

GRIT, ACADEMIC RESILIENCE AND BURNOUT AMONG UNIVERSITY STUDENTS



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BAHRIA UNIVERSITY LAHOR CAMPUS

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A thesis submitted in fulfillment of the
requirements for the award of the degree of
Bachelor of Science (Psychology)

Department of Professional Psychology

BAHRIA UNIVERSITY LAHORE CAMPUS

December 2025

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Dedication

I dedicate this research to Allah Almighty for His guidance and strength. I sincerely thank my mentor, Ms. Saima Bano, for her invaluable guidance and support throughout this research. I am also grateful to my teachers and siblings for their encouragement and motivation. With deepest love and gratitude, I dedicate this work to my parents, whose unwavering support and sacrifices made this achievement possible.

Acknowledgements

First and foremost, I am deeply obliged to Almighty Allah for instilling within me the force, wisdom, and steadfastness to accomplish this research work.

I am deeply thankful to my supervisor, Ms. Saima Bano, for the valuable direction, inspiration, and expertise. Continuous support and constructive feedback enabled me to shape this piece of research.

I would like to thank my family for having given me unconditional love, patience, and showing belief in me.

I would also like to thank my friends and peer group for having stood by me when things went wrong and providing them with their support and assurance when it mattered most.

Last but not the least, I would be remiss to mention here that without participants and their institutions, this research wouldn't have been possible. Thanks to everyone for making me a part of this journey and for helping me.

Thanks to everyone for being a part of this journey and helping me turn my vision into reality.

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List of Symbols

N	Sample size
M	Mean
SD	Standard deviation
df	Degrees of freedom
r	.....	Pearson product–moment correlation coefficient
F	.....	F-statistics
b	.....	Unstandardized regression coefficient (slope)
R ²	.....	Coefficient of determination
p	.....	Probability value (significance level)

List of Abbreviations

BS	Bachelor of Science
MS	Master of Science
Grit-S	Short Grit Scale
ARS-30	Academic Resilience Scale (30-item version)
BAT-S	Burnout Assessment Tool – Student Version
BAT	Burnout Assessment Tool (original work-context version)
GPA	Grade Point Average
SPSS	Statistical Package for the Social Sciences
SD	Standard Deviation
SD-R	Study Demands–Resources framework
PROCESS	PROCESS macro (Model 4) for mediation analysis in SPSS
COVID-19	Coronavirus Disease 2019

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Abstract

University students increasingly face demanding academic environments that may expose them to psychological strain and burnout. Positive psychological resources such as grit and academic resilience are thought to buffer these effects, yet their combined role in early-semester undergraduates remains underexplored in the local context. The present study examined the relationships between grit, academic resilience and burnout among first- to fourth-semester BS students and tested whether academic resilience mediates the relationship between grit and burnout.

It was a correlational, cross-sectional and quantitative design. The sample was composed of 300 BS students (1st to 4th semester) of selected public and private universities. The demographic sheet, the Grit-S Short Grit Scale (Grit-S), the Academic Resilience Scale (ARS-30), and the Burnout Assessment Tool -Student Version (BAT-S) were used to collect the data. The internal consistency of all the instruments was excellent ($\alpha = .91$ grit, $\alpha = .98$ academic resilience, $\alpha = .97$ burnout). The analysis of the data was performed in SPSS with the application of descriptive statistics, Pearson correlation, multiple regression and mediation analysis (PROCESS, Model 4 with bootstrapping). The findings revealed that there were moderate grit and academic resilience and burnout in the sample with significant person to person variation. Grit had a positive correlation with academic resilience and negative correlation with burnout whereas academic resilience had a strong negative correlation with burnout. A combination of grit and academic resilience attributed about 47 percent of the variance in burnout with both variables playing a significant unique role. Mediation analysis has found the relationship between grit and burnout mediated by academic resilience: the higher the grit of the student, the more he is prone to report higher academic resilience, which subsequently is linked to reduced burnout.

The results are that grit and academic resilience are valuable protective variables against burnout among first-semester BS students. The research indicates that there is a necessity of university policies and interventions that strategically promote persistence of long-term academic objectives and enhance the ability of students to respond positively to academic failures.

Chapter 1

Introduction

1.1 Background of the Study

University education has been more competitive and demanding over the past few years making students work under heavy course loads, constant assessment, and indecisiveness about their future careers. This is particularly high among undergraduates who are in early semesters and are still acclimatizing to university life, academic pressures and new social setups. It has been documented all over the world that there is a significant psychological burden among the university students which can be seen in stress, anxiety and burnout and that this burden is more evident in low-income and middle-income countries where academic and financial demands tend to be combined. A comprehensive study of burnout among students of universities in this situation, conducted systematically, revealed that about one in every eight students had the characteristics of burnout, which demonstrated the extent of the issue in this type of learning environment (Kaggwa et al., 2021).

Burnout has become a major issue when it comes to the topic of student well-being and academic achievement. It is defined as a syndrome, which is typified by emotional burnout due to academic demands, psychological detachment or cynicism towards academics and a sense of decreased academic effectiveness. Recent reviews have underscored student burnout as not a medical or professional programme only phenomenon; it has been found to impact various student groups in different disciplines with different educational systems (Chong et al., 2025). Students who are burned out tend to complain of less academic satisfaction, low grades, more intention to

drop studies and higher vulnerability to mental health problems. Subsequent longitudinal and cross-sectional studies that followed the COVID-19 pandemic also present proof that burnout is linked to victimization, uncertainty and emotional challenges experiences, which further prove the notion that burnout is a severe danger to the functioning of university students (Zhang et al., 2025).

