


The Role of Grit in Mediating the Relationship Between Academic Self-Efficacy and School Performance

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ABSTRACT

Objective: This study aimed to investigate the mediating role of grit in the relationship between academic self-efficacy and school performance among high school students.

Methods and Materials: This descriptive correlational study was conducted with a sample of 392 high school students from the United States, selected based on Morgan and Krejcie's sample size table. Participants completed standardized instruments measuring academic self-efficacy, grit, and self-reported GPA as an indicator of school performance. Data analysis was performed using SPSS-27 for descriptive statistics and Pearson correlation, and AMOS-21 for Structural Equation Modeling (SEM) to test the mediating effects and model fit.

Findings: Descriptive results showed relatively high levels of academic self-efficacy ($M = 38.24$, $SD = 6.87$), grit ($M = 42.17$, $SD = 5.94$), and school performance ($M = 3.42$, $SD = 0.36$). Pearson correlation results indicated significant positive relationships between academic self-efficacy and grit ($r = .51$, $p < .001$), academic self-efficacy and school performance ($r = .47$, $p < .001$), and grit and school performance ($r = .55$, $p < .001$). SEM results confirmed the mediating role of grit, with acceptable model fit indices ($X^2/df = 2.34$, $GFI = .95$, $CFI = .96$, $RMSEA = .059$). Both direct ($\beta = .21$, $p = .008$) and indirect ($\beta = .18$, $p < .001$) effects from academic self-efficacy to school performance were statistically significant.

Conclusion: The findings highlight grit as a partial mediator in the relationship between academic self-efficacy and school performance, indicating that students' belief in their academic abilities enhances academic outcomes both directly and indirectly through perseverance and consistency. Educational efforts to develop both self-efficacy and grit may play a key role in promoting academic success in high school students.

Keywords: Academic self-efficacy, Grit, School performance, High school students.

1. Introduction

Academic success has long been a central concern in educational psychology, with researchers attempting to identify the individual, social, and cognitive factors that contribute to optimal school performance. Among these factors, academic self-efficacy and grit have garnered considerable attention for their roles in shaping students' perseverance, motivation, and achievement outcomes. Academic self-efficacy refers to a student's belief in their capacity to perform academic tasks successfully, while grit is defined as sustained passion and perseverance for long-term goals. Recent empirical evidence suggests that the interplay between these two constructs significantly predicts students' academic outcomes and that grit may serve as a key mediator in this relationship (Mateo, 2024). Understanding this dynamic is crucial not only for theoretical models of student achievement but also for informing interventions aimed at improving educational outcomes.

Academic self-efficacy has been widely validated as a critical predictor of performance in various learning environments. Students with high academic self-efficacy tend to set more challenging goals, exert greater effort, and show resilience in the face of academic difficulties. Li et al. (2024) demonstrated that conscientiousness positively influences academic self-efficacy through growth mindset and grit, underscoring the role of self-regulatory and motivational processes in academic functioning (Li et al., 2024). Similarly, Zhao et al. (2023) reported that academic self-efficacy acts as a mediating factor between growth mindset and academic delay of gratification, suggesting that students' beliefs in their abilities serve as an internal resource for self-control and perseverance (Zhao et al., 2023). These findings indicate that academic self-efficacy not only shapes students' expectations but also impacts their behavioral regulation, ultimately influencing school performance.

In tandem with academic self-efficacy, grit has emerged as a robust predictor of long-term academic achievement. Grit enables students to persist through setbacks, maintain focus on academic goals, and recover from failure, making it especially relevant in high-pressure learning contexts. The construct is typically divided into two dimensions: consistency of interests and perseverance of effort. Research indicates that these dimensions contribute uniquely to various academic outcomes (Uribe-Moreno et al., 2024). For instance, Hong (2024) found that grit mediated the

relationship between depression and academic helplessness in adolescent girls, suggesting that grit serves as a buffer against emotional and motivational deficits (Hong, 2024). Furthermore, He et al. (2024) showed that second language grit positively predicted academic achievement in international students, with learning engagement acting as a mediator (He et al., 2024). These studies collectively affirm grit's role as a psychological resource that promotes academic persistence and achievement across diverse contexts.

