



Grit and School Engagement among Adolescents: The Amplifying Role of Teacher Support in Islamic Boarding Schools

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Abstract

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School engagement plays a vital role in supporting students' academic achievement. This study investigates the contribution of grit to school engagement and examines the moderating role of teacher support in this relationship. Unlike previous studies that often explore internal and external factors in isolation, this study adopts a moderation model to analyze the interaction between grit and teacher support simultaneously. A total of 237 junior high school students (94 males, 143 females) from Islamic boarding schools in Malang, Indonesia, were selected through purposive sampling. Data were collected using standardized scales and analyzed using moderated regression analysis in JASP 18.3. The results indicate that grit significantly predicts school engagement ($\beta = 0.433$, $p = .001$). Moreover, teacher support significantly moderates this relationship, increasing the effect to $\beta = 0.497$ ($p = .043$). Gender-based analysis shows that male students demonstrate higher levels of school engagement than females. These findings suggest that school engagement can be strengthened by enhancing students' grit and providing supportive teacher-student interactions. The study contributes to the literature by highlighting the joint influence of personal and contextual factors on student engagement and offers practical implications for fostering academic motivation in culturally unique educational settings.

INTRODUCTION

School engagement is one of the essential aspects that students must maintain to achieve academic success. It is widely recognized as a key predictor of academic achievement, contributing not only to improved academic performance but also to reduced dropout rates (Estévez et al., 2021). Students with high levels of school engagement tend to demonstrate positive outcomes, including enhanced academic performance, better attendance discipline, a more positive attitude toward school, stronger potential development, and greater academic achievement (Abubakar et al., 2017). Previous research has emphasized that school engagement supports students' sense of discipline and belonging during learning activities (Erdoğan, 2019). Students

who are actively engaged are more motivated to participate in school-related activities and are more likely to perform optimally in their academic tasks. In contrast, low engagement is often associated with negative outcomes, including disruptive behavior, diminished motivation, frequent absences, withdrawal, task avoidance, and overall disengagement from school activities (Chipchase et al., 2017).

Students with low engagement commonly experience frustration, particularly when learning specific subjects. The long-term consequence is that disengaged students are more likely to fail academically or drop out of school altogether (Blondal, 2014). For example, the Civil Service Police Unit (Satpol PP) detained 20 students in Tangerang Regency for skipping school on January 16, 2023. These students were apprehended during a routine patrol at the Tangerang Regency Government Center (Puspemkab) in Tigaraksa District (Pranita, 2023).

Empirical findings suggest that disengaged students often exhibit poor academic performance due to a lack of participation in school activities (Rahayu & Arianti, 2020; Santoso et al., 2023). These instances highlight the importance of fostering student engagement to enhance academic achievement. School engagement encompasses students' active participation in school life (Lei et al., 2018), and it is significantly influenced by factors such as emotional connection to the school, involvement in school activities, and a focus on achievement. High engagement is also associated with the ability to self-regulate in pursuit of academic goals (Estévez et al., 2021; Tang et al., 2021). Therefore, identifying and understanding the factors that contribute to increased engagement is essential. Influential factors include peer support, emotional regulation, self-efficacy, teacher support, and grit (Alonso-Tapia et al., 2023; Hodge et al., 2018; Savitri et al., 2023).

Despite the growing body of research on student school engagement, much of the existing literature tends to examine either internal psychological factors, such as grit, or external influences, such as teacher support, in isolation (Allen et al., 2021; Lobo, 2023). Studies investigating grit have consistently shown its predictive value for academic engagement and achievement, particularly due to its emphasis on perseverance and passion for long-term goals (Jachimowicz et al., 2018). Similarly, research on teacher support has demonstrated its influence on students' emotional and behavioral engagement, with positive teacher-student relationships being linked to enhanced academic motivation and belongingness (Kiefer et al., 2015; Sadoughi & Hejazi, 2023). However, there remains a critical gap in understanding how these internal and external factors interact, especially in early adolescent populations navigating developmental transitions. Few studies have employed a moderation framework to examine whether teacher support can strengthen the effect of grit on school engagement—an interaction that could offer valuable insights into optimizing educational interventions (Ma, 2021; Vargas-Madriz & Konishi, 2021). Additionally, most previous studies focus on either general school populations or older students, with

limited attention given to early adolescents in culturally specific contexts such as Islamic boarding schools, where communal values and teacher authority may play a unique role. By situating this study in that specific setting and testing the moderating role of teacher support, this research addresses a meaningful and timely gap, contributing to a more nuanced understanding of the mechanisms that enhance student engagement.

