THE ACHIEVEMENT–WELL-BEING PARADOX: A STRUCTURAL-PSYCHOLOGICAL SYNTHESIS

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Abstract: *Academic achievement and subjective well-being are frequently addressed as mutually reinforcing outcomes in educational settings, yet empirical evidence indicates a more complex relationship between them. Meta-analytic research shows that the statistical association between achievement and well-being is only weak to moderate, creating a structural paradox in educational systems wherein schools can successfully enhance both outcomes simultaneously even though the two constructs remain only loosely connected. Drawing upon Self-Determination Theory, the PERMA model, and Cognitive Load Theory, this paper explains this paradox by demonstrating that achievement and well-being are governed by distinct but partially overlapping systems: academic performance is primarily driven by cognitive-resource processes, whereas well-being is dictated by need-satisfaction and affective dynamics. Furthermore, age and student gender serve as structural moderators within the educational environment, where differences in developmental stages and socialized gender norms influence and subtly alter the strength of the relationship between performance and well-being across student cohorts. Within this framework, metacognitive instruction functions as an effective pedagogical bridge between the cognitive and affective domains, because embedding explicit metacognitive strategies simultaneously optimizes working-memory efficiency and enhances students' sense of competence and self-efficacy. Ultimately, these findings indicate that educational policy, curriculum design, and teacher training must treat academic achievement and subjective well-being as partially independent developmental goals rather than as components of a single, linear causal chain.*

Keywords: *Subjective well-being; academic achievement; educational psychology; self-determination theory; metacognition; developmental moderation*

Introduction

Many educational frameworks propose a straightforward causal chain: a linear relationship between subjective well-being and academic achievement. Strengthening subjective well-being will automatically raise academic achievement, and academic success

will reliably enhance students' psychological well-being. This assumption shapes policy and curriculum design, where well-being programs are justified by presumed academic gains and academic interventions are expected to produce emotional benefits as a secondary effect.

Yet empirical evidence presents a more complex reality. Meta-analytic findings show that the correlation between achievement and subjective well-being is statistically significant but only small to moderate (Bücker et al., 2018), challenging theories such as Self-Determination Theory, which positions well-being as emerging from autonomy, competence, and relatedness as opposed to performance outcomes. Similarly, the PERMA model conceptualizes well-being as multidimensional, with accomplishment representing only one partial contributor. Multidimensional well-being research further complicates the picture: different facets of well-being relate to achievement inconsistently. For example, Ling et al. (2022) found that only spiritual well-being predicted academic performance, and only in specific subjects, while psychological, physical, social, and academic well-being showed no meaningful associations. Most of this work focuses on adolescents, leaving limited evidence on how well-being, self-efficacy, and achievement interact in elementary-age learners, a developmental period in which foundational cognitive and emotional patterns are formed (Akhmedjanova et al., 2026).

Together, these findings reveal an achievement–well-being paradox: student-centered and autonomy-supportive pedagogies often improve both achievement and well-being, yet the two outcomes remain only loosely connected when examined directly. One explanation comes from Cognitive Load Theory, which suggests that achievement depends on efficient cognitive resource allocation, whereas subjective well-being is shaped by affective and motivational processes. Because these mechanisms are distinct, gains in one domain do not reliably produce gains in the other.

Recognizing this paradox has important implications. When achievement and well-being are assumed to be sequentially linked, interventions may rest on flawed causal assumptions, neglecting one domain under the belief that improvements in the other will be sufficient. A more accurate structural understanding of why these outcomes diverge enables educators and policymakers to design complementary supports that address cognitive development and emotional well-being in parallel. This paper synthesizes theoretical and empirical work across educational psychology, developmental psychology, and psychometrics to propose an integrated explanation of the achievement–well-being paradox, outlining the

distinct mechanisms shaping each outcome and the pedagogical approaches, such as metacognitive instruction, that may partially bridge the cognitive and affective domains.