The mediating potential of grit in the relationship between self-beliefs and academic outcomes has been increasingly supported in empirical literature. Cheng et al. (2024) highlighted the significance of grit in linking thinking styles with academic major satisfaction, implying that grit may channel cognitive dispositions into concrete academic outcomes (Cheng et al., 2024). Similarly, Harpaz et al. (2023) found that academic grit, along with subjective well-being and coping resources, predicted university students' academic achievements, indicating grit's integrative role in the motivational and emotional systems that underlie learning success (Harpaz et al., 2023). In a related study, Eroğlu (2023) confirmed that school engagement mediated the relationship between grit and academic life satisfaction, pointing to the behavioral mechanisms through which grit influences educational experience and performance (Eroğlu, 2023). These findings suggest that grit operates as both a direct and indirect contributor to academic achievement, often through its interactions with motivational and cognitive variables such as academic self-efficacy.

Moreover, grit's association with self-regulation, attention control, and academic motivation further reinforces its centrality in academic processes. Koç and Gökalep (2023) reported that self-control positively predicted grit, with academic motivation and attention control acting as mediators, which supports the view that grit is intertwined with other self-regulatory constructs that are vital for school success (Koç & Gökalep, 2023). Lin et al. (2024) also found that teacher autonomy support enhanced academic engagement through a chain-mediated path involving personal growth initiative and academic grit, suggesting that environmental factors may cultivate grit and, in turn, promote academic involvement (Lin et al., 2024). These studies underline grit's pivotal role in translating both internal traits and external supports into sustained academic performance.

Importantly, the interplay between grit and academic self-efficacy has also been explored in structural models, confirming grit's mediating role. Lee and Kwon (2023) demonstrated that both academic grit and positive psychological capital mediated the relationship between parental bonding patterns and academic achievement, indicating that personal resources such as grit and self-efficacy are shaped by relational contexts and directly contribute to school outcomes (Lee & Kwon, 2023). Likewise, Jun and Son (2023) found that maternal grit predicted children's academic engagement via the children's attention and grit levels, further confirming the intergenerational and multifactorial nature of grit development and its consequences for academic functioning (Jun & Son, 2023). These findings emphasize the interconnectedness of familial, emotional, and cognitive pathways in fostering grit and academic success.

Self-efficacy and grit also appear to function together to mitigate academic stress and burnout, conditions that commonly hinder school performance. For example, Tanrıverdi and Çelik (2022) showed that both academic self-efficacy and grit mediated the relationship between psychological need satisfaction and academic stress in university students, suggesting that these variables jointly reduce the emotional burden of academic demands (Tanrıverdi & ÇELİK, 2022). Kim and Lee (2022) similarly demonstrated that social support mediated the influence of grit on academic burnout among nursing students, providing further support for the protective role of grit when combined with external and internal support systems (Kim & Moon, 2022). Furthermore, Liu and Xue (2022) found that grit mediated the relationship between mindset and academic burnout, reinforcing the view that grit acts as a buffer against cognitive and emotional exhaustion (Liu & Xue, 2022). These studies illustrate that grit and self-efficacy not only predict positive academic behaviors but also guard against negative emotional outcomes, thereby sustaining long-term school engagement and achievement.

The relationship between mindset, grit, and academic efficacy has been further unpacked through cross-cultural and developmental perspectives. Kim (2022) investigated how parenting attitudes influenced academic helplessness in adolescents through the mediation of grit and depression, indicating the complex developmental routes by which grit and efficacy evolve (Kim, 2022). Likewise, Kim and Moon (2022) proposed a structural relationship between maternal parenting behavior and children's grit, happiness, and academic performance, providing empirical support for the

influence of early-life environmental factors on grit formation and school outcomes (Kim & Lee, 2022). Additionally, Xiaoqiong and Li (2022) reported that social support ecosystems had a significant moderated mediation effect on the academic performance of children from low-income families, highlighting the crucial role of contextual resources in fostering grit and resilience in disadvantaged populations (Xiaoqiong & Li, 2022).

