



The Influence of Adversity Quotient on Academic Achievement of Postgraduate Students: A Quantitative Correlational Study at Gunadarma University from a Human Resource Development Perspective

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Abstract

Higher education plays a strategic role in developing individual potential and creating resilient and competent human resources. Undergraduate-master's programme (Sarmag) students at Gunadarma University face high academic pressure to complete their studies in a short period of time. This study explores the contribution of adversity quotient (AQ) to academic performance as an indicator of students' resilience and readiness to face challenges. Using a quantitative approach, this study involved all Sarmag students from the 2012 cohort as respondents. The results indicate that AQ significantly influences academic performance, highlighting the importance of personal resilience as a key factor in human capital development within higher education. These findings have implications for leadership development and human resource strategies, particularly in designing resilience-based interventions to support graduate performance.

Keywords: *Adversity Quotient, Graduate Performance, Human Resource Development*

INTRODUCTION

In the current era of global disruption and digital transformation, the world is undergoing rapid and fundamental changes across economic, social, and educational domains. These changes not only create opportunities but also introduce new challenges that demand individuals to adapt swiftly to uncertainty and constant change. Within this context, individual resilience has emerged as a crucial competence and a central topic of interest in the fields of Human Resource Development (HRD) and leadership studies.

The rapid advancement of technology, automation, and the increasing complexity of organizational systems have transformed how people work, learn, and interact. Individuals today are confronted with various pressures ranging from performance demands and job insecurity to shifts in organizational culture and global competitiveness. Consequently, those with a high level of resilience are better able to manage stress, adapt to change, and maintain productivity in the face of uncertainty. This growing importance of resilience highlights its role as a key theoretical foundation for understanding how people respond to adversity across different life contexts, including both educational and professional settings (Luthans et al., 2007; Shin et al., 2022).

One of the most widely recognized conceptual frameworks for understanding personal resilience is the Adversity Quotient (AQ), introduced by Stoltz (2000). AQ refers to an individual's capacity to face, endure, and grow from life's challenges and difficulties. The concept emphasizes that success in life is not solely determined by intellectual ability (*Intelligence Quotient – IQ*) or emotional intelligence (*Emotional Quotient – EQ*), but also by the ability to persist and thrive under adverse conditions. Thus, AQ provides a holistic view of human potential, suggesting that individuals with higher AQ levels are typically more persistent, optimistic, and goal-oriented

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despite obstacles.

Empirical research has shown that AQ is strongly associated with performance, perseverance, and adaptive capacity across various domains from education to organizational leadership (Syed et al., 2020; Pulakos et al., 2015; Narayan & Thimmappa, 2019). In the organizational context, individuals with high AQ are often more productive, resilient to stress, and motivated to learn from failure. In the educational context, AQ serves as an essential psychological resource that enables students to manage academic stress, overcome setbacks, and sustain long-term motivation.

The relevance of AQ in higher education becomes even more pronounced as students face increasing academic and psychological pressures. This is particularly evident in accelerated learning programs such as the Bachelor's Master (Sarmag) Program at Gunadarma University, where students are required to complete two academic degrees within a shortened timeframe through a trimester system. While this structure allows for faster degree completion, it simultaneously imposes heavier academic and psychological demands compared to conventional programs. Students are expected to handle more coursework, stricter deadlines, and higher performance expectations, all within a compressed academic schedule.

Such conditions inevitably lead to heightened levels of stress and academic fatigue. Many students experience difficulties in time management, concentration, and maintaining work-life balance due to the intensity of their studies. Consequently, Adversity Quotient (AQ) becomes a crucial psychological factor that determines how well students cope with pressure and maintain academic success. Students with high AQ tend to recover more quickly from academic setbacks, manage stress effectively, and view challenges as opportunities for personal and intellectual growth.

Despite the clear importance of resilience and AQ, empirical research examining the relationship between AQ and academic achievement in accelerated higher education environments remains limited. Academic success, commonly measured by Grade Point Average (GPA), continues to serve as a standard indicator of performance. However, GPA alone does not adequately reflect the internal psychological resources that enable students to persist and succeed under pressure. In other words, while GPA measures the *outcome*, AQ captures the *process of* the cognitive and emotional mechanisms that underpin achievement.