Teacher support—encompassing emotional closeness, attention, and appreciation—is known to enhance students' engagement in school activities (Lobo, 2023). Likewise, grit, which reflects perseverance and sustained effort toward long-term goals, plays a crucial role in encouraging students to participate in both academic and extracurricular endeavors. Students with high grit are typically more diligent, focused, and resilient, which positively affects their academic outcomes (Hodge et al., 2018; Liu, 2021).

Research has shown that grit positively influences student engagement in school (Yau & Shu, 2023; Zhong et al., 2020). Students who are eager to learn new things and remain focused despite facing challenges are more likely to be actively involved in school activities (Jachimowicz et al., 2018). These students tend to maintain a strong commitment to their academic goals, which increases their participation in self-development and academic programs (Allen et al., 2021; Anggraeni et al., 2024).

Another important contributor to school engagement is teacher support (Ma, 2021; Sadoughi & Hejazi, 2023). In this study, teacher support is selected as a moderating variable based on theoretical review and developmental considerations. Junior high school students, who are in early adolescence, are navigating the transition from childhood and require guidance and encouragement from adults, particularly from their teachers. Supportive teacher-student relationships help foster students' enthusiasm for participating in academic activities (Tao et al., 2022). Through the provision of useful information and emotional connection, teachers can help students maintain focus and become more engaged both cognitively and behaviorally (Xia et al., 2023).

Teacher support includes various forms of assistance, such as providing information, addressing student challenges, and demonstrating care and appreciation. These efforts help students feel valued and motivated to participate (Kiefer et al., 2015; Pérez-Salas et al., 2021). Lei et al. (2018) outlined four main components of teacher support: informational, instrumental, emotional, and appraisal. Informational support involves guidance on career or personal development; instrumental support refers to providing resources for learning; emotional support includes empathy and encouragement; and appraisal support offers constructive feedback and praise (Lei et al., 2018; Vargas-Madriz & Konishi, 2021).

Research has demonstrated that teacher support significantly enhances students' motivation, focus, and commitment to their academic pursuits (Li, 2024). Students who

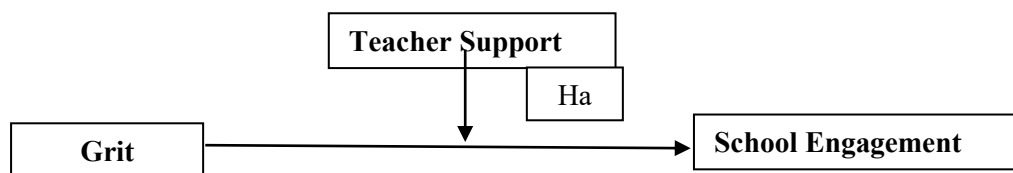
perceive strong support from their teachers tend to feel more appreciated and driven to engage in learning and self-improvement (Shen & Guo, 2022).

Recent studies have also found a positive correlation between teacher support and student grit (Bai & Zheng, 2024). Teachers who communicate effectively with students can help bolster students' perseverance and performance in both academic and non-academic domains.

Building on this evidence, the present study explores how teacher support moderates the relationship between grit and school engagement. When students possess strong grit—demonstrated through goal-directed focus, diligence, and consistency—they are more likely to engage actively in school. Teacher support can strengthen this relationship by amplifying students' motivation and participation in school activities.

Figure 1

School Engagement of Students in Islamic Boarding Schools



Many previous studies have discussed student engagement, especially by examining it primarily from internal influences alone. This study, however, seeks to simultaneously analyze both internal and external factors contributing to student engagement. The present research aims to assess the effect of grit on school engagement, with teacher support serving as a moderating variable. Teacher support encompasses emotional closeness, attention, and appreciation from teachers, all of which influence students' engagement in school activities (Lobo, 2023).