While grit and academic self-efficacy have often been studied in isolation, recent studies emphasize the need for integrative models that examine how these constructs work in concert to influence school performance. For instance, Xu et al. (2022) showed that grit served as a protective factor against academic burnout and stress in Chinese college students, operating within a serial mediation model that included academic anxiety and emotional regulation (Xu et al., 2022). Xiong and Wang (2023) similarly confirmed that academic engagement mediated the relationship between second language grit and language proficiency, illustrating grit's capacity to enhance both emotional investment and cognitive outcomes in learning contexts (Xiong & Wang, 2023). These findings support the value of examining grit as a mediator in the broader constellation of variables that drive academic achievement.

Building on these insights, the current study investigates the mediating role of grit in the relationship between academic self-efficacy and school performance among high school students in the United States.

2. Methods and Materials

2.1. Study Design and Participants

This study employed a descriptive correlational design to examine the mediating role of grit in the relationship between academic self-efficacy and school performance among high school students. The study population consisted of students from various public high schools in the United States. Based on Morgan and Krejcie's (1970) sample size determination table, a sample of 392 participants was selected through stratified random sampling to ensure representation across grade levels and demographic characteristics. The inclusion criteria were being currently enrolled in high school and providing informed consent to participate in the study.

2.2. Measures

2.2.1. School Performance

To measure school performance, the Grade Point Average (GPA) was used as a standardized indicator of academic achievement. GPA is a widely accepted and objective metric calculated from students' final course grades over a specified period, typically ranging from 0 to 4.0 in many educational systems. It reflects cumulative academic performance across subjects and is commonly used in educational research as a reliable outcome variable. Although GPA does not contain subscales, it effectively summarizes overall academic success. Prior research has demonstrated that GPA is a valid and reliable proxy for school performance, correlating strongly with other academic indicators such as standardized test scores and teacher evaluations (Panagouli et al., 2021; Rudzinska-Wojciechowska et al., 2021).

2.2.2. Academic Self-Efficacy

Academic self-efficacy was measured using the Academic Self-Efficacy Scale developed by Chemers, Hu, and Garcia (2001). This scale comprises 8 items designed to assess students' beliefs in their ability to successfully perform various academic tasks. Respondents rate their agreement with each item on a 7-point Likert scale ranging from 1 (not at all true) to 7 (very true), with higher scores indicating greater academic self-efficacy. The scale includes items such as "I am confident I can understand the most complex material presented by the instructor." It does not contain subscales, as it is intended to capture a unidimensional construct. The instrument has demonstrated strong internal consistency, with reported Cronbach's alpha coefficients exceeding 0.80 in multiple studies, and its construct validity has been supported through correlations with academic performance and motivation indicators (Prasetya et al., 2024; Syukur, 2024).

2.2.3. Grit

Grit was assessed using the 12-item Grit Scale developed by Duckworth, Peterson, Matthews, and Kelly (2007). This instrument evaluates two key components of grit:

Perseverance of Effort and Consistency of Interests. Each item is rated on a 5-point Likert scale ranging from 1 (not at all like me) to 5 (very much like me), with higher scores reflecting higher levels of grit. Example items include "I have overcome setbacks to conquer an important challenge" and "New ideas and projects sometimes distract me from previous ones" (reverse-scored). The scale yields a total grit score as well as subscale scores for each dimension. Previous research has confirmed the scale's reliability, with Cronbach's alpha values typically ranging from 0.73 to 0.83, and its validity has been supported through its associations with long-term achievement and persistence in various domains (Hong, 2024; Uribe-Moreno et al., 2024).

