

GENDER AS A PSYCHOLOGICAL MODERATOR IN ACADEMIC MOTIVATION AND WELL-BEING: A CRITICAL REVIEW

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Abstract: *The role of gender in academic motivation and subjective well-being has long occupied a contested place in educational psychology. Influential theoretical frameworks, Gender Schema Theory, Expectancy-Value Theory, Stereotype Threat Theory, and Self-Determination Theory, have each proposed that gender should meaningfully shape how students think about themselves, what they value academically, and how they experience school. These theories converge on a common prediction: gender differences should be especially pronounced in domains saturated with cultural stereotypes, such as mathematics and science. The empirical landscape, however, paints a more complex picture. A growing body of large-scale, methodologically rigorous research has begun to challenge these theoretical expectations. Meta-analyses and multi-group structural equation models increasingly report no significant gender moderation in the very motivational and well-being processes that classic theories suggest should differ by gender. This divergence between theoretical prediction and empirical finding highlights a critical tension in the literature and suggests that gender's role in academic motivation and well-being may be more conditional than previously assumed. This theoretical review examines the sources of this apparent contradiction and investigates the conditions under which gender serves as a significant moderator of students' academic motivation and well-being, as well as the conditions under which it does not. Drawing on contemporary theories of motivation, the review evaluates three possible explanations for the inconsistent findings. First, domain specificity suggests that gender effects may be concentrated in subjects associated with gender stereotypes. Second, developmental timing proposes that gender-related mechanisms may emerge only during particular stages of adolescence. Third, methodological variation, including publication bias, differences in measurement, sample characteristics, and statistical rigor, may contribute to inconsistent results across studies. The review argues that gender should not be understood as a fixed psychological determinant of motivation or well-being. Rather, its moderating role is likely to be context-dependent and shaped by the interaction of subject matter, developmental stage, and methodological approach. Recognizing these conditions is essential for interpreting gender-related effects accurately and for designing interventions that are developmentally appropriate and theoretically informed. The paper concludes by outlining implications for future research and gender-responsive educational practice, emphasizing the need for more precise and context-sensitive investigations into the circumstances under which gender meaningfully influences students' motivation and well-being.*

Keywords: *Gender; academic motivation; subjective well-being; moderation; stereotype threat; expectancy-value theory; educational psychology*

Introduction

Gender is widely viewed as a potentially meaningful psychological factor in educational psychology, yet the idea that it consistently shapes students' motivation and well-being has not been thoroughly tested. Several major theories describe how gendered socialization and cultural expectations might influence the ways students understand themselves, make academic choices, and experience emotions. Gender Schema Theory (Bem, 1981) argues that children absorb culturally defined schemas that guide how they interpret personal traits, social roles, and academic domains. Expectancy-Value Theory (Eccles, 1983) similarly proposes that gendered socialization shapes students' expectations for success and the value they attach to different subjects. Stereotype Threat Theory adds that awareness of negative stereotypes can heighten anxiety and undermine performance, especially in fields culturally associated with masculinity (Steele, 1997).

Self-Determination Theory (Deci & Ryan, 2000) offers a complementary angle. Although SDT does not treat gender as a universal driver of motivation, it emphasizes that social contexts shape the satisfaction of autonomy, competence, and relatedness. Gendered expectations and interpersonal patterns can therefore influence the conditions under which these needs are supported. As a whole, these perspectives outline plausible pathways through which gender might moderate relationships among motivation, achievement, and well-being, particularly in academic areas shaped by cultural gender norms.

However, empirical findings do not consistently match these theoretical predictions. Large-scale studies and more rigorous statistical models often report weak, nonsignificant, or context-dependent gender effects. Bücker et al. (2018), for example, found only a modest link between subjective well-being and academic achievement, with no evidence of significant gender moderation. Other studies likewise report limited gender moderation in relationships among self-regulated learning, stress, well-being, and achievement. García-Ros et al. (2022) observed similar structural pathways for boys and girls, and even in mathematics, where gender differences might be expected, Wilson Fadiji and Reddy (2023) found no significant moderation. These findings do not contradict the theories themselves, but they highlight a clear tension between broad theoretical expectations and inconsistent empirical patterns.

This tension suggests that gender should not be treated as an automatic or universal moderator. One explanation is domain specificity: gender effects may appear mainly in stereotype-linked subjects, such as mathematics or science, rather than in general measures of

motivation or well-being. These effects may also be obscured when studies combine multiple academic domains or rely on broad, domain-general outcomes.