Therefore, this study seeks to fill this research gap by exploring the relationship between Adversity Quotient (AQ) and academic achievement among Sarmag students at Gunadarma University. Specifically, this research examines the extent to which AQ influences academic performance in an intensive and high-pressure university program and identifies the theoretical and practical implications of AQ development for human resource development (HRD), leadership education, and human capital resilience.

The findings of this study are expected to contribute to both academic and practical knowledge. Academically, the study will enrich existing literature on resilience, AQ, and academic achievement within higher education contexts. Practically, it will provide valuable insights for educators, HRD practitioners, and policy makers in designing interventions, coaching programs, and learning environments that enhance students' ability to adapt and thrive amid academic and professional challenges.

This research contributes to the broader discourse on resilience-based leadership, talent development, and human capital readiness in facing the uncertainties of the modern world. In an era where disruption and transformation are constant, individuals with a high Adversity Quotient represent not only resilient learners but also future leaders capable of driving sustainable innovation and progress in their respective fields.

LITERATURE REVIEW

Adversity Quotient (AQ), introduced by [Stoltz \(2000\)](#), serves as a theoretical framework that explains how individuals respond to adversity and challenges in life. The model is founded on four key dimensions summarized in the CO²RE framework, which stands for Control, Origin and Ownership, Reach, and Endurance.

Control refers to the degree to which individuals perceive themselves as having influence over adverse events. Origin and Ownership relate to one's ability to recognize the causes of adversity and take responsibility for addressing them. Reach describes how far the impact of adversity extends into other domains of life. Endurance concerns the individual's perception of how long the adversity and its consequences will last.

Together, these dimensions offer a structured and comprehensive lens through which personal resilience can be evaluated, one that extends beyond traditional measures of cognitive (IQ) or emotional (EQ) capacities. Hence, AQ provides a more holistic understanding of human potential by emphasizing the ability not only to withstand hardship but also to adapt and grow from it.

The CO²RE model aligns with contemporary frameworks in Human Resource Development (HRD) and Positive Organizational Behavior (POB), particularly the concept of Psychological Capital (PsyCap) proposed by [Luthans et al. \(2007\)](#). PsyCap encompasses four key components: hope, efficacy, resilience, and optimism. AQ complements these constructs by focusing on how individuals respond to both acute and prolonged stress, making it applicable to academic, organizational, and leadership contexts.

In the face of global challenges characterized by VUCA volatility, uncertainty, complexity, and ambiguity, recent research has revisited AQ as a crucial link between personal traits and adaptive capacity ([Shin et al., 2022](#); [Lin et al., 2020](#)). In such environments, the ability to regulate emotions, maintain motivation, and recover from setbacks has become an essential determinant of individual and organizational success.

A growing body of literature has demonstrated that AQ is significantly associated with academic achievement, particularly in demanding educational settings where students face high expectations, strict deadlines, and intense workloads. Researchers such as [Thomas and Chan \(2021\)](#) and [Syed et al. \(2020\)](#) have argued that academic performance should no longer be viewed solely as a cognitive outcome; rather, resilience-based competencies such as adaptability, emotional regulation, and perseverance play an equally critical role in determining success.

A synthesis of empirical studies reveals consistent findings: students with higher AQ levels tend to exhibit greater learning engagement, emotional regulation during academic stress, and persistence in the face of failure. For instance, [Wang and Zheng \(2019\)](#) found that AQ positively predicts learning engagement and mediates the relationship between stress and academic self-efficacy. Similarly, [Ismail et al. \(2021\)](#) reported that AQ acts as a psychological buffer against academic stress, helping students manage heavy workloads and maintain productivity under pressure.

Beyond short-term academic success, AQ has been conceptualized as a form of internal capital, comparable to grit or perseverance, which supports long-term educational outcomes such as retention, motivation, and sustained performance. This underscores the importance of integrating AQ development into broader educational and training strategies, ensuring that students are not only intellectually capable but also psychologically resilient.