In order to measure this phenomenon properly within the context of student groups, special measuring instruments are created. The Burnout Assessment Tool of Students (BAT-S) is one of the more recent tools, and it conceptualises burnout as a higher-order construct which consists of exhaustion, mental distance, cognitive impairment and emotional impairment. Undergraduate students have been found through validation work to have reliable and valid scores that do increase in the level of burnout with higher academic demands and reduced perceived academic resources (Carmona-Halty et al., 2024). These results highlight the point that burnout is not a personal weakness but a combination of personal traits and the learning environment.

Contrary to burnout, academic resilience is a positive process of adapting that allows students to react favorably to academic stress, disappointment and misfortune. Resilience in university context is regularly defined as an ability to recover following academic obstacles and stay or recuperate with adequate functioning and interest. A model of integrative process of academic resilience developed by Fullerton and colleagues (2021) implies that the resources of resilience (optimism, self-efficacy and social support) determine the coping strategies, which then affect the well-being and adjustment of students. It is on this basis that resilient students have a better chance of employing adaptive coping, remain focused in their studies, and have less adverse effects when stressed by academic work.

The study of academic resilience's protective effect on burnout in the post-COVID-19 era is emphasized with the benefit of empirical evidence continuously. Indicatively, one study of international university students in Taiwan revealed that academic resilience was positively related to both burnout and mental health in the new normal of post-pandemic higher education (Tran et al., 2023). Likewise, an investigation of employed students indicated that academic resilience along with self-efficacy had a negative correlation with burnout, which means that more resilient students can effectively handle the working and studying pressures (Weny et al., 2024). Social support has also been identified to improve academic resilience among undergraduates in a Pakistani context, indicating that family, peer and institutional support can assist students in responding to academic stressor better (Saleem et al., 2024). Collectively, this literature makes academic resilience a relevant protective variable in explaining why some students succeed in the face of pressure, and others burn out.

In addition to resilience, grit has received increasing interest as a non-cognitive trait that could be used to explain the differences in academic persistence and burnout susceptibility between individuals. The concept of grit is generally considered as a blend of perseverance of effort and consistency of interest in long-term objectives. The recent studies in psychometrics indicate that the Short Grit Scale (Grit-S) can be reliably used with populations of higher learning and, therefore, to investigate the grit of university students (Young and Archer, 2023). Research has indicated that gritty students are better placed to maintain perseverance to the long run, have focused academic objectives inspite of adversity, and demonstrate higher levels of persistence when faced with failure or stunted developments.

There is growing evidence that grit can be a protective element in the stress burnout academic relationship. Studies of Chinese college students have shown that grit moderates the effect of language-learning stress on academic performance through burnout reduction, indicating that more gritty students are able to work and stay engaged during stress (Xu et al., 2022). Longitudinal studies have also suggested that grit, along with self-efficacy and resilience, mediates the relationship showing a mutual change between grade point average (GPA) and burnout with time, which means that gritty and resilient students are less likely to develop a downward spiral of decreasing performance and worsening exhaustion (Puah et al., 2024). These results suggest grit as a valuable interior resource that can interrelate with resilience to create student experiences of academic demands.

A smaller but growing body of research has begun to explore grit and academic resilience together. In Pakistan, a correlational study among university students reported a significant positive association between grit and academic resilience, suggesting that students who persist with long-term goals also tend to adapt more effectively to academic challenges (Saifullah et al., 2022). Another Pakistani study focusing on accountancy students found that grit was positively related to academic resilience and negatively related to burnout, and that resilience partially mediated the relationship between grit and burnout (Khan et al., 2023). These findings are particularly relevant because they suggest a pathway through which personality-like traits such as grit may reduce burnout: gritty students may develop or mobilise higher academic resilience, which in turn protects them from exhaustion and cynicism.

Despite these advances, several gaps remain. Much of the existing literature has focused on specific professional programmes (such as medicine and nursing) or on senior-year students,

while comparatively less attention has been given to early-semester undergraduates who are still in the process of adapting to university demands. Contemporary reviews emphasise that student burnout is influenced by a complex mix of academic workload, assessment pressure, personal resources and contextual factors, and that these influences may vary across years of study and local contexts (Chong et al., 2025). In settings similar to Pakistan, where young students often juggle family responsibilities, economic concerns and high expectations for academic success, examining the combined role of grit and academic resilience in relation to burnout is particularly important. However, there is still limited empirical work that simultaneously investigates grit, academic resilience and burnout within a single model, especially with a focus on first- to fourth-semester BS students from both genders and across different disciplines.

The present study is situated within this emerging field. By focusing on grit, academic resilience and burnout among early-semester university students, it responds to calls for more context-specific research that integrates personal and protective factors to understand student well-being. Building on previous evidence that grit is associated with resilience and that resilience is negatively related to burnout, this study examines whether academic resilience mediates the relationship between grit and burnout in a broader undergraduate sample. In doing so, it aims to contribute to a more comprehensive understanding of how internal strengths can be fostered in young university students to mitigate burnout and support sustainable academic engagement.