The novelty of this study lies in its analytical approach, which employs a moderation model to examine the interaction between grit and teacher support in predicting school engagement. Previous studies have typically analyzed independent variables directly and have focused solely on either internal or external predictors. In contrast, this study integrates both by testing the moderating role of teacher support in the relationship between grit and student school engagement. Furthermore, the research is conducted among students who not only attend school but also reside in dormitories, offering a unique contextual setting.

Understanding how teacher support moderates the influence of grit on student engagement is essential, particularly during early adolescence. It is expected that when students demonstrate grit—through perseverance, focus, and consistency—the presence of teacher support will enhance their school involvement. Accordingly, this study hypothesizes that student grit positively influences school engagement, and that this relationship is moderated by teacher support.

METHOD

Research Design

This study employed a quantitative, causal-comparative design to examine the causal relationship between the independent and dependent variables (Sugiyono, 2020). The research involved three variables: grit (X_1), teacher support (X_2), and school engagement (Y).

Research Procedures and Participants

The study was conducted using a Likert-scale questionnaire administered to junior high school students enrolled in Islamic boarding schools located in Malang, Indonesia. Participants were selected through a purposive sampling technique, based on the following criteria: (1) adolescents currently enrolled in junior high school, and (2) aged between 13 and 15 years. The final research sample consisted of 237 students. Table 1 presents the demographic details of participants based on gender.

Table 1

Research Participant by Gender

Gender	Amount
Male	94
Female	143
Total	237

Instrument

This study utilized three measurement instruments to assess the variables of grit, teacher support, and school engagement. The grit variable was measured using the Grit Scale developed by Duckworth et al. (2007), which includes two components: perseverance of effort and consistency of interest, consisting of 13 items. The teacher support variable was measured using a scale adapted from Ertesvåg (2016), which comprises 19 items across three dimensions: emotional support, classroom organizational support, and instrumental support. The school engagement variable was measured using the Student Engagement in School Questionnaire (SESQ) developed by Hart et al. (2011), which includes three dimensions: emotional engagement, cognitive engagement, and behavioral engagement, represented by 18 items.

All items in the three scales were presented as statements with a four-point Likert-type response format: Strongly Agree, Agree, Disagree, and Strongly Disagree. The questionnaires were distributed directly to the students who met the sampling criteria.

Data Analysis

Moderated regression analysis was employed as the main analytical technique, enabling the inclusion of a moderating variable to test interaction effects. A moderation model was used to determine whether teacher support moderated the relationship between grit and school engagement. Data were analyzed using the JASP 18.3 statistical software.

RESULTS

The results of statistical testing using the JASP 18.3 software indicate the following psychometric properties of the instruments used: the grit scale showed an item-rest correlation between 0.5 and 0.7, with a Cronbach's alpha of 0.879. The teacher support scale showed item-rest correlations ranging from 0.3 to 0.5, with a Cronbach's alpha of 0.666. The school engagement scale demonstrated item-rest correlations between 0.3 and 0.6 and a Cronbach's alpha of 0.868. Table 2 presents the reliability and validity scores for each variable.

Table 2

Reliability and Validity Test Results

Variable	Alpha Cronbach	Item Rest Correlation
Grit	0.879	0.5-0.7
Teacher Support	0.666	0.3-0.5
School Engagement	0.868	0.3-0.6

Hypothesis testing using moderation regression analysis was conducted to determine the effect of Grit on school engagement moderated by teacher support. The results showed that Grit has a significant positive impact on school engagement.