A second explanation involves developmental timing. Gender-related mechanisms may operate differently across childhood and adolescence. Processes such as social comparison, identity formation, stereotype awareness, and sensitivity to social expectations become more salient during adolescence, meaning gender effects may emerge only at particular developmental stages and remain weaker or inconsistent in younger samples (Stenberg, 2025). Longitudinal evidence suggests that students' intrinsic motivation declines during adolescence, and this decline may interact with gender-related social and cognitive changes (Gnambs & Hanfstingl, 2016).

This does not imply that children are unaffected by gendered expectations; rather, the mechanisms through which gender shapes motivation and well-being evolve across development. For example, stereotype threat effects appear to vary by age, with some meta-analytic evidence suggesting stronger effects in middle and high school than in younger samples (Flore & Wicherts, 2015; Picho et al., 2013). The developmental timing of gender effects therefore likely depends on the specific psychological mechanism under consideration, with some processes emerging in early childhood and others becoming more influential during adolescence.

A third explanation involves methodological variation. Differences in sample composition, measurement instruments, operational definitions, statistical power, and analytic strategies can produce divergent conclusions across studies. Apparent gender differences identified through mean-level comparisons often disappear when tested using multi-group or moderation models, while aggregated samples may obscure effects that would be detectable in domain-specific or developmentally stratified analyses. Publication bias further complicates interpretation. Meta-analytic evidence indicates that studies reporting theory-consistent gender effects are more likely to be published than those reporting null findings (Shewach et al., 2019; Warne, 2021), thereby making significant results appear more prominent and potentially giving a misleading overall empirical picture.

In combination, these explanations point to a broader issue. Gender has often been treated as a constant moderator regardless of context, without sufficient attention to whether the psychological or contextual conditions required for gender differences are present. The central question is not simply whether gender matters, but the contexts, mechanisms, and

developmental moments in which its influence becomes apparent, when gender becomes statistically detectable and theoretically meaningful.

This paper therefore offers a focused examination of gender as a moderator of academic motivation and subjective well-being. Rather than asking the overly general question of whether gender matters, it investigates the specific conditions under which gender shapes students' motivational processes and psychological experiences. By considering domain-specific, developmental, and methodological factors, the review aims to replace broad assumptions with a more precise and context-sensitive account of gender's role in learning, clarifying when its influence becomes visible, interpretable, and theoretically defensible.

The Contribution of the Article

Research on gender and academic motivation has developed along two largely separate paths, and that separation has created a conceptual blind spot. One path, grounded in developmental and social psychology, has produced influential theoretical models, Gender Schema Theory, Expectancy-Value Theory, Stereotype Threat Theory, and Self-Determination Theory, that treat gender as a psychologically consequential force. These frameworks assume that gendered schemas, socialization patterns, and stereotype-based anxieties reliably shape how students see themselves, choose academic paths, and navigate emotional experiences.

The second path, emerging from quantitative educational psychology, has taken a different direction. It applies increasingly sophisticated statistical methods and repeatedly concludes that gender is not a significant moderator of motivation or well-being. Large-scale meta-analytic studies have found that gender does not moderate the relationship between implicit theories of intelligence and academic achievement (Burnette et al., 2018), nor does it significantly moderate the association between self-determined motivation and academic well-being (Howard et al., 2021). Similarly, recent research examining gender-moderated effects of academic self-concept on motivation and achievement has reported nonsignificant interaction effects, suggesting that the underlying psychological processes may function similarly for male and female students (Yu & Wang, 2023). What is rarely examined is why these two traditions, each internally coherent, arrive at conflicting claims about the same phenomenon. This divergence suggests a conceptual gap between theoretical expectations of gender-based differences and empirical findings from rigorous quantitative studies that fail to detect such moderation effects (Bücker et al., 2018; García-Ros et al., 2022).

This article steps directly into that fault line. Its first contribution is to treat the contradiction between theory and evidence as a substantive problem rather than a collection of isolated null findings. When classic theories predict robust gender differences but large-scale studies fail to detect them, the issue is not merely empirical. It signals a deeper conceptual tension about what gender is assumed to do in educational contexts. By placing theoretical expectations and empirical results in direct conversation, the paper reframes the contradiction as an explanatory gap that requires analysis, not resignation.