Contribution of the Study

Although extensive research shows that student-centered, need-supportive instructional practices can independently enhance both academic achievement and subjective well-being, far fewer studies explain why these two outcomes, once improved, remain only weakly connected. Much of the existing literature approaches the achievement–well-being relationship in one of two isolated ways: either by testing the direct correlation between the two outcomes as a single empirical question, or by examining each outcome within its own theoretical tradition. Achievement research is typically grounded in cognitive and motivational psychology, while well-being research draws primarily on positive psychology and developmental frameworks. Only a small number of studies place these traditions in direct dialogue to explain the structural basis of their divergence.

This paper advances the literature in three key ways. First, it integrates theoretical perspectives from motivational psychology (Self-Determination Theory), positive psychology (PERMA), cognitive psychology (Cognitive Load Theory), and developmental-metacognitive research (MASRL) into a unified account of why achievement and well-being follow only partially overlapping psychological pathways. Rather than treating their weak association as an empirical curiosity, the paper explains the structural mechanisms that keep these outcomes distinct. Second, it foregrounds age as a central theoretical moderator, drawing on emerging evidence that the mechanisms linking instructional practice to student outcomes shift across the elementary years and differ substantially from those observed in older students. Third, it positions metacognitive instruction as a theoretically significant case, a pedagogical approach that simultaneously engages cognitive-resource processes and affective-motivational systems, offering a potential bridge between the typically divergent domains of academic achievement and subjective well-being.

Findings from multidimensional well-being research underscore the need for such an integrative account. Not all facets of well-being relate to achievement in the same way or to the same degree (Ling et al., 2022). Moreover, most studies examining these relationships focus on adolescents, leaving a notable gap in understanding how well-being, self-efficacy, and academic performance interact among elementary-age children, the developmental stage in

which foundational cognitive and emotional patterns are established (Akhmedjanova et al., 2026). Addressing this gap is essential for designing developmentally appropriate interventions. By moving beyond a simple correlational framing of the achievement–well-being relationship, this paper provides a structural-psychological explanation that can guide more precise and differentiated educational interventions, approaches that do not assume gains in one domain will automatically produce gains in the other, but instead support both domains in parallel through targeted, developmentally informed instructional design, including metacognitive scaffolding.

Theoretical Framework

This paper argues that academic achievement and subjective well-being emerge from distinct yet partially overlapping psychological systems. To support this claim, the theoretical framework is organized around two primary explanatory pathways, one describing the psychological foundations of well-being and the other detailing the cognitive mechanisms underlying achievement, along with a third set of theories that explain where and how these pathways intersect.

Subjective well-being and academic achievement arise from different psychological systems. Vansteenkiste, Soenens, and Ryan (2023) maintain that well-being arises primarily from the satisfaction of the basic psychological needs for autonomy, competence, and relatedness, rather than from academic performance alone. Although academic success may enhance well-being when it is experienced as competence and meaningful progress, research indicates that psychological need satisfaction is more directly associated with well-being, whereas its relationship with performance is smaller and often mediated by autonomous motivation. The PERMA model further frames well-being as multidimensional, with achievement influencing only the accomplishment component (Seligman, 2011).

Empirical research indicates that the link between students' overall well-being and academic achievement is positive but modest in size (Kaya & Erdem, 2021). Moreover, this association varies across well-being dimensions: different facets of well-being relate to academic performance in distinct and sometimes inconsistent ways, depending on the subject area, the specific well-being domain assessed, and the achievement measure used (Wu et al., 2020; Ling et al., 2022). Moreover, most research focuses on adolescents, leaving limited evidence on how well-

being, self-efficacy, and achievement interact in elementary-age learners, where foundational cognitive and emotional patterns are formed (Akhmedjanova et al., 2026).

