan & Terzi, 2026).

b. **Prioritize competence-relevant and autonomy-supportive forms of support.**
Academic advising and mentoring should emphasize concrete academic guidance, feedback, skill development, and autonomy support. Evidence concerning supervisor–student relationships indicates that relational support can operate through academic self-efficacy and learning adaptation (Wang et al., 2022), while research on motivation suggests that autonomous learning motivation can alter the strength of relationships involving self-efficacy and procrastination (Fan et al., 2026). Thus, effective support should help students understand **how to perform a task and why the task is meaningful**, rather than simply reassuring them that they can succeed.

c. **Attend to psychological and contextual boundary conditions.**
Interventions should account for individual differences in resilience, self-control, motivation orientation, anxiety, and other contextual characteristics. The evidence indicates that resilience can function alongside self-efficacy as a mediator (Zhang et al., 2024), self-control is implicated in procrastination-related pathways (Demir & Kuşcu Karatepe, 2025; D. Li & Bai, 2026), and autonomous motivation can moderate the effects of psychological factors on procrastination (Fan et al., 2026). Consequently, a one-size-fits-all intervention model may be less effective than differentiated interventions that identify whether a student

primarily requires competence-building, motivational support, resilience strengthening, or self-regulation training.

d. **Expand research across underrepresented higher-education contexts.** Future research should deliberately extend the evidence base beyond health-profession and medical populations toward humanities, social sciences, education, technology, and religious-studies students. Indonesian studies already provide evidence that social support and self-efficacy are relevant to academic procrastination (Nada et al., 2024), but the cross-cultural and institutional generalizability of the dual-resource model remains insufficiently tested. In particular, research in Islamic higher-education contexts could examine whether religiosity, spiritual mentoring, faith-based community support, or culturally specific forms of social connectedness provide an additional source of psychological resources beyond conventional measures of social support. Such research would not merely replicate existing models but could test whether culturally embedded forms of support constitute a distinctive boundary condition of the proposed support-to-efficacy pathway.

D. Limitations

This review is limited by its reliance on a pre-compiled pool of full-text articles rather than an independent multi-database systematic search, which may have introduced selection bias despite the application of explicit eligibility criteria. The predominance of cross-sectional designs limits causal claims, and the concentration of samples in health-related and East Asian/Chinese contexts limits generalizability. Because studies used heterogeneous procrastination, self-efficacy, and social-support instruments, no quantitative meta-analytic effect size was computed; findings are synthesized narratively rather than statistically pooled.

F. Conclussion

Across 24 empirical studies spanning secondary, undergraduate, vocational, nursing, medical, postgraduate, and doctoral populations in China, Indonesia, Turkey, Iran, Israel, and Portugal, self-efficacy and social support consistently emerge as protective factors against academic procrastination. Self-efficacy functions as the more proximal, consistently negative predictor and frequent mediator, while social support's protective influence is most often transmitted indirectly through self-efficacy, resilience, or intrinsic motivation rather than through a strong direct path. This dual-resource, support-to-self-efficacy pathway is consistent with Bandura's social cognitive theory and refines the buffering hypothesis of social support for the academic domain. Given the marked scarcity of research from Islamic higher-education institutions — only one qualifying study was identified — future research should prioritize replicating this dual-resource model in Islamic and other underrepresented higher-education contexts, using longitudinal designs that can better establish the causal ordering of support, self-efficacy, and procrastination.

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