In high-intensity and fast-paced academic environments such as accelerated programs, medical education, or dual-degree structures, students experience heightened levels of stress and limited recovery time. These environments mirror the dynamics of organizational contexts marked by rapid change and performance-driven cultures. As such, AQ serves as a vital construct bridging

academic and professional development ([Pulakos et al., 2015](#)).

Within the Sarmag program at Gunadarma University, students are required to complete both a bachelor's and a master's degree within a compressed timeframe using a trimester system. This educational structure demands not only intellectual competence but also a high degree of emotional endurance, time management, and stress tolerance. In this context, AQ becomes a crucial psychological resource that enables students to remain productive, emotionally balanced, and academically successful despite intense academic demands.

From an HRD perspective, such educational contexts reflect real-world organizational environments, where employees are required to perform under pressure and adapt to uncertainty. [Lin et al. \(2020\)](#) argued that resilience training, particularly that grounded in AQ dimensions, can enhance adaptability, increase performance sustainability, and reduce burnout in both academic and professional settings.

Positioning AQ within the broader HRD framework highlights its relevance to leadership development, talent management, and human capital resilience. AQ represents a foundational skill set that aligns with the concept of resilience-based leadership, leaders who not only survive adversity but also grow through it while empowering others to do the same ([Youssef & Luthans, 2012](#)).

For higher education institutions and HRD practitioners, AQ serves as a predictive model for identifying and nurturing individuals with strong leadership potential. Its applications are wide-ranging, from curriculum design and coaching or mentoring programs to organizational interventions aimed at enhancing adaptability and stress management. Through such initiatives, educational institutions and organizations can cultivate individuals equipped to handle challenges with composure and strategic thinking.

Furthermore, the CO²RE framework provides a theoretical bridge between individual psychological processes and organizational performance outcomes. By integrating AQ development into academic and professional training programs, institutions can better prepare individuals to thrive in uncertain, high-pressure environments both within the university and beyond.

In conclusion, existing literature converges on the view that Adversity Quotient (AQ) is a multidimensional construct capable of predicting performance, perseverance, and growth under pressure. When analyzed through Stoltz's CO²RE model, AQ demonstrates strong alignment with contemporary theories in HRD, organizational leadership, and educational resilience. Nevertheless, further empirical research is required to validate these relationships in high-intensity academic settings, such as accelerated programs like Gunadarma University's Sarmag.

This study seeks to address that gap by exploring the predictive role of AQ in academic achievement, as well as its broader implications for leadership readiness and human capital development in the context of rapid educational and organizational transformation.

RESEARCH METHOD

This study employs an explanatory quantitative research design, aiming to test and explain the causal relationship between the Adversity Quotient (AQ) and academic achievement among Sarjana-Magister (Sarmag) students at Gunadarma University. An explanatory design was chosen because it not only describes the phenomena but also seeks to determine and explain the extent to which changes in one variable (AQ) influence another variable (academic achievement).

The quantitative approach provides two primary contributions: theoretical and practical. From a theoretical perspective, this study seeks to validate the personal resilience model proposed by [Stoltz \(2000\)](#) within an academic context. The model posits that an individual's ability to cope with adversity (adversity quotient) significantly affects their performance across various domains, including academic performance.

From a practical perspective, the findings are expected to offer insights into educational institutions and human resource development (HRD) units in formulating strategies to strengthen student resilience, motivation, and learning outcomes through resilience-building and adaptive learning programs.

The population of this study comprises all Sarjana-Magister (Sarmag) students at Gunadarma University, class of 2012, totaling 70 individuals. Given the relatively small and accessible population, this study employs a saturated sampling technique (census sampling), where all members of the population are included as research subjects.

This method ensures that the results accurately represent the entire population and eliminates sampling bias. Moreover, using a saturated sample enhances statistical power for simple linear regression analysis, increases internal validity, and strengthens external generalizability within this specific population of postgraduate students.

The study utilizes both primary and secondary data to achieve a comprehensive understanding of the research variables. Primary data were collected using a modified Adversity Quotient (AQ) questionnaire, structured on a five-point Likert scale to assess students' resilience levels in an academic setting. The instrument was adapted from [Stoltz's \(2000\)](#) AQ framework to reflect academic challenges commonly faced by Sarmag students, such as workload pressure, thesis completion, time management, and balancing work-study commitments.