The second contribution is analytical. Instead of choosing a preferred explanation, the paper evaluates three competing accounts: domain specificity, developmental timing, and methodological variation. Each account draws attention to a different assumption embedded in the literature, that gender differences should appear across all subjects, that they should remain stable across childhood and adolescence, or that earlier findings were methodologically sound (Balducci et al., 2024; Klein et al., 2023; UNESCO, 2020). Examining evidence for each mechanism demonstrates that the inconsistency cannot be resolved by a single narrative. It emerges from the interplay of domain-bound stereotypes, age-dependent cognitive and social processes, and evolving methodological standards.

The third contribution is conceptual. The paper argues that the central question guiding research on gender and motivation has been framed too broadly. Asking whether gender exerts influence assumes a universal effect that either exists or does not. However, the evidence points to a more conditional reality: gender's moderating role becomes active only under particular psychological, developmental, and methodological conditions, and fades when those conditions are absent. Shifting the question from whether gender exerts influence to when it does leads to clearer, testable predictions and more precise guidance for gender-responsive teaching. The aim is not to diminish the importance of gender, but to specify the contexts in which its effects are theoretically justified and empirically visible.

Theoretical Framework

This review engages four major theoretical frameworks not to restate their established claims, but to critically interrogate the assumptions they make about the conditions under which gender should exert influence. Collectively, these theories form the core psychological explanations for gender differences in motivation and well-being. Importantly, closer

examination shows that each framework embeds a conditional logic, challenging the expectation that gender effects should appear uniformly across all contexts.

The first framework, Gender Schema Theory, introduced by Bem (1981), provides the developmental foundation for most gender-based predictions in education. Bem argued that children construct internal cognitive maps linking gender to traits, behaviors, and academic domains. At first glance, this schema-formation mechanism appears straightforward: children learn which subjects align with their gender and adjust their motivation accordingly, with this early mental framing appearing before any real differences in performance emerge. But a closer look reveals a conceptual gap. The theory presumes that schemas are strong enough to shape motivation even before ability differences emerge; children's beliefs and expectations develop ahead of their actual abilities, and cultural stereotypes shape educational motivation during early childhood (Master et al., 2025). However, it rarely specifies how stable or context-dependent these schemas are. If schemas vary across cultures, classrooms, or historical periods, then the prediction of consistent gender moderation becomes far less secure. The theory explains why gender could exert influence; it does not imply that gender will show an effect in every dataset.

Expectancy-Value Theory (Eccles, 1983; Eccles & Wigfield, 2002) offers a more fine-grained motivational mechanism. It proposes that students' choices and effort depend on two beliefs, their expectations for success and the subjective value they assign to the task. Gendered socialization is assumed to shape both. This account explains why girls have historically reported lower expectations and lower value for mathematics and science despite comparable performance (Bohrnstedt et al., 2024, Stoet & Geary, 2016,; McMichael et al., 2026). Even so, a closer look exposes a methodological assumption: the theory predicts gender differences primarily in subject-specific beliefs, not in broad indicators of well-being. When researchers collapse outcomes into global motivation or general well-being, they test a version of the theory it never actually proposed. The absence of gender moderation in such studies may therefore reflect a mismatch between theory and measurement rather than a true absence of gender effects.

A third framework, Stereotype Threat Theory (Steele, 1997; Steele & Aronson, 1995), shifts the focus from developmental schemas to situational pressures. The core mechanism is straightforward: when a negative stereotype becomes salient, for instance girls being evaluated in mathematics, the psychological burden of potentially confirming that stereotype can impair

performance and heighten anxiety (Drače, 2025). This is the core process the theory describes. A closer look, however, reveals a crucial implication: stereotype threat is situational rather than trait-like. It predicts gender differences only under specific evaluative conditions, not across all learning environments. Many large-scale studies examine gender moderation in contexts where stereotype threat is unlikely to be activated. When those studies report null effects, they may be capturing the absence of the triggering conditions rather than the absence of the mechanism itself. The theory explains why gender differences emerge in certain testing situations; it never claimed they should appear universally.

The final framework, Self-Determination Theory (Deci & Ryan, 2000), offers a different kind of explanation that is indirectly related to gender. SDT does not assume gender differences outright. Instead, it argues that motivation depends on the satisfaction of three basic psychological needs, autonomy, competence, and relatedness. The underlying mechanism is subtle: gender differences in motivation may emerge only when male and female needs are supported differently within particular learning environments (Liu et al., 2026). Zooming out, the implication becomes sharper: if classrooms provide comparable levels of autonomy, competence support, and relatedness to all students, SDT predicts no gender differences at all. This framework therefore challenges the assumption that gender should consistently moderate motivation. It suggests that gender effects are contingent on environmental variation rather than inherent psychological differences.