Table 3

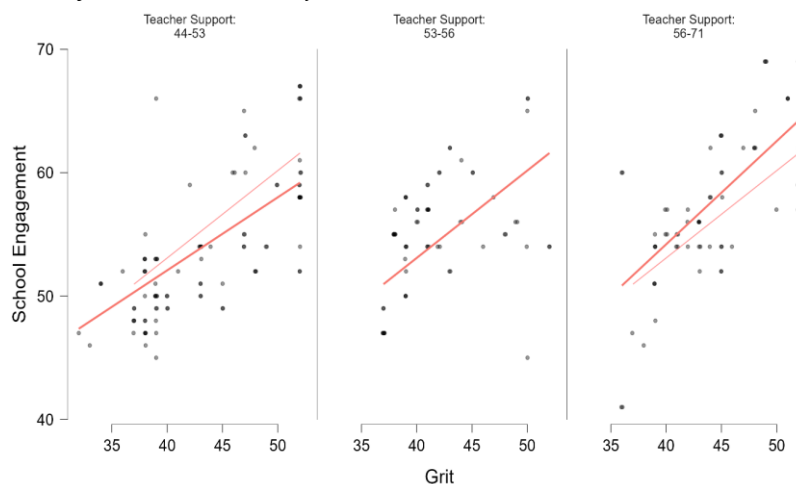
Hypothesis Testing Results

Hypothesis	β	Percentage	<i>p</i> -value
Grit influences school engagement	0.433	43.3 %	0.001
Teacher support moderates the influence of grit on school engagement	0.497	49.7%	0.043

As shown in Table 3, grit significantly predicted school engagement with a standardized coefficient of $\beta = 0.433$ (43.3%), $p = .001$. This indicates a statistically significant effect. Additionally, teacher support was found to significantly moderate the relationship between grit and school engagement, with an increased effect size of $\beta = 0.497$ (49.7%), $p = .043$. These results are also illustrated in the moderation model plot shown in Figure 2.

Figure 2

Plot of Moderation Analysis Results



Based on these findings, school engagement was significantly and positively influenced by student grit and was further strengthened by teacher support as a moderating variable. This suggests that students with higher grit are more engaged in school, especially when they also perceive strong teacher support.

A gender-based analysis was also conducted to explore differences in engagement between male and female students. Table 4 presents the descriptive statistics.

Table 4

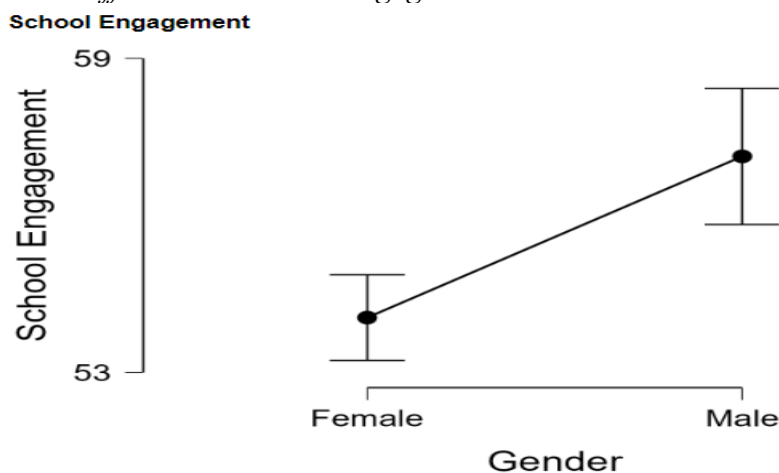
Descriptive Analysis of School Engagement by Gender

Variable	Group	Average
School Engagement	Male	57.128
	Female	54.049

As seen in Table 4, male students reported a higher mean level of school engagement ($M = 57.128$) compared to female students ($M = 54.049$). This difference is further visualized in Figure 3.

Figure 3

Gender Differences in School Engagement



DISCUSSION

The findings of this study indicate that student grit has a positive and significant influence on students' ability to engage in school. This result aligns with prior research showing that grit—defined as students' perseverance and sustained focus—combined with teacher-provided emotional support, guidance, and modeling, contributes meaningfully to school engagement (Gao et al., 2024; Li, 2024). Higher levels of student grit, supported by teachers' attention and encouragement, were associated with greater involvement in both academic and non-academic school activities.

Steinmayr et al. (2018) emphasized that grit enables students to stay focused and persistent in pursuing academic goals, which enhances their motivation to engage in learning activities and build competencies. Students who are diligent and determined are more likely to complete schoolwork and maintain high academic performance. Similarly, teacher support—manifested through emotional encouragement and help when students face

classroom difficulties—can renew student motivation, strengthen their rule compliance, and support task completion even in challenging circumstances (Tao et al., 2022).

