Moderating Role of Social Support in Internal Locus of Control and Grit Among Undergraduate Students

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Abstract

Grit plays a pivotal role in supporting students' academic success, especially when navigating challenges in higher education. This study examined the relationship of internal locus of control on grit with social support as a moderator among undergraduate students. Conducted among 423 undergraduate students from six universities in Malang City, East Java, the study utilized Cluster and Random Sampling techniques. Data were gathered using Indonesian-adapted scales: the Triarchic Model of Grit, Academic Locus of Control, and Multidimensional Perceived Social Support. Data analysis was performed using the Moderated Regression Analysis (MRA) method. The results showed that internal locus of control has a significant influence on students' grit, with social support serving as a moderating variable (F Change = 16.245, p = 0.01). This finding suggests that social support enhances the effect of internal locus of control on students' grit, referring to the assistance and encouragement individuals receive from their social networks.
Keywords: grit, internal locus of control, social support, undergraduate students, moderation

Abstrak

Grit memainkan peran penting dalam mendukung keberhasilan akademik mahasiswa, terutama saat menghadapi tantangan dalam pendidikan tinggi. Studi ini meneliti hubungan antara locus of control internal terhadap grit dengan dukungan sosial sebagai variabel moderator pada mahasiswa sarjana. Penelitian ini dilakukan terhadap 423 mahasiswa dari enam universitas di Kota Malang, Jawa Timur, dengan menggunakan teknik Cluster dan Random Sampling. Data dikumpulkan menggunakan instrumen yang telah diadaptasi ke dalam bahasa Indonesia: Triarchic Model of Grit, Academic Locus of Control, dan Multidimensional Perceived Social Support. Analisis data dilakukan menggunakan metode Moderated Regression Analysis (MRA). Hasil penelitian menunjukkan bahwa locus of control internal memiliki pengaruh signifikan terhadap grit mahasiswa, dan dukungan sosial berperan sebagai variabel moderator (F Change = 16.245, p = 0.01). Temuan ini menunjukkan bahwa dukungan sosial memperkuat pengaruh locus of control internal terhadap grit mahasiswa, yang merujuk pada bantuan dan dorongan yang diterima individu dari jaringan sosial mereka.
Kata-kunci: grit, lokus kontrol internal, dukungan sosial, mahasiswa, moderasi

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INTRODUCTION

In the digital era, higher education institutions face various challenges in the process of digital transformation. These obstacles include environmental constraints, inconsistent strategies, technological limitations, organizational challenges, individual resistance, and cultural barriers (Gkrimpizi et al., 2023). Additionally, low digital literacy, resistance to change, and limited resources are key factors hindering digitalization (Gkrimpizi & Peristeras, 2022). Other research has identified that digital transformation in universities encompasses crucial aspects such as digital leadership, digital competence, digital culture, and digital ethics (Singun, 2025). The rapid and massive digital transformation process requires students to continually adapt to remain competitive and achieve academic success. This means that students need to develop strong grit. It is not surprising that research on grit, along with related concepts such as persistence and perseverance, has gained special attention in specific learning units, such as mathematics, (DiNapoli, 2023) where problem-solving and perseverance directly influence success. Ultimately, as digital transformation reshapes education, students who cultivate adaptive grit—marked by perseverance, learning agility, and strategic persistence—are more likely to thrive academically and professionally in this evolving landscape.

The concept of grit was popularized by psychologist Angela Duckworth in the early 2000s (Peterson et al., 2007; Arthur et al., 2016; Duckworth, (2016), defining it as a combination of perseverance and passion for long-term goals. Rooted in earlier theories of persistence and self-discipline, grit gained attention for its role in academic and professional success, beyond mere talent or intelligence. Duckworth's research demonstrated that individuals with higher grit tend to achieve more by maintaining effort and motivation despite setbacks. Over time, grit has evolved to emphasize adaptability, resilience, and goal-directed behavior, making it particularly relevant in dynamic environments such as education, digital transformation, and professional growth