The AQ instrument is based on the CO²RE model, consisting of four key dimensions:

- Control (C): the degree to which individuals perceive control over adverse situations.
- Origin and Ownership (O²): the extent to which individuals recognize the source of adversity and take responsibility for it.
- Reach (R): how far adversity extends to other areas of life.
- Endurance (E): the perceived duration of the adversity or difficulty.

Respondents rated each statement on a scale from 1 ("strongly disagree") to 5 ("strongly agree"), with higher scores indicating a higher level of resilience.

Secondary data were obtained from official university academic records, specifically the students' Cumulative Grade Point Average (GPA), which serves as an objective measure of academic achievement. Data was collected through formal coordination with the university's academic administration after obtaining institutional approval.

The data collection process followed ethical research standards. The researcher first requested formal permission from the university, coordinated with the academic administration to access the student list, and then distributed the AQ questionnaires directly to the respondents. All participants were informed about the purpose of the study, assured of data confidentiality, and given clear instructions for completing the questionnaire. All data were treated confidentially and used solely for academic research purposes.

The collected data were analyzed using simple linear regression analysis to examine the causal effect of the Adversity Quotient (independent variable) on academic achievement (dependent variable). This analysis aims to determine the extent to which variations in AQ scores predict variations in students' GPAs.

In addition, Pearson Product-Moment Correlation analysis was conducted to measure the strength and direction of the relationship between the two variables. The correlation coefficient (*r*) indicates whether the relationship is positive, negative, or statistically insignificant.

Before performing the main analyses, several assumption tests were conducted, including normality, linearity, and homogeneity tests, to ensure that the data met the necessary requirements for regression analysis.

All statistical procedures were performed using appropriate software (e.g., SPSS or equivalent) to guarantee accuracy, validity, and reliability of the results. Through this analytical process, the study aims to provide a robust empirical understanding of how students' resilience reflected in their Adversity Quotient, affects their academic performance. The findings are expected to contribute both theoretically, by reinforcing the resilience-performance linkage in higher education contexts, and practically, by offering evidence-based guidance for developing student support and academic resilience programs.

FINDINGS AND DISCUSSION

Demographic Profile of Respondents

Table 1. Demographic Characteristics of Respondents (N = 70)

Demographic Variable	Category	Frequency	Percentage (%)
Gender	Male	28	40.0
	Female	42	60.0
Residence	Urban	40	57.1
	Rural	30	42.9
Ethnicity	Javanese	50	71.4
	Non-Javanese	20	28.6
Study Time	< 4 hours/day	33	47.1
	≥ 4 hours/day	37	52.9
Social Support	Low	25	35.7
	High	45	64.3

The demographic characteristics of the 70 respondents who participated in this study. The variables include gender, residential area, ethnicity, study time per day, and perceived social support. Analyzing these characteristics provides an overview of the respondents' profiles and helps contextualize potential influences on their Adversity Quotient (AQ) and academic achievement.

Gender

The results indicate that most respondents were female (60.0%), while 40.0% were male. This predominance of female students suggests that women represent a larger proportion of participants in the Sarjana-Magister (Sarmag) program at Gunadarma University.

This finding aligns with broader trends in Indonesia, where female participation in higher education has steadily increased over the past decade. Such participation may reflect a strong intrinsic motivation among female students to pursue academic and professional development. In the context of this study, female students often exhibit higher levels of perseverance, adaptability, and emotional resilience, which are key components of Adversity Quotient (AQ). Therefore, gender differences may contribute to variations in how students respond to academic challenges and maintain consistent performance under pressure.

Residence

In terms of residence, 40 students (57.1%) lived in urban areas, while 30 students (42.9%) came from rural regions. This distribution indicates that more than half of the respondents reside

in environments with better access to educational facilities, information technology, and academic resources.

Urban settings generally provide advantages in terms of access to libraries, stable internet connections, and active academic communities. Such access can facilitate effective learning, time management, and academic collaboration. On the other hand, students from rural areas may have developed a stronger sense of independence, adaptability, and persistence due to environmental constraints, qualities that directly contribute to a higher Adversity Quotient (AQ). Thus, both groups potentially exhibit distinct, yet valuable forms of resilience shaped by their living environments.