1.2 Problem Statement

There is a growing exposure of university students to challenging academic environments, grading systems of great systems and also uncertainty of the careers they are going to join. Such pressures become particularly acute among students during their first semester studies in their

undergraduate degrees as they struggle to adapt to new teaching techniques, increased workload and new social identities. Long-term exposure to such stressors may also be a cause of burnout, that is depicted by emotional depletion, psychological detachment towards studies and perceived low academic effectiveness. Burnout, in its turn, can have an adverse impact on the performance of students, their satisfaction with their studies, and with their psychological state in general.

Simultaneously, academic stress does not affect all students similarly. Such psychological resources as grit and academic resilience can be used to justify the fact that some students are able to remain engaged and motivated and others burn out. Grit is a trait of persistence and striving towards long-term objectives whereas academic resilience is the ability of the students to respond positively and rebound after failure or stress in academics. Although both constructs have been studied separately in relation to academic outcomes, there is still limited empirical work that examines how they jointly influence burnout, particularly in non-Western and developing-country contexts.

Existing studies tend to focus on specific professional programmes or senior students, leaving a gap in understanding the experience of early-semester undergraduates from diverse disciplines. Moreover, while some evidence suggests that resilient students are less likely to experience burnout and that gritty students tend to persist under pressure, the mechanism through which grit may reduce burnout has not been thoroughly examined. In particular, it remains unclear whether academic resilience functions as a mediating variable that explains how grit is linked to lower burnout. There is a need to investigate the levels of grit, academic resilience and burnout, and to examine their interrelationships, among first- to fourth-semester BS students. This study

seeks to address this gap by testing a model in which academic resilience mediates the relationship between grit and burnout in university students.

1.3 Objectives of the Study

- To examine the level of grit, academic resilience, and burnout among university students.
- To determine the relationship between academic resilience and burnout among university students.
- To explore how grit and academic resilience together influence burnout.
- To examine whether academic resilience mediates the relationship between grit and burnout among university students.

1.4 Research Hypotheses

- **H1:** There is a significant positive relationship between grit and academic resilience among university students.
- **H2:** There is a significant negative relationship between grit, academic resilience and burnout among university students.
- **H3:** Grit and academic resilience together significantly predict burnout among university students.
- **H4:** Academic resilience significantly mediates the relationship between grit and burnout, such that higher levels of grit are associated with lower burnout through higher academic resilience.

1.5 Significance of the Study

This study is significant at theoretical, practical and contextual levels. At the theoretical level, it contributes to the growing body of literature in positive psychology and educational psychology by jointly examining grit, academic resilience and burnout within a single conceptual model. Much of the existing research has focused on these constructs in isolation; by investigating them together, and specifically testing the mediating role of academic resilience between grit and burnout, the study provides a more integrated understanding of how personal strengths may protect students from negative academic outcomes. The use of established measures of grit, academic resilience and burnout further adds to the body of evidence regarding their applicability in a non-Western undergraduate population.

In practice, the results of the proposed study can be used to guide interventions to achieve the well-being and academic performance of students. In case it is determined that grit and academic resilience are protective elements against burnout, the university counselors, psychologists and student support services can implement programs to develop these qualities in undergraduates. These programs may involve goal setting, persistence, adaptive coping, and reframing academic failure workshops, and mentoring programs whereby encouragement and role models are given. Knowledge about the groups of students (such as specific semesters or demographic subgroups) with higher levels of burnout and lower levels of resilience can assist the institutions in identifying higher-risk students and can also help the institutions better allocate support.

Educational policy and practice wise, the study can inform the university administrators and faculty to develop learning environments that do not only focus on performance but also help

students to have psychological resources. The knowledge gained during this study can promote the incorporation of resilience-enhancing exercises in orientation programs, academic advising, and co-curricular programs more so to students in the first semesters who are still in the process of adjusting to the demands of university. The emphasis on the role of inner strengths like grit and resilience in the study has justified the necessity of enriching the conventional academic competencies with the elements of psychosocial support and personal growth programs.

Contextually, this research is important because it focuses on BS students in a specific cultural and educational setting, where academic pressures, family expectations and limited resources may intensify the risk of burnout. The findings can therefore provide locally relevant evidence for educators, policymakers and mental health professionals who seek to enhance student retention, engagement and well-being in similar university environments.

1.6 Delimitations / Scope of the Study

This study is delimited to a specific group of university students and a particular set of psychological variables. The target population consists of BS students enrolled in the 1st to 4th semesters only, reflecting early-stage undergraduates who are still adjusting to university life. Students from higher semesters (5th and above), postgraduate programmes, and diploma or professional training programmes are excluded. The sample is further restricted to students from selected public and private universities, and therefore the findings may not fully represent all institutions or regions.

The study focuses exclusively on three main constructs: grit, academic resilience, and burnout. Other important factors that might influence student well-being such as academic stress, social support, personality traits, family environment, or mental health history are not directly

measured and are therefore outside the scope of the present investigation. In the same way, the academic outcomes, including grade point average, academic performance or student engagement are not considered as independent variables, although they can be related to the constructs of interest.

The theoretical approach used in the study is quantitative, cross-sectional correlational. Self-report questionnaires are used to gather data at a single time, which is subject to social desirability, the immediate mood, or to subjectivity by the students in their interpretation of the questionnaire items. Consequently, the study can determine relationships and the possible mediation effects, but not cause-effect relationship between grit, academic resilience and burnout. The utilization of certain standardized measures the Short Grit Scale (Grit-S), the Academic Resilience Scale (ARS-30) and the Burnout Assessment Tool Student version (BAT-S) also constrains the method of measurement of the constructs. Other indicators of grit, resilience or burnout, or qualitative ones, can reveal more nuances that the current data does not denote. Therefore, these conceptual, methodological and population-based delimitations ought to be used in interpreting the results.