Grit contributes to academic achievement and career preparation, particularly through directed and sustained effort (Lee & Sohn, 2017b). Individuals with high levels of grit tend to be more persistent, resilient, and capable of overcoming failure, enabling them to continue striving toward their goals despite challenges. Oriol et al. (2017) , who examined the role of self-control and grit as key factors in academic success, also found that grit facilitates goal attainment through perseverance, even in challenging external conditions. According to Duckworth (2016), grit is the combination of passion and perseverance in achieving long-term objectives, where individuals consistently strive forward despite difficulties and setbacks. Students with high grit levels tend to exhibit stronger self-control, greater mental resilience, and a growth-oriented mindset, which helps them navigate academic challenges more effectively (Kannangara et al., 2018). They also demonstrate persistence in their studies, adapt to academic challenges, and maintain consistent effort in learning (Datu et al, 2017). Additionally, grit contributes to academic success through structured and sustained practice (Lee & Sohn, 2017a). Therefore, grit is linked to the ability to work hard in overcoming obstacles, maintain interest, and continue striving despite failures. With grit, today's digital generation will be better equipped to tackle challenges, learn from failures, and achieve greater goals.

The importance of grit in academia, in helping individuals persist toward the achievement of long-term goals (Duckworth, 2016), is paramount. This perspective is reinforced by Bazelais et al. (2018), who examined the relationship between grit and academic achievement. Although their study does not directly state that social support has a significant effect on an individual's level of grit, it highlights how psychological

factors, such as perseverance and mindset, contribute to academic success. In the digital era, the widespread use of social media can disrupt learning focus and increase academic distractions (UNICEF Indonesia, 2020). Additionally, several studies indicate that mental health challenges can affect students' academic resilience, particularly when facing major assignments and exams (Irawan et al., 2024). These various challenges may influence an individual's level of grit.

Almeida (2016) explored grit within higher education, identifying key influences on academic perseverance. While social support is acknowledged as a crucial factor in overcoming obstacles, the study emphasized the importance of intrinsic motivation and a strong preference for long-term goals. Social support, which encompasses comfort, recognition, and assistance from one's social environment, plays a crucial role in reinforcing perseverance, enabling students to maintain their commitment to academic success despite challenges.

Recent studies further highlight the connection between grit and social support. Research by Doyodoy et al. (2025) found that perceived social support significantly enhances students' motivation and resilience, thereby fostering self-efficacy and improving academic performance. Similarly, Naat et al. (2024) demonstrated that social support, alongside self-compassion, contributes to academic grit among final-year students, with a notable impact on perseverance and dedication. These findings align with broader psychological research, which suggests that grit is strengthened by external encouragement and emotional reinforcement, enabling individuals to persist in the face of adversity. Thus, social support serves as a vital external resource that complements intrinsic motivation, reinforcing students' ability to sustain effort toward long-term academic goals. This perspective highlights the importance of creating supportive environments in educational institutions to enhance students' resilience and overall success.

Sarafino and Smith (2021) emphasize the significance of social support in fostering resilience, a fundamental aspect of grit. A strong support system provides motivation and encouragement, helping individuals remain persistent in their pursuit of long-term goals, particularly when confronted with obstacles. In academic and professional settings, social support plays a crucial role in shaping grit and reinforcing an internal locus of control. Support from family, peers, and communities enhances psychological resilience, enabling individuals to navigate challenges more effectively. Research by Safitri et al. (2021) further highlights its impact on academic perseverance, showing that a supportive environment helps students maintain focus and recover more easily from setbacks, ultimately strengthening their grit.

Moreover, internal locus of control plays a pivotal role in an individual's persistence, as those who perceive control over their success are more likely to utilize social support effectively (Sari & Fakhruddiana, 2019). This dynamic interaction suggests that individuals with a strong internal locus of control actively seek and benefit from social support, reinforcing their ability to overcome challenges. However, a lack of social support can lead to feelings of isolation, particularly for those who strongly believe in their ability to control their outcomes, which may affect their motivation and psychological resilience. Therefore, social support functions not only as an external factor but also as an essential component in fostering psychological resilience and individual motivation, ultimately contributing to long-term success.

Furthermore, grit is shaped by both internal and external influences, with an internal locus of control playing a crucial role in academia and contributing to the development

of perseverance (Quing & Baudin, 2021). Among university students, academic locus of control has been shown to affect their level of grit, with those exhibiting a strong internal locus demonstrating greater persistence in their studies (Çelik & Sarıçam, 2018). More specifically, internal locus of control fosters persistence in effort, as students who perceive themselves as having control over their success tend to exhibit higher levels of perseverance, particularly in technical fields (Verdín et al., 2018). Additionally, the study by Zhi-An et al. (2023) explores the relationship between locus of control, grit, and students' mental health, highlighting how an internal locus of control can help individuals overcome psychological challenges and maintain motivation in the face of adversity. This highlights the importance of cultivating both grit and an internal locus of control in higher education to promote students' academic and personal growth.