Achievement, by contrast, is governed largely by cognitive-resource constraints. Cognitive Load Theory positions learning as dependent on the efficient management of working-memory demands (Sweller, 1988; Paas & van Merriënboer, 2020), meaning students may perform well even without strong affective engagement, or underperform despite positive emotional states. The two pathways intersect primarily through metacognitive regulation: MASRL explains how cognitive and affective processes influence one another during learning (Efklides, 2011). Recent studies show that metacognitive scaffolding can improve learning performance and strengthen students' self-regulatory efficacy, while interventions that integrate metacognitive strategy instruction with emotional-regulation training have been found to enhance both cognitive reappraisal and metacognitive regulation (Gidalevich & Mirkin, 2024; Herold & Seufert, 2025).

Broaden-and-Build theory adds that positive affect supports cognition indirectly and cumulatively rather than immediately (Fredrickson, 2001). Together, these frameworks show that achievement and well-being are structurally distinct yet partially connected through metacognitive processes, a foundation that informs the analytical approach developed in the next section.

The Fragile Empirical Association

This article employs a conceptual, theory-integrative approach that synthesizes empirical and theoretical work across educational, developmental, and positive psychology. Rather than presenting new primary data, the analysis draws together meta-analytic findings and recent empirical studies on the association between subjective well-being and academic achievement, an association that is consistently positive but small and heterogeneous. Recent longitudinal studies represent the link as partial and often mediated or moderated by factors such as gender, engagement, and measurement type. Bücker et al. (2018) found that this association remained stable across demographic and methodological moderators; gender, in particular, did not significantly moderate the relationship. This stability indicates that the weakness of the link reflects a general structural pattern rather than subgroup variation.

Multidimensional analyses further underscore this fragility. Ling et al. (2022) showed that among six well-being dimensions, only spiritual well-being was related to achievement,

while the remaining five well-being dimensions showed no significant relationship with subject-specific achievement at all. Even academic well-being, conceptually closest to school performance, failed to predict achievement. Analytically, this demonstrates that well-being and achievement do not share a unified underlying mechanism; instead, their overlap is narrow, inconsistent, and dimension-specific.

Divergent Structural Mechanisms

Longitudinal and structural models reveal that well-being and achievement operate through separate psychological pathways. Schnell et al. (2025) found that well-being exerted no direct effect on achievement; enjoyment influenced achievement only indirectly through behavioral engagement. García-Ros et al. (2022) identified multiple non-overlapping pathways in which self-regulation, procrastination, stress, well-being, and achievement functioned independently. Analytically, these findings confirm that the weak empirical correlation reflects a genuine structural divergence: achievement and well-being are parallel outputs of distinct systems rather than sequential steps in a single causal chain.

Developmental Moderation

The developmental stage functions as a structural moderator shaping the availability and strength of psychological mechanisms. Patzak and Zhang (2025) showed that autonomy-supportive teaching is less effective in elementary school, suggesting that SDT-related mechanisms may not be fully developed in early childhood. In contrast, Donker et al. (2014) found that metacognitive strategy instruction remains effective across age groups. Analytically, this contrast indicates that some mechanisms are developmentally sensitive while others are developmentally stable, an essential distinction for interpreting the achievement–well-being relationship across schooling stages.

Metacognition as a Conditional Bridge

Metacognitive instruction occupies a theoretically central position at the intersection of cognitive and affective regulation. Zhang and Ma (2023) showed that project-based learning improves both achievement and affective attitudes, but these gains do not necessarily co-occur within individuals, supporting the separate-pathways model. The literature notes that the additional requirement of explicit self-monitoring may impose extraneous cognitive load, indicating that metacognitive demands can introduce processing costs that limit affective

benefits. Analytically, metacognition functions as a conditional bridge: capable of influencing both domains, but only when cognitive load remains within learners' processing capacity.