1.7 Operational Definitions of Key Terms

Grit

In this study, grit refers to students' perseverance and sustained effort toward long-term academic goals, even in the presence of setbacks or slow progress. Operationally, grit is measured through the Short Grit Scale (Grit-S), consisting of 8 items rated on a Likert-type scale. Each participant's grit score is obtained by summing or averaging item responses; higher scores indicate higher levels of grit in the academic context (cf. Young & Archer, 2023).

Academic Resilience

Academic resilience is defined as the capacity of students to adapt positively and “bounce back” from academic difficulties, failure, pressure or setbacks, while maintaining or regaining effective functioning in their studies. In this research, academic resilience is assessed using the Academic Resilience Scale (ARS-30). The total academic resilience score is calculated by summing or averaging responses to the 30 items, with higher scores reflecting greater academic resilience in dealing with university-related challenges (Fullerton et al., 2021).

Burnout

Burnout is conceptualised as a syndrome of exhaustion, mental distance from studies, cognitive difficulties and emotional impairment resulting from prolonged academic demands. Operationally, burnout is measured using the Burnout Assessment Tool – Student version (BAT-S). Students’ burnout levels are derived from their responses to the 12 items, with higher total or mean scores indicating higher levels of burnout (Carmona-Halty et al., 2024).

University Students (Early-Semester BS Students)

For the purpose of this study, “university students” specifically refers to male and female BS students enrolled in 1st, 2nd, 3rd, or 4th semester at selected public and private universities. Students outside these semesters or in other programmes are not included in the operational definition of the study population.

Chapter 2

Review of Literature

2.1 Introduction to the Chapter

University life is often idealised as a period of growth and opportunity, yet contemporary evidence shows that it is also marked by intense academic pressure, uncertainty and heightened psychological distress. Rising expectations, competitive grading, and transitions from school to university can erode students' emotional resources and increase the risk of burnout, particularly in the early semesters when students are still adapting to new demands and learning environments. Within this context, positive psychological constructs such as grit and academic resilience have attracted growing attention as possible buffers that help students sustain effort, stay engaged and maintain well-being under pressure.

This chapter reviews recent empirical and theoretical work (2020-2025) on grit, academic resilience and burnout, with a focus on university students. It first clarifies how these constructs are defined, measured and differentiated from related traits such as conscientiousness and self-control. Particular attention is given to grit as a multi-dimensional construct involving perseverance of effort and consistency of interests, and to the idea that students may differ not only in how hard they work, but also in how steadily they remain committed to long-term academic goals.

The chapter then synthesises research on academic resilience as the capacity to adapt positively to academic setbacks, stressors and failure, and on burnout as a chronic state of emotional exhaustion, cynicism and sense of reduced accomplishment arising from prolonged

academic demands. Recent studies increasingly examine how grit and resilience jointly relate to performance, engagement and mental health outcomes, including burnout and well-being.

2.2 Grit

2.2.1 Definitions and conceptualization of grit

Grit is widely described as a non-cognitive trait that reflects a person's tendency to sustain passion and perseverance toward long-term goals, even when progress is slow or obstacles appear. Recent overviews emphasise that grit belongs within the broader field of positive psychology, focusing on personal strengths that support performance and well-being rather than on deficits or pathology. Grit is often contrasted with cognitive ability: while ability reflects what a person can do, grit reflects how consistently and intensely they are willing to work over extended periods, despite setbacks.

Over the last decade, research interest in grit has expanded from its original focus on elite contexts (e.g., military academies, high-stakes competitions) to more typical educational settings, including schools and universities. A recent editorial on "new advances in grit research" notes that grit has been linked to a wide range of outcomes educational attainment, job performance, health behaviours and psychological adjustment while also drawing attention to debates around its measurement and incremental predictive value. These debates are especially important in higher education, where universities increasingly seek evidence-based, ethically sound ways of using non-cognitive indicators such as grit to support student success rather than to label or blame struggling students.

Contemporary theorists also point out that grit is not purely an individual virtue; it develops within specific cultural, familial and institutional environments. Supportive relationships, meaningful goals and fair learning conditions are thought to foster the development of grit, whereas chronic inequities or toxic climates can undermine students' willingness to persist. Thus, grit is best understood as one part of a larger ecosystem of supports and challenges rather than a "magic trait" that guarantees success.

2.2.2 Dimensions of grit: Perseverance and consistency

Most current work treats grit as a multidimensional construct, typically composed of perseverance of effort and consistency of interests. Perseverance of effort refers to sustained hard work and follow-through in the face of difficulty; consistency of interests refers to maintaining stable goals and passions over time instead of frequently changing directions.

Meta-analytic findings suggest that these two facets do not contribute equally to academic outcomes. In a comprehensive cross-cultural meta-analysis of 137 samples, Lam and Zhou reported that overall grit showed a small-to-moderate positive association with academic achievement (weighted $r \approx .19$), but perseverance of effort had a stronger relationship with achievement ($r \approx .21$) than consistency of interest ($r \approx .08$). This indicates that working steadily and not giving up matters more for grades than having perfectly stable interests.