To ensure coherence and precision in the framework of this research, the Conservation of Resources (COR) Theory, developed by Hobfoll (1989), provides a comprehensive perspective on how individuals strive to acquire, protect, and sustain valuable resources, including psychological resilience, motivation, and social support. Within this framework, grit, social support, and internal locus of control function as interconnected resources that contribute to academic and personal success. Grit, defined as perseverance and passion for long-term goals, is strengthened by social support, which serves as an external resource that mitigates stress and enhances resilience (Hobfoll, 2001). Research indicates that individuals with strong social support networks are better equipped to maintain their grit, as encouragement from peers, family, and mentors fosters persistence in the face of adversity (Çelik & Sarıçam, 2018). Furthermore, COR Theory posits that resource loss is more detrimental than resource gain, underscoring the necessity of sustaining social support to prevent psychological depletion and maintain motivation (Holmgreen et al., 2017).

Additionally, internal locus of control plays a crucial role in resource conservation, as individuals who perceive control over their success are more likely to engage in strategies that protect and enhance their psychological and social resources. Studies suggest that individuals with a strong internal locus of control actively seek social support, reinforcing their ability to cope with challenges and sustain their grit (Sari & Fakhruddiana, 2019). COR Theory highlights that individuals with greater personal and social resources exhibit higher resilience to stress and are better positioned to achieve long-term goals (Verdín et al., 2018). Moreover, the interaction between grit, social support, and internal locus of control aligns with COR Theory's principle that resource investment leads to resource accumulation, ultimately fostering academic perseverance and psychological well-being (Zhi-An et al., 2023).

Most previous studies have emphasized the direct relationships among internal locus of control, social support, and grit, without examining the moderating role of social support. For example, Ardhini (2022) investigated the influence of these variables on academic resilience among student organization members, finding significant effects but not testing for moderation. The present study builds on this by introducing a moderation model that adds a new analytical dimension. Similarly, Rahim (1997) found that internal locus of control significantly reduced stress and strain, while social support had limited moderating effects, albeit in a non-academic context. This supports the notion that internal control helps buffer stress, a concept that this study extends to the development of grit in students. Additionally, Abid et al. (2021) showed that internal locus of control and social support both positively predicted assertiveness, with social support mediating the relationship. In contrast, this study focuses on grit and tests moderation rather than

mediation. Together, these studies underscore the relevance of the examined variables and highlight the novelty of applying a moderation model, particularly in an Indonesian academic setting. Therefore, this study aims to analyze the moderating role of social support in strengthening the influence of internal locus of control on grit. Research Hypotheses: 1) Internal locus of control is positively related to grit, 2) Social support is positively related to grit, and 3) Social support moderates the relationship between internal locus of control and grit.

METHOD

This quantitative study employs a causal-correlational research design to examine the effect of the moderating variable (social support) on the relationship between the independent variable (internal locus of control) and the dependent variable (grit). The population of this study consists of all universities in Malang City, totaling 16 institutions, of which 3 are public universities and the remaining are private. Using the Cluster Random Sampling technique, the researcher randomly selected two public universities and four private universities, resulting in a total of six chosen institutions: Universitas Brawijaya, Universitas Negeri Malang, Universitas Wisnuwardhana, Universitas Widya Karya, Universitas Muhammadiyah Malang, and Universitas Merdeka. Of these six universities, a total of 423 students were selected and voluntarily agreed to participate as respondents. A detailed description of the participants is provided in Table 1.

Table 1.
Sample Grouping By University

No.	The Higher Education Institution	Amount	Percentage (%)
1.	Universitas Brawijaya	124	29,3
2	Universitas Negeri Malang	104	24,6
3.	Universitas Wisnu Wardana	56	13,2
4.	Universitas Widya Karya	50	11,9
5.	Universitas Muhamadiyah Malang	47	11,1
6.	Universitas Merdeka	42	9,9
	Total amount	423	100

Table 2.
Sample Grouping By Semester

No.	Semester	Amount	Percentage (%)
1.	II	207	49,0
2.	IV	99	23,4
3.	VI	51	12,1
4.	VIII	35	8,2
5.	X	31	7,3
	Total amount	423	100

Table 3.
Participant Grouping By Sex

No.	Sex	Amount	Percentage (%)
1.	Female	220	52
2.	Male	203	48
	Total amount	423	100

Based on Table 1, Brawijaya University has the highest number of students. Table 2 shows that the majority of the sample consists of second-semester students, while Table 3 indicates that the proportion of female students is higher than that of male students. Data collection was conducted using three instruments that had been adapted into the Indonesian language. The research scale was distributed online via Google Forms to facilitate access for respondents across various locations. Before completing the instruments, participants signed an informed consent form, confirming their agreement to participate in the entire data collection process.