Ethnicity

The findings reveal that most respondents (71.4%) were Javanese, while 28.6% were from non-Javanese ethnic groups. This distribution is consistent with the demographic composition of Gunadarma University's student population, given its location in a region with a large Javanese community.

The Javanese cultural background is often associated with values such as hard work, patience, perseverance, politeness, and responsibility. These cultural traits may positively influence students' academic behaviors and their ability to endure difficulties key dimensions of resilience and AQ. Moreover, ethnic diversity among students contributes to a richer learning environment, allowing for a variety of coping strategies and problem-solving approaches in facing academic challenges.

Study Time per Day

Regarding daily study habits, 37 respondents (52.9%) reported studying four hours or more per day, while 33 respondents (47.1%) studied for less than four hours per day. This finding suggests that more than half of the students demonstrate a strong academic commitment and time discipline by dedicating substantial time to their studies. A longer study duration often correlates with improved comprehension, better academic performance, and stronger self-regulation qualities associated with the Control and Endurance components of the CO²RE framework in [Stoltz's \(2000\)](#) model of Adversity Quotient.

Students who maintain consistent study routines tend to exhibit greater academic resilience, as they are better prepared to manage academic stress, handle workloads, and recover from setbacks such as poor test results or thesis-related difficulties. Hence, study time may serve as both a behavioral indicator and a practical contributor to higher AQ and academic success.

Social Support

The last variable examined is social support, where 45 respondents (64.3%) reported high levels of social support, while 25 respondents (35.7%) indicated low support levels. High social support, whether from family, friends, or peers, plays a crucial role in maintaining emotional stability and psychological well-being, especially among students facing intense academic pressures. Social support acts as a protective factor, buffering the negative effects of stress and fostering persistence in overcoming obstacles.

Students with strong social networks are generally more motivated, confident, and optimistic, allowing them to handle challenges with greater resilience. Conversely, those with lower social support may experience heightened stress, decreased motivation, and lower academic performance. Thus, the social environment significantly influences not only emotional well-being but also students' capacity to develop and sustain a strong Adversity Quotient (AQ).

The demographic analysis reveals that most Sarmag students at Gunadarma University (class of 2012) possess characteristics that support strong academic engagement and psychological resilience. The profile of respondents, predominantly female, urban-based, Javanese, with longer

study hours and high social support, reflects a combination of personal and contextual factors conducive to academic success.

These factors are likely to positively influence both AQ and academic achievement. Cultural values emphasizing perseverance, access to academic resources, and supportive social environments create a foundation for adaptive coping and sustained academic performance. Consequently, demographic characteristics should be considered as contextual variables that interact with psychological constructs like AQ in shaping students' academic outcomes.

Descriptive Statistics of Main Variables

Table 2. Descriptive Statistics for AQ and GPA

Variable	Mean	Standard Deviation (SD)	Minimum	Maximum
Adversity Quotient	75.4	8.6	58	92
GPA (Cumulative)	3.45	0.31	2.85	3.95

Table 2 presents the descriptive statistics for the two main variables in this study: Adversity Quotient (AQ) as the independent variable and Cumulative Grade Point Average (GPA) as the dependent variable. Descriptive statistics provide a general overview of the central tendency and variability of the data, illustrating the overall pattern of respondents' performance and psychological resilience.

Adversity Quotient (AQ)

The mean score of 75.4 indicates that, on average, Sarmag students at Gunadarma University possess a high level of Adversity Quotient (AQ). This suggests that most students demonstrate strong resilience, persistence, and the ability to cope effectively with academic challenges and stress. A mean value above the mid-point of the measurement scale reflects a positive tendency toward adaptive coping behaviors and emotional endurance.

The standard deviation of 8.6 implies a moderate variation among respondents in terms of their AQ scores. This means that while most students exhibit a relatively high level of resilience, there are observable individual differences; some students are significantly more adaptive and persistent, while others may experience greater difficulty managing academic adversity.

The AQ scores range from 58 to 92, indicating that none of the respondents fall into an extremely low or extremely high range of resilience. Students with AQ scores approaching 92 can be categorized as highly resilient individuals with strong coping mechanisms, whereas those closer to 58 may require additional support to strengthen their academic persistence and stress tolerance.