2.3. Data Analysis

Data analysis was conducted in two phases. First, Pearson correlation analysis was performed using SPSS version 27 to assess the bivariate relationships between the dependent variable (school performance, measured by GPA) and the independent variables (academic self-efficacy and grit). This analysis provided initial insight into the strength and direction of the associations among variables. In the second phase, Structural Equation Modeling (SEM) was employed using AMOS version 21 to test the hypothesized mediation model. This advanced statistical technique allowed for the simultaneous estimation of direct and indirect effects and provided model fit indices to evaluate the adequacy of the proposed structural model.

3. Findings and Results

The final sample consisted of 392 high school students from various regions across the United States. Among the participants, 221 students (56.38%) identified as female and 171 students (43.62%) as male. In terms of grade level, 98 students (25.00%) were in 9th grade, 102 students (26.02%) in 10th grade, 95 students (24.23%) in 11th grade, and 97 students (24.74%) in 12th grade. Regarding age distribution, 113 students (28.83%) were aged 14–15, 169 students (43.11%) were aged 16–17, and 110 students (28.06%) were aged 18 or older. The sample included participants from diverse ethnic backgrounds, including 208 White (53.06%), 88 Hispanic (22.45%), 61 African American (15.56%), and 35 Asian American (8.93%) students.

Table 1

Descriptive Statistics for Study Variables

Variable	Mean	Standard Deviation
Academic Self-Efficacy	38.24	6.87
Grit	42.17	5.94
School Performance	3.42	0.36

The descriptive statistics for the study variables are presented in Table 1. The mean score for academic self-efficacy was 38.24 (SD = 6.87), indicating a relatively high level of confidence in academic abilities among participants. The mean score for grit was 42.17 (SD = 5.94), suggesting a moderately high level of perseverance and consistency in interests. School performance, measured through self-reported GPA, had a mean of 3.42 (SD = 0.36), reflecting generally strong academic performance in the sample.

Prior to conducting the main statistical analyses, the assumptions of normality, linearity, multicollinearity, and homoscedasticity were assessed and confirmed. For

normality, skewness values ranged from -0.44 to 0.63 and kurtosis values ranged from -0.78 to 0.51, indicating acceptable limits (i.e., between -1 and +1). Linearity was confirmed through scatterplots that showed linear patterns among variables. Multicollinearity was ruled out as all Variance Inflation Factor (VIF) values were below 2.0, and tolerance values were above 0.50. Homoscedasticity was confirmed by examining residual plots, which displayed consistent variance across predicted values. These results indicated that the data met the necessary statistical assumptions for both Pearson correlation and Structural Equation Modeling.

Table 2

Correlation Matrix for Study Variables

Variable	1	2	3
1. Academic Self-Efficacy	—	.51** (p < .001)	.47** (p < .001)
2. Grit	.51** (p < .001)	—	.55** (p < .001)
3. School Performance	.47** (p < .001)	.55** (p < .001)	—

The correlation matrix in Table 2 shows the Pearson correlation coefficients between academic self-efficacy, grit, and school performance. Academic self-efficacy was significantly and positively correlated with grit ($r = .51, p < .001$) and school performance ($r = .47, p < .001$). Grit also

had a significant positive correlation with school performance ($r = .55, p < .001$). These results indicate that all variables are positively and significantly related, supporting the proposed mediation model.

Table 3

Fit Indices for the Structural Equation Model

Fit Index	Value
Chi-Square (X^2)	112.34
Degrees of Freedom (df)	48
X^2/df	2.34
GFI	.95
AGFI	.92
CFI	.96
TLI	.94

RMSEA

.059

The fit indices for the structural equation model are shown in Table 3. The Chi-square value was 112.34 with 48 degrees of freedom ($X^2/df = 2.34$), indicating an acceptable fit. Other fit indices also demonstrated good model fit: GFI