Recent psychometric work has further questioned whether grit should be modelled as a single trait or as distinct but related components. Using advanced item-response and structural-equation models with high-school and university samples, Morell and colleagues found that perseverance of effort emerged as the most robust predictor of academic performance, while

consistency showed weaker and less stable associations. These findings support focusing on perseverance when examining grit in educational settings, especially where students may naturally explore different interests in the early stages of their studies.

In response to persistent concerns about the role of passion, some researchers have proposed a triarchic model of grit, adding adaptability to situations as a third facet alongside perseverance and consistency. Adaptability captures students' capacity to adjust their strategies and expectations when circumstances change, without abandoning long-term goals. Studies using this triarchic model during the COVID-19 pandemic showed that perseverance and adaptability were more strongly linked to engagement and positive emotions than consistency alone. While the present study employs the traditional two-factor Short Grit Scale, these developments highlight that grit is a nuanced construct whose dimensions may differentially predict academic and psychological outcomes.

2.2.3 Measurement of grit among university students

A large proportion of recent research on grit in higher education has used the Short Grit Scale (Grit-S), an eight-item measure with two four-item subscales representing perseverance of effort and consistency of interests. Studies from diverse cultural contexts generally report acceptable reliability and construct validity for the Grit-S among university populations. For example, Alhadabi found that the Grit-S demonstrated good internal consistency and a two-factor structure in a sample of undergraduate students, with perseverance showing stronger links to academic performance and mastery goals than consistency.

Similar findings emerge from validation work in non-Western contexts. Young and Archer validated the Grit-S among South African postgraduate students and reported satisfactory reliability, gender invariance and positive associations with academic engagement and well-being indicators. Jalali and colleagues adapted the Grit-S for Iranian dental students and again found evidence for the two-factor structure, with perseverance related to higher academic satisfaction and lower distress. Collectively, these studies suggest that the Grit-S can be used meaningfully across different cultures and academic disciplines, though small variations in factor loadings and item functioning have been observed.

Beyond reliability, researchers are increasingly interested in how grit scores remain stable or change over time. Longitudinal studies with young adults indicate that perseverance of effort is moderately stable but can increase when students develop clearer goals and receive supportive feedback, whereas consistency of interests may shift as students experiment with new academic and career directions. For early-semester undergraduates, such as those in the present study, grit may therefore reflect both enduring personality tendencies and ongoing processes of identity exploration.

2.2.4 Grit among university students

Within university settings, grit has been examined in relation to a range of psychosocial variables, including motivation, growth mindset, resilience and engagement. In a recent study conducted in Lahore, Pakistan, Fatima reported that grit was positively associated with academic resilience and growth mindset among university students, and that both grit and mindset predicted higher academic resilience. These findings support the view that gritty students are more likely to believe their abilities can grow with effort and to recover more quickly from academic setbacks.

Internationally, studies conducted during and after the COVID-19 pandemic have shown that grit can help students cope with uncertainty and disrupted learning environments. Bono and colleagues found that among urban college students in the United States, higher levels of grit and gratitude were associated with lower stress and higher subjective well-being during the pandemic, even after controlling for demographic variables. Such results suggest that gritty students may be better able to maintain purpose and effort when courses suddenly shift online, exams are postponed, or family and financial pressures intensify.

Recent work also indicates that grit may interact with other resources, such as self-efficacy and social support, to shape academic experiences. For instance, studies with Asian university students show that gritty individuals tend to report stronger academic self-beliefs, greater use of deep learning strategies and more persistence when confronted with difficult modules or heavy workloads. However, researchers caution that grit should not be seen as a substitute for adequate institutional support, fair assessment systems and accessible mental health services. Instead, it represents one personal resource that can complement external supports.

2.2.5 Grit and academic performance, persistence and engagement

A central question in grit research is how strongly it predicts academic performance. The cross-cultural meta-analysis by Lam and Zhou found that grit has a small-to-moderate positive relationship with academic achievement across primary, secondary and tertiary education, with similar effect sizes in individualistic and collectivistic cultures. This suggests that while grit is not the dominant determinant of grades, it contributes meaningfully alongside cognitive ability, prior achievement and socio-economic factors.

At the university level, recent studies have linked grit to grade point average (GPA), course completion and intention to persist. Research involving medical and health sciences students, for example, indicates that those with higher grit tend to achieve better examination results and are less likely to consider dropping out, even when academic stress is high. In addition, grit appears to support academic engagement the behavioural, emotional and cognitive investment students make in their studies.

Datu and colleagues examined grit using a triarchic model and found that perseverance of effort and adaptability were positively related to engagement in mathematics and science, as well as to positive emotions and flourishing, during the COVID-19 pandemic. Similarly, recent work in higher education has shown that gritty university students report higher academic engagement, and that this relationship is partly explained by autonomous motivation and self-regulated learning strategies. ([ScienceDirect](#)) These findings underline that grit may enhance performance not only by sustaining effort, but also by promoting deeper involvement in learning activities and more effective study habits.

2.2.6 Grit, well-being and burnout

Beyond grades and persistence, grit has been investigated as a protective factor for students' psychological well-being. During the COVID-19 pandemic, Bono et al. reported that gritty college students experienced lower perceived stress and higher life satisfaction, with gratitude and coping strategies playing additional roles. These results resonate with broader evidence that grit is associated with greater positive affect, life satisfaction and subjective flourishing, particularly when combined with supportive relationships and adaptive emotion regulation.