Grade Point Average (GPA)

The average cumulative GPA of 3.45 shows that the respondents generally achieved good to very good academic performance. This score exceeds the standard minimum graduation threshold (typically 2.75–3.00 in most universities), suggesting that most students have performed consistently well in their coursework.

The GPA standard deviation of 0.31 indicates a low degree of variability among students' academic achievements. This means that most respondents have relatively similar GPA values, reflecting consistent academic outcomes across the sample. Such homogeneity may also imply stability in instructional quality and student capability within the program.

The GPA range of 2.85 to 3.95 suggests that all respondents maintain satisfactory academic performance, with none classified as low achievers. Several students achieved near-perfect GPAs,

reflecting high levels of academic excellence and sustained effort throughout the program.

The descriptive statistics suggest that the respondents exhibit high resilience (AQ) and strong academic achievement (GPA). The moderate variation in AQ scores implies that students differ in how they handle academic stress and challenges, while the low variation in GPA reflects a relatively uniform level of achievement.

These findings provide preliminary evidence supporting the assumption that students with higher levels of Adversity Quotient tend to achieve better academic outcomes. This relationship is further examined through simple linear regression and Pearson product-moment correlation analyses in the subsequent section of this study.

These values suggest that students generally demonstrate a high AQ and GPA, with sufficient variation to justify correlation analysis.

Classical Assumption Tests

Normality Test (Kolmogorov-Smirnov):

1. AQ: $p = 0.122 \rightarrow$ data normally distributed
2. GPA: $p = 0.074 \rightarrow$ data normally distributed

Homoscedasticity

Scatterplot of residuals showed random distribution $\rightarrow$ assumption met

Both assumptions were satisfied, making the data suitable for linear regression analysis.

Regression Analysis

Table 3. Simple Linear Regression Results: AQ as a Predictor of GPA

Model Summary	R	R ²	Adjusted R ²	F	Sig.
	0.371	0.138	0.125	10.84	0.002

Table 4. Regression Coefficients

Variable	B	Std. Error	t	Sig.
Constant	2.582	0.254	10.17	0.000
Adversity Quotient	0.012	0.004	3.29	0.002

Interpretation of Results

The results show that Adversity Quotient significantly predicts students' GPA. The R² value of 0.138 means that AQ explains 13.8% of the variance in academic performance (GPA) among Sarmag students. The remaining 86.2% is likely explained by other factors such as IQ, EQ, study habits, motivation, and support systems.

The positive coefficient ($B = 0.012$) indicates that for every one-point increase in AQ, a student's GPA is predicted to increase by 0.012 points.

Discussion

Although AQ accounts for only a modest proportion of GPA variance (13.8%), this finding supports the theoretical relevance of personal resilience in high-pressure academic environments. It aligns with studies (e.g., [Thomas & Chan, 2021](#); [Syed et al., 2020](#)) that identify AQ as a crucial non-cognitive factor in academic success.

Theoretical Implications

This study reinforces AQ as a bridge between IQ and EQ in the context of higher education. It contributes to the body of knowledge in HRD and resilience-based leadership frameworks, particularly emphasizing [Stoltz's \(2000\)](#) CORE framework (Control, Ownership, Reach, Endurance) as a robust model for predicting performance in stressful learning environments.

Practical Implications

Educational institutions can use these findings to design AQ development interventions, including resilience training, academic coaching, and psychological support programs. For HRD practitioners, AQ represents a key trait for talent development and leadership potential, especially in dynamic, high-stakes environments.

Limitations and Future Research

While the relationship between AQ and GPA is significant, the relatively low R^2 suggests other influential factors not captured in this study. Possible limitations include:

1. Sample homogeneity (same year, same institution),
2. Cultural factors (collectivist norms, family pressure),
3. Uncontrolled mediating variables (study strategies, self-regulation).

Future research should:

1. Include diverse samples across institutions,
2. Test mediating/moderating effects (e.g., motivation, time management),
3. Explore longitudinal impacts of AQ on academic persistence and leadership readiness.