Overall, these four frameworks converge on a single critical insight: gender's influence on motivation and well-being is conditional, not universal, a point consistent with contemporary views of context-dependent psychological effects. Each theory predicts gender differences only under specific circumstances, within gender-linked subjects, under stereotype-relevant evaluative conditions, or in environments that differentially support male and female psychological needs (Howard et al., 2021; Wang et al., 2026). This shared conditional logic reframes the central question of this review. The issue is not whether recent null findings indicate a genuine absence of gender-based mechanisms. The deeper question is whether those nonsignificant results simply reflect the context-dependent nature of gender effects that the theories themselves predict. The tension between theory and evidence is therefore not a contradiction to be dismissed, but a diagnostic signal pointing to the need for more precise, context-sensitive research designs.

This paper adopts a conceptual, theory-driven approach not to summarize the literature, but to interrogate the assumptions that have allowed two research traditions to drift apart. One tradition, rooted in developmental and social psychology, builds gender into its explanatory core through frameworks such as Gender Schema Theory, Expectancy-Value Theory, Stereotype Threat Theory, and Self-Determination Theory. These models predict that gender should reliably moderate motivation and well-being.

The other tradition, emerging from quantitative educational psychology, relies on large-scale datasets and multi-group structural models to test those predictions directly. Recent empirical studies that formally examine gender as a statistical moderator increasingly report null effects (Barroso et al., 2021; Delgado & Prieto, 2025; Li & Zhang, 2024). In practice, these two traditions rarely intersect. Theory anticipates consistent gender moderation, whereas large-scale quantitative analyses increasingly fail to detect it.

The method is straightforward: theoretical predictions and empirical findings are placed side by side, and their inconsistency is treated as an analytical problem. The review draws on two source types, foundational theories specifying psychological mechanisms, and recent meta-analyses and multi-group structural models with moderation tests that evaluate whether those mechanisms produce detectable gender differences. Priority is given to studies testing moderation directly, as they isolate whether motivational processes vary by gender, whereas mean-level differences fail to capture this nuance. By comparing theory with moderation evidence, this approach enables a critical evaluation of three explanations for the inconsistency between theory and findings. The goal of the discussion is to specify the conditions under which gender's influence becomes visible and under which conditions it disappears.

1. A Literature Marked by Contradiction

The research on gender as a moderator of academic motivation and well-being is not merely inconsistent; it is structurally contradictory. Some findings support gender-based theories, while others undermine them. The contradiction is clearest in the stereotype threat literature. Meta-analyses with adult and college samples report small, context-dependent stereotype threat effects on women's mathematics performance, though recent reassessments argue these may be overstated or even null (Picho-Kiroga et al., 2021; Warne, 2021). To date, there is no widely accepted, post-2015 meta-analysis focusing exclusively on school-age children and adolescents that demonstrates a robust, unbiased stereotype threat effect; available evidence in this age group is mixed and often based on observational rather than experimental

designs (Nguyen & Ryan, 2025; Zhang et al., 2024). The implication is uncomfortable: even the larger effects reported for older samples may be inflated.

The same pattern appears in broader outcomes. Large-scale studies testing gender as a moderator of the well-being–achievement relationship consistently report null results (Bücker et al., 2018; García-Ros et al., 2022; Wilson Fadji & Reddy, 2023). The variation across outcomes, populations, and methods is too patterned to dismiss as random noise. It signals a deeper conceptual issue, gender's moderating role is neither consistently present nor consistently absent, which means the field must explain the conditions under which it appears.

2. Domain Specificity: Gender Effects Are Not General Effects

Gender-based theories predict that gender differences should appear primarily in stereotype-linked subjects such as mathematics and STEM. This prediction is plausible, since gender schemas and stereotype threat are domain-bound mechanisms. But a closer look reveals a complication: even within mathematics, stereotype threat effects vary by social and geographic context. A meta-analysis by Picho et al. (2013) found stronger effects for middle and high school students than for college students, and stronger effects in countries with lower gender equality. This means the domain alone is not enough; context shapes whether the mechanism activates.