Of particular relevance to the current study is the emerging body of work linking grit to burnout. Burnout among students typically involves emotional exhaustion related to study demands, depersonalisation or cynicism toward academic work, and a sense of reduced academic efficacy. Longitudinal research among medical students found that higher grit predicted lower levels of burnout over time, even after controlling for baseline burnout and other covariates, suggesting that grit may protect against the gradual erosion of motivation in demanding programmes.

More recent studies have extended these findings to broader student populations. Ibrahim and colleagues reported that grit and learning agility together negatively predicted burnout among nursing students, indicating that students who persist in their goals and adapt flexibly to challenges experience fewer burnout symptoms. In addition, reviews of burnout during the pandemic have noted that personal resources such as grit, resilience and optimism can mitigate the impact of high workload and digital fatigue on students' exhaustion and disengagement.

At the same time, some authors warn that an overemphasis on “never giving up” may lead students to persist in unhealthy situations, potentially delaying help-seeking or reinforcing self-blame when institutional conditions are poor. This underscores the importance of studying grit in interaction with other protective factors such as academic resilience and within the real organisational contexts of universities.

2.2.7 Critical perspectives and cultural considerations

Despite its popularity, grit remains a contested construct. Critics argue that it overlaps substantially with conscientiousness and that its incremental predictive validity for performance

outcomes is modest. Recent factor-analytic studies show that the consistency of interests facet often behaves differently from perseverance and may have weaker or even negligible links to academic success, calling into question whether grit should be treated as a unitary trait.

Cross-cultural research adds further nuance. In some non-Western settings, strong consistency of interests may be less valued than flexibility and responsiveness to family needs or labour-market conditions, leading some scholars to advocate models of grit that emphasise adaptability rather than single-minded passion. For South Asian students in particular, academic choices are often shaped by collective expectations and economic constraints; persistence may therefore reflect commitment not only to personal dreams but also to family responsibilities and social mobility.

Recent evidence from Pakistan suggests that grit is positively related to academic resilience and growth mindset among university students, indicating that gritty students are more likely to interpret difficulties as surmountable and to maintain hope for improvement. However, there is still limited research on how grit operates specifically among early-semester undergraduates in this region, and how it interacts with academic resilience to influence experiences of burnout.

2.2.8 Summary and implications for the present study

In summary, contemporary literature portrays grit as a multi-faceted, culturally embedded trait that supports perseverance toward long-term goals. Perseverance of effort consistently emerges as the most important dimension for academic outcomes, while the role of consistency of interests is more variable. Grit has demonstrated small-to-moderate positive associations with academic performance, engagement and persistence across educational levels, and it appears to

enhance students' well-being and protect against burnout when combined with other personal and contextual resources.

At the same time, critical perspectives highlight that grit should not be romanticised as a simple solution to complex educational challenges. Its measurement is still being refined, and its predictive power depends on the broader learning environment, including the availability of support, fairness of assessment and socio-economic conditions. For these reasons, recent studies have increasingly examined how grit interacts with other constructs such as resilience, learning agility and growth mindset, and how these interactions relate to burnout and engagement.

The present thesis builds on this literature by investigating grit among first- to fourth-semester BS students, focusing not only on its direct relationship with burnout but also on its interplay with academic resilience. By situating grit within a broader framework of personal resources and academic demands, the study aims to provide a more nuanced understanding of how perseverance and resilience together may help university students navigate the challenges of contemporary higher education.

2.3 Academic Resilience

2.3.1 Definitions and models of resilience

In general psychology, the term resilience is generally defined as the process of positively adapting to a negative situation, trauma, or serious stress. Modern theorists also note that resilience is not a static attribute that individuals have or do not have, but a dynamic process that entails the resources and coping mechanisms of a person and environmental resources which allow individuals to recover, stay the same or even enhance functioning in demanding situations. In the academic field, this concept has been put into the concept that there are students who are able to

remain motivated, engaged and hopeful even with regarding encountering academic pressure again after failure or contextual barriers.

In the context of the world of higher education, academic resilience may be regarded as the ability of a student to efficiently cope with academic failure, stress, and misfortune and then achieve positive results in their studies (Abdelrahman et al., 2025). This involves having the power to be motivated and perform well even when confronted with demanding courses, huge workloads, unfair treatment, financial hardships or family demands. Conceptualisation, as outlined by Cassidy, who is widely quoted in the recent literature on academic resilience, views academic resilience as high rates of motivation and academic performance in the face of adverse academic conditions, both in persistence and in flexible coping efforts.

Fullerton and colleagues (2021) have offered a model of resilience, integrative process model, in an academic setting, which has been very influential in current studies. In their model, they consider resilience to be a chain reaction of interconnected factors: resilience resources (self-beliefs, social support and optimism) determine the type of coping strategies that students adopt (problem-focused vs. avoidant coping), which, in turn, affect the positive adaptation outcomes, including well-being, academic engagement and achievement. This is unlike previous results of considering resilience as one score but rather as a system where both personal and contextual resources interact in coping to generate resilient results.

Later studies have built on this framework by exploring specific resources and mechanisms that underpin academic resilience. For example, mindfulness, self-compassion and psychological flexibility have been identified as processes that enhance resilience by enabling students to respond more constructively to stress, rather than reacting with avoidance or self-criticism (Yuan et al., 2025). Other work has highlighted the roles of self-efficacy and social support, suggesting that

believing in one's academic capabilities and feeling supported by family, peers and teachers are crucial building blocks for resilient functioning (Abd Halim et al., 2025; Saleem & Zia, 2024).