Vargas-Madriz et al. (2021) identified three forms through which teacher support can be delivered: (1) building positive teacher-student relationships through attention, (2) exchanging information as relational partners, and (3) leveraging external systems established within schools. These three mechanisms show that teacher support influences students' emotional, cognitive, and behavioral engagement. Consistent with these findings, the present study confirms that internal psychological factors—particularly grit—play a central role in promoting school engagement.

This aligns with research by Steinmayr et al. (2018) and Alhadabi & Karpinski (2020), which demonstrated that internal characteristics such as motivation, self-efficacy, and grit more strongly predict student engagement than external factors. Students who are persistent and consistent in pursuing their academic goals tend to believe in their competencies and become more actively involved in academic and developmental activities at school. In contrast, students who lack direction or confidence may become disengaged and struggle to participate.

Therefore, setting clear academic goals, maintaining perseverance, and remaining committed to achievement are essential components of student success (Jalal & Anis, 2022; Tang et al., 2021). Teacher support can function as a moderating factor in this process by strengthening student engagement. Students who perceive support from teachers often develop emotional bonds with the school and show greater enthusiasm for learning, even when faced with difficult or unfamiliar material (Martinot et al., 2022; Patall et al., 2024).

Supportive teacher behavior—such as attentiveness, encouragement, and positive feedback—helps students feel comfortable and motivated to participate in both academic and extracurricular activities. In line with this, teacher support can enhance students' focus, persistence, and consistency in achieving academic and personal development goals (Gao et al., 2024).

The present findings further demonstrate that teacher support acts as a moderator, strengthening the effect of grit on school engagement. This suggests that while internal factors like grit are fundamental, the presence of teacher support reinforces their influence (Lobo, 2023). Students in early adolescence, such as junior high school students, are beginning to form future-oriented goals. When they receive teacher support alongside their personal motivation, they are more likely to participate meaningfully in school activities. As such, teacher support plays a dual role: directly fostering engagement and amplifying the effect of grit.

This study contributes to closing an identified research gap by demonstrating how teacher support moderates the impact of grit on school engagement. Unlike prior studies that investigated these variables independently, this research highlights their interaction, offering new insight into how internal and external factors work together to support adolescent students, particularly in the Islamic boarding school context.

These findings are supported by prior studies showing that teacher support can directly or indirectly influence student engagement by increasing their confidence, emotional stability, and perseverance (Lobo, 2023; Savitri et al., 2023).

In terms of engagement, students can demonstrate involvement across three main domains: emotional, cognitive, and behavioral (Fredricks et al., 2004). Emotional engagement refers to students' positive feelings toward teachers, peers, and the school environment. Cognitive engagement involves attention, concentration, and a willingness to work through complex concepts. Behavioral engagement includes consistent participation, task completion, and involvement in both academic and extracurricular activities (Kadtong et al., 2017; Wong & Liem, 2022).

The results of the gender-based analysis in this study revealed that male students reported higher levels of school engagement than female students. This suggests that boys may show greater involvement across emotional, cognitive, and behavioral dimensions. School engagement, when supported by perseverance (grit) and teacher support, can facilitate students' ability to manage emotions, stay focused, and complete schoolwork, thereby enhancing their academic outcomes.

These findings also suggest that other psychological and social factors may influence school engagement. Future research should explore variables such as self-efficacy, peer support, and parenting style as potential contributors to student engagement.

One limitation of this study is its sample scope, which was limited to students from a single grade level and geographic region. Future research should include participants from multiple grade levels and schools in different locations. Additionally, employing a mixed-methods approach may help generate richer insights into the nature of student engagement and the forms of teacher support that are most effective.

CONCLUSION

School engagement is one of the essential factors that supports students' academic success. This study found that student engagement—across emotional, cognitive, and behavioral dimensions—is significantly influenced by grit, defined as students' perseverance and consistency, and that this relationship is further strengthened by teacher support. The findings revealed a positive and significant effect: the greater the students' grit and the stronger the teacher support they receive, the higher their level of school engagement.

These findings provide a foundation for future research and intervention strategies aimed at increasing student engagement through the dual enhancement of personal motivation (grit) and external reinforcement (teacher support). It is recommended that further studies explore how students' engagement can be cultivated by encouraging persistence and sustained effort, while also enhancing the emotional and instructional support provided by teachers.

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