The three research instruments used for data collection are as follows: Grit Instrument – Adapted from the Triarchic Model Grit Scale (Datu et al, 2017), this instrument consists of 9 items across three dimensions: perseverance of effort, consistency of interest, and adaptability. An example statement from the perseverance dimension is: "I finish what I start."Respondents provided answers using a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree). The item validity of the instrument ranges from 0.587 to 0.797, with AVE 0.50, confirming its validity. Reliability testing demonstrated a Cronbach's Alpha of 0.881, indicating strong internal consistency.

Academic Internal Locus of Control Instrument – The Academic Locus of Control Scale for Adolescents (ALCS–AF), originally developed based on research by Akın (2007) and later refined by Sarıçam (2014). This instrument consists of 5 items. An example statement is: "I believe that failure is caused by laziness." Responses were collected using a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree). The item validity of the instrument ranges from 0.50 to 0.87, with AVE 0.50, confirming its validity. Reliability testing showed a Cronbach's Alpha of 0.797, indicating satisfactory internal consistency.

Multidimensional Scale of Perceived Social Support (MSPSS) – Developed by Zimet et al. (1988) and adapted by Sulistiani et al. (2022), this instrument measures social support across 12 items, covering family support, friend support, and support from significant others. An example statement from the friend support dimension is: "My friends are really helpful." Responses were recorded using a 7-point Likert scale (1 = Strongly Disagree, 7 = Strongly Agree). The item validity of the instrument ranges from 0.587 to 0.797, with AVE 0.872, confirming its validity. Reliability testing demonstrated a Cronbach's Alpha of 0.964, indicating excellent internal consistency. The data analysis in this study was conducted using Moderated Regression Analysis (MRA), with calculations assisted by SPSS-22 software to test the proposed hypotheses.

RESULTS AND DISCUSSION

The descriptive analysis in Table 4 shows that the Grit variable has a standard deviation of 4.295, indicating a moderate distribution of data around the mean. The internal locus of control has a standard deviation of 3.289, suggesting less variation compared to Grit. Meanwhile, social support, with a standard deviation of 7.643, exhibits a wider data distribution than the other two variables.

Table 4.
Data Descriptives

	N	Minimum	Maximun	Mean	Std. Deviation
Grit	423	16	40	31.31	4.295
Internal Locus of	423	16	30	25.40	3.289
control	423	4	28	19.18	7.643
Social Support	423				
Valid N (listwise)					

Before testing the hypothesis, the researcher conducted a prerequisite test. First, a normality test was performed using the Kolmogorov-Smirnov test. The results showed a value of 0.045 and an asymp. sig of 0.200 > 0.05, indicating that the data is normally distributed (see Table 5).

Table 5.
Kolmogorov-Smirnov Normality Test

		Standardized Residual
N		423
Normal Parameters[a,b]	Mean	.0000000
	Std.	4.03228911
Most Extreme	Deviation	.045
Differences	Absolute	.022
	Positive	-.045
	Negative	.045
Test Statistic		.200[c,d]
Asymp. Sig. (2-tailed)		

The second step involves the autocorrelation test, which utilizes the Durbin-Watson test (see Table 6). The Durbin-Watson (DW) value obtained is 1.844, with n = 423, and the table DU value is 1.773. The requirement for no autocorrelation is DU < DW < 4 - DU, and the calculated result 1.773 < 1.844 < 2.227 indicates that autocorrelation does not occur.

Similarly, the Durbin-Watson autocorrelation test (Table 6) shows a DW value of 1.844, with n = 423 and a table DU value of 1.773. Based on the requirement DU < DW < 4 - DU, the result 1.773 < 1.844 < 2.227 confirms that no autocorrelation is present.

Table 6.
Autocorrelation Test

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.345[a]	.119	.115	4.042	1.844

Next, the multicollinearity test (Table 7) shows that the VIF values are < 10.00 and Tolerance values are > 0.10 for all variables, indicating that no signs of multicollinearity are present in the regression model.