2.3.2 Academic resilience versus general resilience

Although related, academic resilience is conceptually distinct from general or life resilience. General resilience refers to an individual's adaptive capacity across a wide range of life domains, including family, health, work and community. Academic resilience, by contrast, focuses specifically on how students respond to academic threats and challenges for example, low grades, exam failure, overloaded schedules, or the transition from school to university.

Several recent studies explicitly adopt this domain-specific perspective. Abdelrahman et al. (2025), in a three-country survey of university students from Egypt, Jordan and Oman, defined academic resilience as the ability to withstand and recover from academic stressors while maintaining satisfactory progress and emotional balance within the university context. Similarly, Abbas et al. (2024) considered academic resilience as a protective factor that specifically buffers the impact of academic pressures on psychological well-being and suicidal ideation among medical and non-medical students.

This distinction matters because students may be resilient in one domain but vulnerable in another. A student might cope well with family difficulties yet struggle profoundly with academic setbacks, or vice versa. Domain-specific measures like the Academic Resilience Scale (ARS-30) used in the present study therefore aim to capture resilience as it relates directly to academic tasks, feedback, and evaluation. This focus allows researchers and practitioners to design targeted interventions (for example, study-skills training, exam anxiety workshops, curriculum changes) that are more closely tied to educational realities than interventions based on general resilience alone.

At the same time, academic resilience is still embedded within broader life circumstances. Factors like socio-economic status, family functioning, community safety and cultural values influence how students perceive academic difficulties and which resources they can draw upon. Recent work argues that models of academic resilience should explicitly acknowledge these wider ecological influences, instead of viewing resilience as purely an individual responsibility (Nordstokke et al., 2025). For students in low- and middle-income contexts, including many in South Asia, this ecological perspective is particularly important, as academic challenges often coincide with financial strain and family expectations.

2.3.3 Protective role of academic resilience in stressful academic environments

One of the main topics of literature is that academic resilience acts as a buffer to stressful academic situations. The resilient students are more likely to perceive the stressors as a challenge to be overcome, not a problem too difficult, adopt more adaptive coping mechanisms, and stay engaged in studies even during the challenging times.

This protective role has evidence in other countries and academic levels. Tran et al. (2023) discovered that in the aftermath of the new normal of the post-COVID-19 pandemic in higher education, higher academic resilience was linked to reduced burnout and improved mental health among international university students in Taiwan. Students who were more resilient also experienced less emotional exhaustion and cynicism, which indicates that resilience assists them to sustain the cumulative pressure of online education, disrupted schedules and uncertainty.

In a similar manner, An et al. (2025) conducted a study of digital fatigue and academic resilience in Chinese university students. They found that the experience of digital fatigue: the feeling of mental fatigue and overload in relation to the long-lasting learning through the screen negatively predicted academic resilience and that grit and psychological flexibility mediated the

association between them so that they could still be academically resilient in the face of digital demands. This paper shows that resilience is not predetermined: it can be undermined by overwhelming demands but it can be built up under the influence of certain psychological resources.

Academic resilience has also been indicated to cushion the effects of stress and the maintenance of mental health in South Asian and Middle Eastern settings. According to Abdelrahman et al., (2025), higher academic resilience produced low perceived stress and enhance emotional functioning in students in Egyptian, Jordan and Oman universities. Abbas and collaborators (2024) established that academic resilience and psychological well-being were the most effective predictors of low suicidal ideation, and they were effective to predict the lower suicidal ideation, among Pakistani university students, as the academic and social pressures could be high in these environments.

Studies also indicate that there are social and institutional influences that may lead to academic resilience. In a work with Pakistani undergraduates, Saleem and Zia (2024) demonstrated that different types of social support informational, esteem, motivational and venting support had a profound and beneficial effect on the academic resilience of students. Melaku et al. (2025) discovered that perceived teacher and institutional academic support were associated with improved academic performance with academic resilience playing a serial mediating role with academic motivation in the first year students. These results indicate that the ability to withstand is not only determined by individual strengths but also enabling learning conditions.

Taken together, these studies indicate that academic resilience operates as a buffer between stressors and negative outcomes. Students who are more resilient are less likely to progress from

ordinary academic stress to chronic burnout, emotional distress or disengagement, even when their objective workloads are high.

2.3.4 Academic resilience and student adjustment

The notion of student adjustment refers to how well students adapt to the academic, social and emotional demands of higher education. This involves control of course work and evaluation (academic adjustment), building relations and sense of belonging (social adjustment) and emotional stability and well-being. In various levels of education, the academic resilience has always been associated with a more successful adjustment.

Surveys that have been conducted in universities reveal that resilient students tend to perform well even when there is pressure. Melaku et al. (2025) established a mediating role of academic resilience in the relationship between perceived academic support and achievement among first-year Ethiopian university students, indicating that academic support is conducive to academic resilience, which consequently resulted in higher grades. Kabir, (2025) in a more related work revealed that academic resilience was positively correlated with academic performance in undergraduate business learners supporting the premise that resilience improves effective study behaviours and persistence.

Although some of the best studies on resilience and performance have been done in secondary education, they are informative in the university setting. Carroza-Pacheco et al. (2025) studied school resilience dimensions in Spanish high school students and demonstrated that certain school resilience dimensions including perseverance and help-seeking were associated with better academic outcomes. These findings resonate with the results of university samples where resilient students have increased adaptive study strategies and increased self-regulation, resulting in academic success.