3. Developmental Timing: Does Gender's Role Emerge Later?

Gender-related psychological mechanisms do not operate uniformly across childhood and adolescence. Stereotype threat illustrates this clearly. Research on stereotype threat in primary education indicates that performance deficits emerge between 2nd and 5th grade, well before adolescence, while kindergarteners and 1st graders remain protected by early in-group biases, and gender-based vulnerability develops early in formal schooling (Magoutier et al., 2026). Flore and Wicherts (2015) found no stereotype threat effect among school-age girls in mathematics performance, whereas studies with older adolescents and adults report weak-to-moderate effects. The underlying mechanism is cognitive: stereotype threat requires the ability to recognize and worry about confirming a group-based stereotype, an ability that may not fully develop until later adolescence.

The pattern suggests that the cognitive capacities required for stereotype threat specifically, recognizing a group-based stereotype and worrying about confirming it, may not

be fully developed until later adolescence. Younger children, therefore, are less vulnerable to this mechanism even if other gender-linked influences on motivation are already present.

This developmental view clarifies why studies with younger samples or wide age ranges often report no gender moderation, while research focused on older adolescents sometimes does. It also shifts the central question: the issue is not whether gender moderates motivation and well-being, but when gender's influence becomes psychologically active across development.

4. Methodological Variation: Some Gender Effects May Be Statistical Artifacts

Methodological differences further complicate the picture. Publication bias, identified in multiple recent syntheses and replications, provides direct evidence that earlier reports of gender effects may have been inflated by selective reporting (Eriksson et al., 2020; Gallagher et al., 2022). Meta-analytic evaluations confirm that publication bias likely inflated early estimates of gender differences in mathematics, as small or non-significant effect sizes were systematically underreported compared to statistically significant results. In other words, studies reporting significant, theory-confirming effects are more likely to be published than studies reporting null results. Such a pattern would artificially inflate the apparent strength and consistency of gender-based effects in the published literature, regardless of the true underlying psychological reality (Magoutier et al., 2026; Shewach et al., 2019).

Additionally, older studies often relied on simple mean comparisons, whereas contemporary research uses multi-group structural models that test whether entire networks of relationships differ by gender. When these more rigorous models repeatedly find null results, the implication is not that gender mechanisms do not exist, but that earlier methods may have overstated their strength.

This methodological shift forces a reconsideration of what counts as evidence for gender differences. If gender moderation disappears under more rigorous analysis, the field must ask whether the mechanism is weak, context-dependent, or mismeasured, and not assume that gender differences are universal.

5. Gender as a Non-Significant Moderator

Despite the domain-specific, developmental, and methodological explanations, one pattern remains striking. Across several recent, methodologically strong studies, gender

consistently fails to moderate the broad relationship between academic achievement and subjective well-being. Bücker et al. (2018) found no evidence of significant gender moderation in a meta-analysis including nearly thirty-nine thousand participants. Wilson Fadiji and Reddy (2023) reported no gender moderation even within mathematics, a domain where gender effects were expected. García-Ros et al. (2022) found identical structural pathways across gender.

The consistency of these null findings across samples, cultural contexts, and even within academic domains where gender-based theories predict clear effects has an important implication. Regardless of whether domain dilution, developmental timing, or methodological factors ultimately account for the broader inconsistency, the structural relationship between achievement and well-being appears to function similarly for male and female students in the most rigorous studies (Lehti & Laaninen, 2024). This suggests that interventions designed to strengthen the association between achievement and well-being do not require gender-specific designs at the level of their basic structure. At the same time, more targeted approaches, particularly stereotype-threat reduction programs in mathematics classrooms, may still be valuable within narrower, domain-specific or developmentally sensitive contexts (Liu et al., 2021).

The five themes above converge on a more precise understanding of gender's role. The inconsistency in the literature cannot be resolved by pointing to a single explanation. Instead, gender's moderating role emerges only under specific domain, developmental, and methodological conditions. Domain specificity concentrates gender effects within stereotype-linked subjects. Developmental timing restricts those effects to adolescence. Methodological variation reveals that earlier findings may have overstated gender differences.

Collectively, these factors indicate that gender's moderating role in academic motivation and well-being is not a fixed psychological property. It is a context-dependent phenomenon, active only when the theoretical, developmental, and methodological conditions required for gender differences are present. Future research must define those conditions precisely rather than assume that gender effects are universal.