Table 7.
Multicollinearity Test

Model		Collinearity Statistics	
		Tolerance	VIF
1	Constant		
	Internal Locus of control	.986	1.014
	Dukungan Sosial	.961	1.041
	Interaksi (ILoC_DS)	.973	1.028

Furthermore, the heteroscedasticity test (Table 8) shows that the Sig. value is > 0.05 for the internal locus of control and social support variables, indicating that heteroscedasticity does not occur in the regression model.

Table 8.
Heteroscedasticity Test

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1.362	.943		1.445	.092
Internal Locus of Control	.077	.036	.103	2.112	.085
Social support	.086	.016	.096	2.630	.104

Next, Table 9 presents three regression models (Model 1 to Model 3), which are structured based on the predictors used to test the three proposed hypotheses:
H1: Internal locus of control is positively related to grit.
H2: Social support is positively related to grit.
H3: Social support moderates the relationship between internal locus of control and grit.

Table 9.
Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.526[a]	.276	.234	2.117	.275	6.998	1	421	.019
2	.761[b]	.579	.520	1.963	.299	12.728	1	420	.003
3	.892[c]	.795	.739	1.251	.217	16.245	1	419	.001

a. Predictors: (Constant), iloc
b. Predictors: (Constant), iloc, social support
c. Predictors: (Constant), iloc, social support, Interaksi

Model 1 tests H1, and the results showed: The relationship between internal locus of control and grit is moderate (R = 0.526), explaining 27.6% of the variation in grit (R Square = 0.276). The F Change = 6.998 (p = 0.019) indicates that internal locus of control has a significant effect on grit. These results indicate that internal locus of control significantly predicts grit, thus H1 is accepted.

Model 2 tests H2 and the results showed: When social support is used as the main predictor of grit, the correlation increases to 0.761, explaining 57.9% of the variation in grit (R Square = 0.579). The F Change = 12.728 (p = 0.003) confirms that social support has a stronger influence on grit compared to internal locus of control alone. These findings suggest that social support significantly predicts grit, leading to the acceptance of H2.

Model 3 tests H3 and revealed: When social support acts as a moderator, the correlation further increases to 0.892, with R Square = 0.795, meaning that the combination of internal locus of control and social support explains 79.5% of the variation in grit. The F Change = 16.245 (p = 0.001) indicates that social support significantly strengthens the relationship between internal locus of control and grit. These results confirm the moderating effect of social support on the influence of internal locus of control on grit, thus H3 is accepted.

The results of the H1 test confirm the influence of internal locus of control on students' grit, aligning with previous research findings (Manasa, 2023; Siggayo, 2023). Çelik and Sarıçam (2018) found a positive correlation between internal locus of control and grit, indicating that individuals with higher internal control tend to exhibit greater perseverance in achieving their goals. As internal locus of control increases, grit also increases, and vice versa. Additionally, individuals with strong internal locus of control tend to have higher intrinsic motivation, which drives them to remain persistent in facing academic and personal challenges. Quing and Baudin (2021) also found that internal locus of control significantly influences grit levels, particularly among university students. Their study suggests that individuals with strong internal control believe that their efforts will yield expected results, even if achieving them requires significant time and effort.

These findings reinforce the concept of grit, which refers to the ability to work hard and persist in achieving long-term goals despite obstacles (Allen et al., 2021; Quing & Baudin, 2021; Stoffel & Cain, 2018). Thus, this study further emphasizes that internal locus of control plays a crucial role in shaping students' grit, ultimately contributing to their academic success and psychological resilience.

The results of the H2 test indicate that social support has a significant influence on students' grit, meaning that support from friends, family, or professors plays a role in building mental resilience and helping students face academic challenges. This finding reinforces previous research showing that social support correlates with individuals' perseverance in achieving their goals (Aza et al., 2019; Doyodoy et al., 2025; Martínez-López et al., 2024; Song et al., 2021). Additionally, Mattanah et al. (2010) examined social support interventions in helping new students adapt to campus life. Their study found that students who participated in social support programs experienced an increase in perceived social support and a decrease in loneliness compared to the control group. Although this study does not explicitly mention grit, the concept discussed how social support helps students navigate academic and social challenges is closely related to perseverance and long-term motivation, which are key aspects of grit. In other words,

social support plays a crucial role in fostering students' resilience and determination, enabling them to persist in striving toward their academic goals despite various obstacles.