Gender as a Non-Significant Moderator

Gender does not moderate the achievement–well-being relationship. Meta-analytic, subject-specific, and structural studies (Bücker et al., 2018; Wilson Fadiji & Reddy, 2023; García-Ros et al., 2022) consistently show homogeneous pathways across gender. Analytically, this indicates that the structural mechanisms governing achievement and well-being operate similarly for male and female students, supporting a universal design approach rather than gender-specific intervention models.

Taken together, these five strands point to a layered structural explanation of the achievement–well-being paradox. Rather than reflecting a methodological error or a missing variable, the paradox arises from the interaction of two distinct psychological systems: the first a need-satisfaction and affective system that underlies subjective well-being, the second the cognitive-resource system that drives academic achievement. Because each system operates according to different internal principles, their outcomes align only weakly, even when both improve under the same educational conditions.

A developmental layer further qualifies this distinction. Some mechanisms, particularly those associated with autonomy-supportive instruction, intensify with age and are less accessible to younger learners, whereas others, such as metacognitive regulation, remain comparatively stable across developmental periods. Metacognition occupies a structurally unique position: it can theoretically bridge cognitive and affective processes, yet its effectiveness is constrained by the same processing-capacity limits that shape achievement. As a result, its integrative function is conditional rather than guaranteed. Finally, the entire structure operates consistently across gender, indicating that the divergence between achievement and well-being is not gender-specific but a fundamental feature of how these domains are organized. Understanding the paradox therefore requires analyzing the layered interplay of cognitive, affective, developmental, and pedagogical mechanisms, not searching for a single causal factor.

Discussion, Limitations, and Future Research Directions

This paper advances a structural-psychological explanation for the achievement–well-being paradox: educational interventions can improve both academic achievement and

subjective well-being, yet the two outcomes remain only weakly related. The synthesis suggests this pattern reflects two distinct systems, cognitive-resource processes driving achievement and need-satisfaction/affective processes driving well-being, that intersect only conditionally through metacognitive regulation and vary across developmental stages. This implies that well-being should not be treated as a proxy for academic gains, that metacognitive scaffolding must be designed carefully to avoid unnecessary cognitive-load demands, and that a single pedagogical model is unlikely to meet the needs of both domains across childhood.

Several limitations constrain this synthesis. As a conceptual review, it relies on existing empirical work rather than new data, and the evidence base is weighted toward secondary and upper-elementary populations. Research on younger elementary students and on non-Western educational contexts remains limited, leaving questions about the generalizability of the proposed framework. Additionally, while gender appears not to moderate the mechanisms reviewed, other structural moderators such as socioeconomic status or classroom-level variation were not fully examined. Future research should test the conditional nature of metacognitive bridging using longitudinal and experimental designs, especially examining whether cognitive-load constraints diminish with training or persist for younger learners. Studies comparing adjacent developmental stages within a single design would clarify whether observed age patterns reflect true developmental shifts. Finally, more work is needed on multidimensional well-being in early childhood to determine whether the structural account proposed here holds at earlier developmental stages or requires refinement.

Conclusion

This paper examined the achievement–well-being paradox and argued that it reflects a real structural pattern rather than a methodological error. Academic achievement and subjective well-being arise from two distinct psychological systems: cognitive-resource processes and need-satisfaction/affective processes, that only overlap under specific conditions, particularly through metacognitive regulation. These systems are further shaped by developmental stages, making their interaction uneven across childhood.

The synthesis indicates that achievement and well-being should not be viewed as sequential outcomes of a single instructional process. Interventions aimed at one domain cannot be assumed to produce gains in the other. Metacognitive scaffolding serves as a conditional rather than universal bridge, effective only when cognitive-load demands remain manageable,

particularly for younger learners. At the same time, the consistency of findings across gender supports universal, developmentally sensitive instructional models rather than gender-specific approaches. Recognizing the partial independence of academic achievement and well-being does not diminish the importance of either. Instead, it clarifies that they represent two related but distinct dimensions of student development, each requiring deliberate, evidence-based attention rather than being treated as an automatic byproduct of the other.

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