DISCUSSION

This study investigated the predictive role of Adversity Quotient (AQ) on academic performance among Sarmag students at Gunadarma University. The results showed a statistically significant but modest effect, with AQ explaining 13.8% of the variance in GPA ($R^2 = 0.138$), indicating that additional factors such as cognitive strategies, social support, or institutional quality likely mediate student outcomes.

Refining Scale Validity for the New Context

The adaptation of the AQ instrument followed best practices in psychometric validation, drawing on methodologies such as the Rasch model used by Frontiers in Public Health for pre-service teachers (e.g., testing item fit, unidimensionality, reliability, separation index). Specifically, adapting the AQ scale involved expert consultation for content validity and subsequent pilot testing to assess internal consistency (Cronbach's Alpha ≥ 0.70).

Interpreting the Modest Predictive Power of AQ

Although AQ was a significant predictor of GPA, its explanatory scope remains limited (13.8%). This finding aligns with emerging literature that frames academic resilience as a part of a broader network of academic success, not a solitary determinant (e.g., self-regulated learning, grit, motivation, and teacher support)

For instance, [Cai and Meng \(2025\)](#) demonstrated that teacher support mediates the relationship between academic resilience and performance, pointing to external resources' pivotal role. Additionally, a diary study found that weekly resilience improves academic performance through self-regulation behaviors, with stronger effects observed for students possessing high grit

and social support.

Theoretical and Practical Implications

Theoretical Expansion

This study confirms that AQ, grounded in Stoltz's CORE model, is a foundational component of the resilience construct in educational settings. However, academic performance emerges as a multidimensional construct in which self-efficacy, grit, motivation, and social support interact dynamically with resilience to influence outcomes.

Practical Relevance

Educational institutions and HRD practitioners should design multi-component interventions. Enhancing AQ alone may improve resilience, but integrating training on self-regulation, fostering grit and motivation, and strengthening support networks (e.g., teacher mentoring, peer groups) may yield more comprehensive gains in academic achievement.

Limitations and Contextual Insights

The modest effect size suggests inclusion of potential mediators or moderators is necessary in future research. Such variables may include cultural dimensions such as collectivist norms impacting stress responses or variations in learning strategies and institutional support that were not captured in this study.

Future studies should also use longitudinal designs to assess how AQ relates to GPA over time, and possibly incorporate network analyses to identify active pathways through which AQ influences achievement.

CONCLUSIONS

Based on the results of this study examining the relationship between Adversity Quotient (AQ) and academic achievement among Sarmag students at Gunadarma University, it can be concluded that AQ has a statistically significant, albeit modest, contribution to academic performance. The analysis revealed an R^2 value of 0.138, indicating that AQ accounts for 13.8% of the variance in students' Grade Point Average (GPA). This supports the initial hypothesis that AQ contributes to academic achievement. However, it also highlights that the remaining 86.2% is influenced by other factors outside the scope of this study, such as cognitive ability, learning strategies, social support, and institutional conditions.

This study reinforces the relevance of AQ as part of a broader framework of psychological resilience and non-cognitive capabilities that support student success in high-pressure academic environments, such as the intensive Sarmag program. It affirms the importance of equipping students with not only cognitive skills but also the mental toughness, perseverance, and adaptive capacity that are embodied in AQ.

LIMITATION & FUTURE RESEARCH RECOMMENDATIONS

Study Limitations

This study recognizes several key limitations that should be considered when interpreting the findings. Acknowledging these constraints ensures methodological transparency and aligns with the expectations of rigorous academic research:

1. **Limited Sample Size**

The study utilized a saturated sample of 70 students enrolled in the Sarmag (accelerated Bachelor–Master) program at Gunadarma University. While this approach enabled a

focused investigation, the relatively small sample limits the statistical power and generalizability of the findings to a broader student population.

2. Contextual Limitation – Single Institution

All respondents were drawn from a single university. This limits institutional diversity and prevents the findings from being generalized to students in other academic settings, who may experience different levels of pressure or support.

3. Cross-Sectional Design

The cross-sectional design captures data at a single point in time, which prevents the establishment of causal relationships. Longitudinal trends in AQ and academic performance remain unexplored.