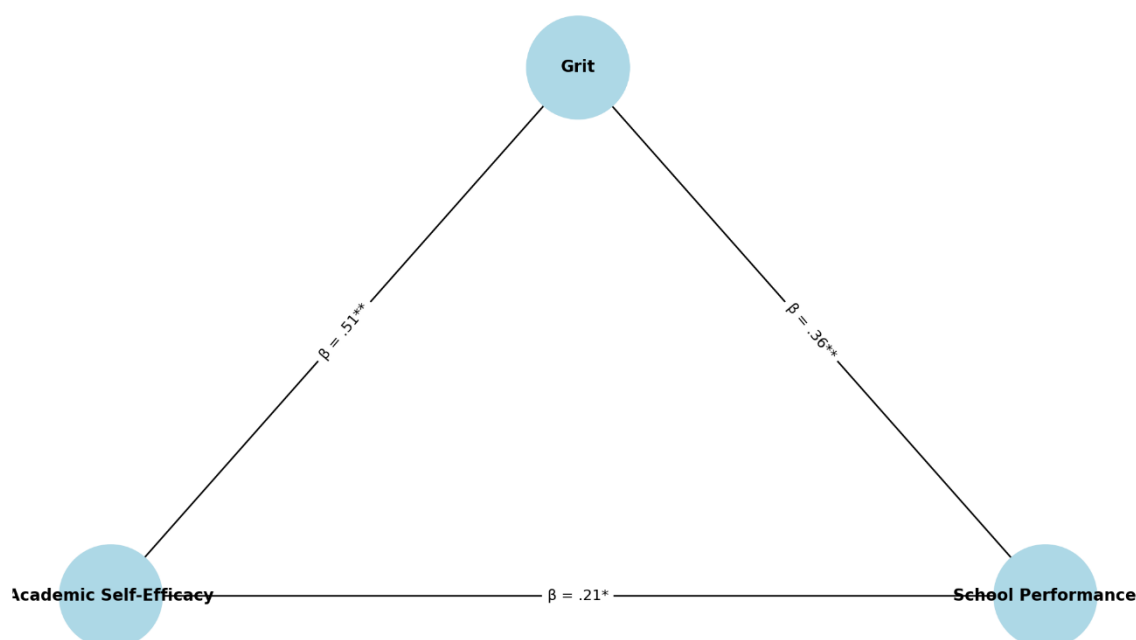
= .95, AGFI = .92, CFI = .96, TLI = .94, and RMSEA = .059. These values suggest that the proposed mediation model fits the data well and is suitable for interpreting the path coefficients.

Table 4*Total, Direct, and Indirect Path Coefficients Between Variables*

Path	b	SE	β	p
Academic Self-Efficacy → Grit	0.41	0.05	.51	< .001
Grit → School Performance	0.03	0.01	.36	< .001
Academic Self-Efficacy → School Performance	0.02	0.01	.21	.008
Academic Self-Efficacy → Grit → School Performance (Indirect)	0.012	0.003	.18	< .001
Total Effect (Academic Self-Efficacy → School Performance)	0.032	0.005	.39	< .001

Table 4 presents the standardized and unstandardized path coefficients for the mediation model. The direct path from academic self-efficacy to grit was significant ($b = 0.41$, $SE = 0.05$, $\beta = .51$, $p < .001$), as was the direct path from grit to school performance ($b = 0.03$, $SE = 0.01$, $\beta = .36$, $p < .001$). The direct path from academic self-efficacy to school performance was also significant ($b = 0.02$, $SE = 0.01$, $\beta =$

.21, $p = .008$), but smaller in effect size. The indirect effect of academic self-efficacy on school performance through grit was significant ($b = 0.012$, $SE = 0.003$, $\beta = .18$, $p < .001$), supporting the mediating role of grit. The total effect of academic self-efficacy on school performance was ($b = 0.032$, $SE = 0.005$, $\beta = .39$, $p < .001$), combining both direct and indirect effects.

Figure 1*Standardized Total, Direct, and Indirect Effects in the Structural Model*

4. Discussion and Conclusion

The primary purpose of this study was to examine whether grit mediates the relationship between academic self-efficacy and school performance in high school

students. The results of the Pearson correlation analysis revealed significant positive associations between academic self-efficacy and school performance, as well as between grit and school performance. Moreover, the Structural Equation Modeling (SEM) confirmed that grit played a statistically significant mediating role in the relationship between academic self-efficacy and academic performance, indicating that students with higher self-efficacy tend to exhibit greater grit, which in turn enhances their academic outcomes. These findings add to the growing body of literature highlighting the psychological mechanisms through which personal beliefs influence academic achievement.