Furthermore, the results of the H3 test significantly confirm that social support moderates the influence of internal locus of control on students' grit. This finding demonstrates that social support can strengthen or enhance the effect of internal locus of control on students' grit. In the context of students, support from classmates, professors, or family can reinforce their belief that their efforts will yield results, even though the process may be long and challenging. This result also confirms previous research conducted by Almeida (2016), which identified social support as a moderator of grit. Additionally, Yousaf and Ghayas (2015) found that social support consistently has a positive impact on individuals, often associated with better and healthier outcomes (Sarafino & Smith, 2021). The H3 test results indicate that social support significantly moderates the influence of internal locus of control on students' grit, strengthening the relationship between these two variables. Support from classmates, professors, or family plays a role in enhancing students' confidence that their efforts will lead to success, despite the long and challenging process. These findings align with Almeida (2016), who identified social support as a moderator of grit, as well as Yousaf & Ghayas (2015), who demonstrated that social support consistently provides positive effects for individuals. Furthermore, Sarafino & Smith (2021) emphasize that social support is often linked to better outcomes and psychological well-being.

The moderating effect of social support can be linked to the Conservation of Resources (COR) Theory developed by Hobfoll (1989), which states that individuals strive to protect, maintain, and acquire essential resources, both internal and external. In this context, every individual requires emotional resources to face challenges in achieving their goals. When encountering difficulties, social support from friends, family, or teachers can provide motivation, emotional encouragement, practical information, and positive feedback, reinforcing individuals' confidence in overcoming obstacles and reaching their objectives.

Individuals with a high internal locus of control who receive social support tend to have greater confidence and motivation, which enhances their level of perseverance (grit) in achieving their goals. Additionally, social support helps reduce stress and boost self-confidence, enabling individuals to maintain their commitment to their goals, even in the face of significant challenges.

Based on previous research findings, social support functions as a moderator in various psychological relationships, including its connection to locus of control and grit. As a moderator, social support not only provides direct benefits but also strengthens the influence of locus of control on grit. In academic and psychological contexts, this study demonstrates that social support can amplify the positive effects of internal locus of control on grit.

Individuals with a strong internal locus of control believe they have control over their success. Still, when they also receive social support from friends, family, or mentors, this belief is further reinforced. Social support provides emotional encouragement, practical information, and positive feedback, helping individuals remain persistent in facing academic and personal challenges. Moreover, social support plays a role in mitigating the negative effects of stress and obstacles, allowing individuals to stay focused on their long-term goals.

Research indicates that in high-stress situations, individuals with strong social support are better able to maintain motivation and perseverance compared to those with

less support. In Dara et al. (2024), social support was found to be a moderator in the relationship between psychological well-being and the adjustment of new university students. Students who received social support from friends were better able to adapt to their new academic environment and develop stronger psychological resilience.

Additionally, Purba et al. (2025) found that social support can mitigate the adverse effects of academic stress, enabling students to manage pressure and stay focused on their goals. Thus, social support not only functions as a direct resource but also as a factor that influences the strength of the relationship between other psychological variables, such as locus of control and grit. Understanding this moderating role can aid in designing more effective interventions to enhance academic and psychological resilience and success.

CONCLUSION

These results indicate that social support not only directly influences grit but also serves as a moderator, enhancing the effect of internal locus of control on grit. Therefore, undergraduate students who believe they have control over their own success will exhibit greater perseverance (also known as grit) if supported by a strong social network. An internal locus of control has a significant impact on students' grit, reinforcing the idea that an individual's belief in their own control plays a crucial role in determining resilience and persistence.

Based on the results, enhancing social support requires universities to design mentorship programs that connect students with faculty, peers, or external professionals, fostering stronger support networks. Additionally, group learning activities and student communities should be encouraged to promote academic and emotional resilience. Parents also play a crucial role by providing motivation, emotional encouragement, and guidance to help children develop healthy social relationships with both peers and adults.

For the development of an internal locus of control, educational institutions can implement self-efficacy training to foster a growth mindset, enabling students to take responsibility for their success. Additionally, workshops on goal-setting and problem-solving can strengthen students' confidence in their ability to overcome challenges.

To enhance grit, institutions should implement perseverance-building activities, such as long-term projects that demand sustained effort and strategic problem-solving. Furthermore, personalized academic counseling should be offered to students who face challenges with persistence and motivation. Finally, universities should integrate social support strategies into academic advising, emphasizing the importance of peer relationships and emotional encouragement. Faculty members can enhance this by implementing motivational teaching methods that foster self-determination and resilience, ultimately strengthening grit in students.

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