4. Self-Reported AQ Measurement

The research relied on self-reported Likert-scale responses to measure Adversity Quotient. This introduces potential bias, including social desirability effects and discrepancies between perceived and actual adversity management behaviors.

5. Single Predictor Variable (AQ)

The study exclusively examined AQ as a predictor of academic achievement. The resulting R^2 value of 0.138 indicates that AQ explains only 13.8% of the variance in GPA, highlighting the influence of other unexplored variables such as motivation, learning strategies, and institutional factors.

Scope and Instrument Limitations

- Scope of Research Subjects

The research was limited to Sarmag students at one institution. This narrow scope reduces external validity. Future studies should include more diverse academic programs (e.g., regular undergraduate, postgraduate, vocational), universities, and cultural contexts.

- Instrument Adaptation and Validation

Although the AQ scale was adapted for this study, further validation procedures (such as back-translation, pilot testing, and confirmatory factor analysis) are recommended to ensure its psychometric robustness in the Indonesian academic context.

Practical Implications for Stakeholders

- For Students:

Students should be encouraged to strengthen their Adversity Quotient through resilience-building activities such as mindfulness, coaching, or time management workshops to better manage academic stress.

- For Parents

Emotional and motivational support from parents plays a crucial role in developing student resilience. Parents should foster a growth mindset and help students persevere through academic challenges.

- For Educators and Institutions

Universities, especially those offering accelerated or intensive programs, should integrate AQ development into student support systems. Structured programs that focus on resilience, stress management, and adaptability can improve student performance.

- For the Community

Public awareness campaigns and community programs should promote values such as persistence, learning from failure, and emotional resilience to support both academic and life success.

Recommendations for Future Research

To build a more comprehensive and nuanced understanding of AQ's role in academic settings, future research is encouraged to:

1. **Expand Sample Size and Diversity**
Include larger and more heterogeneous samples across faculties, institutions, and geographic regions to improve generalizability and external validity.
2. **Employ Longitudinal and Mixed-Methods Designs**
Longitudinal designs can capture how AQ and academic performance evolve over time, while mixed-methods approaches can provide richer insights into student experiences and coping mechanisms.
3. **Incorporate Additional Variables**
Future studies should examine the role of other predictors and mediators/moderators of academic success, including:
 - Academic motivation
 - Self-regulated learning strategies
 - Social support (peer, family, faculty)
 - Socioeconomic status
 - Self-leadership skills
 - Psychological well-being and stress levels
4. **Use Triangulated and Objective Data Sources**
To reduce reliance on self-report data, future research should incorporate multiple data sources, including behavioral observations, academic records, interviews, or third-party assessments.
5. **Integrate Broader Theoretical Frameworks**
Embedding AQ within established models such as Psychological Capital (PsyCap), Luthans' resilience framework, or Self-Determination Theory (SDT) may yield deeper theoretical insights into how AQ interacts with other personal and contextual factors in shaping academic outcomes.

REECOMENDATIONS

1. **For Students:** Students participating in the Sarmag program are encouraged to actively develop their Adversity Quotient through resilience-building practices, mindset training, and self-reflection. Cultivating AQ can enhance their ability to cope with academic challenges and maintain motivation under pressure.
2. **For Parents:** Parents play a vital role in supporting the psychological development of their children. By offering emotional support, encouragement, and open communication, parents can contribute to strengthening their child's AQ, thus indirectly supporting their academic achievement.
3. **For Educators and Institutions:** Educational institutions should consider incorporating AQ development into student development programs through workshops, mentoring, or counseling services that emphasize resilience, stress management, and goal persistence.
4. **For Society and Community Stakeholders:** The community at large should recognize that success is not solely determined by intelligence or emotional control, but also by an individual's ability to overcome adversity. Encouraging a growth mindset, celebrating resilience, and supporting those who rise from failure can foster a more empowered and achievement-oriented generation.

FINAL REFLECTION

While AQ alone does not fully predict academic success, it is a critical psychological resource that enables students to navigate academic and personal challenges with determination and adaptability. Future research should explore how AQ interacts with other psychological and contextual variables, such as grit, motivation, and social support, to produce a more comprehensive model of academic success in high-demand educational settings.

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