The significant positive relationship between academic self-efficacy and school performance found in this study is consistent with previous research suggesting that students who believe in their ability to succeed academically tend to demonstrate better academic outcomes. Self-efficacy affects how students approach tasks, challenges, and academic setbacks. When students have strong academic self-efficacy, they are more likely to invest effort, persist longer, and adopt effective learning strategies. This aligns with the findings of Li et al. (2024), who reported that academic self-efficacy, influenced by conscientiousness and growth mindset, significantly contributes to academic success (Li et al., 2024). Similarly, Mateo (2024) found that academic self-efficacy is directly associated with science performance, particularly in online learning environments where self-regulation is essential (Mateo, 2024). These results reinforce the foundational role of self-efficacy in academic motivation and performance.

In addition, the positive correlation between grit and school performance supports the notion that perseverance and sustained effort toward long-term academic goals are crucial for success. Students with higher grit scores demonstrated greater academic performance, suggesting that consistent interest and dedication over time are critical in overcoming academic challenges. This is in line with previous findings by Harpaz et al. (2023), who demonstrated that academic grit, along with coping resources and subjective well-being, significantly predicts academic achievement (Harpaz et al., 2023). Likewise, Uribe-Moreno et al. (2024) found strong psychometric support for grit as a predictor of academic performance in various educational contexts (Uribe-Moreno et al., 2024). These findings confirm that grit serves as a psychological asset that enables students to maintain motivation and discipline over time, which in turn contributes to higher academic achievement.

Most importantly, the current study confirmed the mediating role of grit in the relationship between academic self-efficacy and school performance. This suggests that academic self-efficacy alone does not fully account for students' academic success; rather, it is through the development and application of grit that self-efficacy beliefs are translated into sustained academic effort and achievement. This finding aligns with Zhao et al. (2023), who demonstrated that grit and academic self-efficacy act as serial mediators in the link between growth mindset and academic delay of gratification (Zhao et al., 2023). Their results suggest that students' beliefs in their capabilities are not sufficient unless accompanied by the persistent pursuit of goals over time. In a similar vein, Cheng et al. (2024) argued that grit channels cognitive dispositions such as thinking styles into academic satisfaction, reinforcing grit's intermediary function between psychological traits and academic outcomes (Cheng et al., 2024).

The results of this study are further supported by several studies that have confirmed grit as a significant mediating variable in academic contexts. For instance, He et al. (2024) found that learning engagement mediated the relationship between second language grit and academic performance in international students, emphasizing that grit exerts its effect through behavioral engagement mechanisms (He et al., 2024). Similarly, Eroğlu (2023) identified school engagement as a mediator between grit and academic life satisfaction, demonstrating that grit facilitates not only academic performance but also the emotional satisfaction derived from learning (Eroğlu, 2023). These findings corroborate the model tested in the present study, indicating that grit enables students to convert academic confidence into measurable academic achievement through consistent behavioral engagement.

The current results are also aligned with structural models presented in earlier studies. For example, Lee and Kwon (2023) demonstrated that grit and positive psychological capital mediated the relationship between parental bonding patterns and academic achievement, reinforcing grit's central role in translating personal and relational resources into academic success (Lee & Kwon, 2023). In another study, Koç and Gökcalp (2023) highlighted the relationship between self-control, grit, and academic motivation, suggesting that grit plays a role in connecting regulatory abilities with academic persistence and outcomes (Koç & Gökcalp, 2023). These findings are echoed by Lin et al. (2024), who found that grit served as a bridge between teacher autonomy support and academic engagement,

implying that supportive environments may enhance students' academic persistence via grit (Lin et al., 2024). These converging lines of evidence validate the central proposition of the present study: grit is a powerful mediating variable that links self-efficacy beliefs to long-term academic outcomes.