Discussion, Limitations, and Future Research Directions

This paper has provided a critical examination of gender's role as a moderator of academic motivation and subjective well-being. The overall pattern is clear: although classic theories predict meaningful gender differences, many recent, methodologically rigorous

studies report no significant gender moderation in the very relationships these theories describe. Rather than interpreting this contradiction as an error in the literature, the review argues that it can be understood through three interacting factors: the academic domain under investigation, the developmental stage of the students, and the statistical methods used to assess gender differences.

The findings have several implications for research and practice in educational psychology. First, researchers should avoid assuming that gender consistently moderates students' motivation and well-being, or that it is uniformly irrelevant. The evidence suggests that gender's influence is contingent on the specific conditions of each study. A more productive line of inquiry therefore asks under which conditions gender's moderating role becomes statistically detectable and theoretically meaningful, rather than whether gender matters in a general sense. For example, although gender differences in academic motivation are frequently reported during adolescence, large-scale studies have found that the interaction between gender and academic year is often nonsignificant, indicating that gender-based patterns may remain stable across time rather than producing strong moderation effects (Stenberg, 2025).

Second, the developmental timing explanation suggests that gender-focused interventions, such as programs designed to reduce stereotype threat, may need to be carefully timed and developmentally tailored. Meta-analytic evidence indicates that stereotype threat effects on mathematics performance are small and context-sensitive, with stronger effects observed in middle and high school than in college samples, suggesting that interventions may be most relevant during particular developmental periods (Liu et al., 2024). Interventions that are effective for adolescents may not be necessary, or may operate differently, for younger children.

Third, the methodological explanation highlights the need to interpret earlier findings with caution. Some previously reported gender differences may reflect publication bias, limited statistical power, or less rigorous analytic approaches rather than robust psychological differences.

This review also has limitations. As a conceptual and theoretical analysis, it does not present new empirical data; its conclusions rely on the quality and scope of existing studies. Much of the evidence discussed centers on mathematics and stereotype threat, leaving open the question of whether similar domain-specific and developmental patterns apply to other subjects

or to well-being outcomes beyond achievement. Additionally, most large-scale studies reviewed were conducted in Western, East Asian, or European contexts, raising questions about whether the same patterns would emerge in other cultural and educational settings. Finally, although the review focuses on three main explanations, domain specificity, developmental timing, and methodological variation, other factors, such as socioeconomic background or the measurement of gender identity, may also shape gender moderation and warrant further investigation.

Future research should address several key questions. First, studies that compare gender's moderating role across multiple subjects within the same sample would help clarify whether domain specificity truly accounts for part of the inconsistency. Second, longitudinal research following students from childhood through adolescence could directly test whether gender's moderating role changes with age, rather than relying on cross-study comparisons. Third, future meta-analyses should incorporate techniques designed to detect and correct for publication bias, providing more accurate estimates of the true magnitude of gender-based effects.

Conclusion

This paper has examined a genuine contradiction in educational psychology. Classic theoretical frameworks predict that gender should shape students' academic motivation and subjective well-being. However, many recent methodologically rigorous studies have found no significant gender moderation in the very relationships these theories describe. Rather than concluding that the theories are incorrect or that gender is irrelevant, this review has argued that gender's moderating role is better understood as conditional. It may depend on the specific academic subject, students' developmental stage, and the statistical methods used to test for its presence.

The evidence reviewed here suggests that gender's influence on motivation and well-being is most likely to emerge in subjects associated with strong gender stereotypes, such as mathematics, and may become more pronounced in later adolescence, once the psychological mechanisms relevant to stereotype-related concerns are more fully developed. At the same time, part of the apparent inconsistency in the literature may reflect methodological factors, including publication bias and differences in statistical rigor between older and more recent studies. When broad, domain-general outcomes such as overall subjective well-being and

general academic achievement are examined using robust statistical methods, gender consistently fails to emerge as a significant moderator.

These conclusions have practical implications for educational psychology and teaching practice. They suggest that broad educational interventions designed to support students' general well-being and achievement are unlikely to require separate designs for boys and girls. At the same time, more targeted interventions that address specific concerns, such as stereotype threat in mathematics classrooms, may still be valuable, particularly for older adolescent students. Recognizing gender's conditional, rather than universal, role does not diminish the importance of gender as a topic in educational psychology. Instead, it clarifies the task ahead: identifying precisely when, where, and for whom gender meaningfully shapes students' motivation and well-being, rather than assuming that a single, fixed pattern applies to all students, subjects, and developmental stages.

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