In addition to cognitive and motivational processes, emotional and familial factors also influence grit and academic success. Kim (2022) showed that parenting attitudes affect academic helplessness in adolescents through the mediating roles of grit and depression, indicating that grit has both emotional and academic functions (Kim, 2022). Likewise, Kim and Moon (2022) demonstrated that maternal behavior affects children's grit and academic performance, highlighting the significance of early environmental influences on the development of persistence and achievement (Kim & Lee, 2022). Jun and Son (2023) found similar results in their study on maternal grit and children's academic engagement, where child attention and grit served as mediators (Jun & Son, 2023). These studies suggest that grit can be fostered in familial contexts and, once established, acts as a critical link in the chain of academic development.

The study's findings are also consistent with work highlighting grit's protective role in mitigating academic stress and burnout. For example, Liu and Xue (2022) found that grit mediated the relationship between mindset and academic burnout in high school students, suggesting that students with stronger grit are less susceptible to emotional exhaustion from academic pressures (Liu & Xue, 2022). Similarly, Xu et al. (2022) showed that grit serves as a buffer against the effects of academic anxiety and burnout, supporting its role as a psychological shield in stressful academic settings (Xu et al., 2022). In another related study, Tanrıverdi and Çelik (2022) confirmed that grit and self-efficacy jointly reduced academic stress in college students, further demonstrating that grit complements self-efficacy in enhancing students' emotional resilience and academic outcomes (Tanrıverdi & ÇELİK, 2022).

Lastly, the interplay of social and structural supports with grit and self-efficacy has been increasingly highlighted in academic research. Xiaoqiong and Li (2022) found that social support ecosystems play a vital role in enhancing academic performance among children from low-income families, partly through moderated mediation effects involving grit (Xiaoqiong & Li, 2022). Similarly, Lee (2022) reported that social support predicted both grit and academic self-efficacy, indicating that these psychological strengths

are nurtured within positive social environments and subsequently contribute to improved academic outcomes (Lee, 2022). These findings affirm the idea that grit and self-efficacy are not merely innate traits but can be developed and sustained through contextual influences, lending further credence to the results of the present study.

5. Limitations & Suggestions

Despite its contributions, this study is not without limitations. First, the use of a cross-sectional design limits the ability to draw causal conclusions about the relationships among academic self-efficacy, grit, and school performance. Longitudinal research would be necessary to determine the directionality and temporal order of these variables. Second, the reliance on self-report measures, including the use of GPA as the sole indicator of academic performance, may introduce reporting biases or fail to capture the complexity of academic achievement. Third, although the sample was drawn from diverse high schools in the United States, it may not fully reflect the experiences of students from different educational systems or cultural backgrounds, which limits the generalizability of the findings.

Future research should consider adopting a longitudinal or experimental design to better assess the causal mechanisms underlying the relationship between self-efficacy, grit, and academic performance. Incorporating additional academic indicators, such as standardized test scores, teacher assessments, and classroom behavior, could provide a more comprehensive view of school performance. Researchers may also benefit from exploring other potential mediators or moderators, such as motivation, resilience, or emotion regulation, to further illuminate the pathways linking self-beliefs to achievement. Moreover, comparative studies across different cultural and socioeconomic groups could offer valuable insights into how context influences the development and impact of grit and academic self-efficacy.

Educational practitioners should focus on fostering both academic self-efficacy and grit in students to enhance academic performance. Programs designed to build self-confidence, encourage goal setting, and develop perseverance can be integrated into school curricula. Teachers should be trained to provide autonomy support and constructive feedback that reinforces students' belief in their academic capabilities while also modeling persistence and resilience. Creating classroom environments that reward effort and progress rather than just outcomes may encourage

students to adopt a growth mindset and sustain their commitment to long-term academic goals.

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Declaration of Interest

The authors of this article declared no conflict of interest.

Ethical Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants.

Transparency of Data

In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

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Authors' Contributions

All authors equally contributed to this article.

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