Psychological adjustment and well-being are also closely related to academic resilience. It was shown that the more academic resilience, the higher the psychological well-being and the reduced suicidal ideation (Abbas et al, 2024), which shows that resilient students do not only achieve better results in their studies, but also manage better emotional challenges. Continuing on the self-determination theory, Abd Halim et al. (2025) discovered that academic resilience correlated with psychological well-being which, in turn, mediates relationships between self-efficacy, social support, and outcomes among students of a Malaysian, private university, meaning that resilience leads to well-being, which, in its turn, facilitates healthier academic functioning. In addition to personal performance, academic resilience also has a consequence in belonging and college adaptation. There are no studies indicating that more resilient students tend to feel a sense of belonging to the institution, utilize resources available and stay engaged throughout the university transition (Rachmawati, 2024; McMullin, 2025). Aloka (2022) similarly reported that academic resilience predicted better academic adjustment among first-year distance learners, supporting the idea that resilience helps students navigate new learning environments and expectations.

For early-semester undergraduates like the first- to fourth-semester BS students in the current study these processes are crucial. Students at this stage are often negotiating multiple transitions at once: adapting to independent study, building new social networks, and managing increased autonomy alongside ongoing family expectations. Academic resilience can help them interpret difficulties (for example, low initial grades or time-management problems) as opportunities to learn rather than as evidence of personal failure, thereby supporting healthy adjustment and long-term persistence.

2.3.5 Summary and implications for the present study

The literature reviewed above portrays academic resilience as a context-specific, dynamic process through which students adapt positively to academic challenges. Conceptually grounded in broader resilience theory, it is operationalised in higher education as the capacity to maintain motivation, performance and emotional balance in the face of stressors such as heavy workloads, exams, and transitions. Process-oriented models show that resilience arises from interactions between personal resources (e.g., self-efficacy, mindfulness, grit), coping strategies and environmental supports (Fullerton et al., 2021; Yuan et al., 2025).

Empirical studies from 2020-2025 demonstrate that academic resilience buffers the impact of stress on outcomes such as burnout, psychological distress and suicidal ideation, and is positively associated with academic performance, engagement and adjustment (Tran et al., 2023; Abbas et al., 2024; Melaku et al., 2025). Evidence from Pakistani and other non-Western samples further indicates that social and academic support can strengthen resilience, suggesting potentially modifiable levers for universities to enhance students' capacity to cope (Saleem & Zia, 2024).

Despite this growing body of work, there remain gaps regarding early-semester undergraduates and the joint role of resilience with other positive traits such as grit. The present study addresses these gaps by examining academic resilience among first- to fourth-semester BS students and investigating whether resilience mediates the relationship between grit and burnout. By doing so, it aims to clarify how internal strengths can be nurtured to support both academic adjustment and protection against burnout in university environments.

2.4 Burnout

2.4.1 Definitions and conceptualisation

The general conception of burnout is considered as a long-term reaction to the stress related to studying, when students experience the emotional and physical exhaustion, lack interest in

studying, and incompetent as learners. The modern student-centered literature modifies the traditional occupational burnout model and defines student or school burnout as a condition of fatigue caused by the study requirements, negative or disengaged attitude towards academic activities, and lessened perception of academic effectiveness or achievement (Jagodics et al., 2023).

Following this tradition, the increasingly recent models have understood burnout as a multidimensional syndrome that entails not only exhaustion and cynicism but also thinking and emotional problems. Burnout Assessment Tool (BAT) and its student variations describe four fundamental symptoms, namely: (a) exhaustion, (b) mental detachment to the tasks, (c) cognitive impairment (e.g., difficulty in concentrating, forgetfulness), and (d) emotional impairment (e.g., irritability, feeling overwhelmed). These symptoms are activated where the demands of a study are great and long-lasting, and the resources targeting these demands, including support, control and coping capacity, are not enough, a concept developed in the Job/Study Demands Resources model.

From this perspective, burnout is not simply “being tired” during exams. It is a broader erosion of students’ energy, identification with their studies and sense of competence. Chong and colleagues (2025) emphasise that burnout is best seen as the end result of repeated unsuccessful efforts to cope with academic pressures, such as heavy workloads, constant assessment, unclear expectations and pressure to perform. When such stressors persist without adequate support, students’ coping resources become depleted, and burnout symptoms may become pervasive and enduring.

2.4.2 Components of burnout

Exhaustion is usually regarded as the central component of burnout. It refers to feeling drained, fatigued and emotionally “worn out” by studying, often accompanied by sleep problems and difficulty recuperating even after breaks. Students with high exhaustion report that coursework, exams and assignments leave them with no energy for other activities or relationships. Large-scale studies of college students consistently show that exhaustion scores tend to be the highest among the burnout dimensions.

Cynicism (or mental distance) reflects a detached, negative, or indifferent attitude towards one’s studies. Instead of feeling interested or engaged, students begin to see their courses as meaningless, unfair or irrelevant. They may question the value of their degree, feel disconnected from their academic community, or “go through the motions” without emotional investment. Jagodics et al. (2023) note that cynicism can develop as a defensive response: by distancing themselves from their studies, students attempt to protect themselves from further disappointment or stress.

Reduced academic efficacy refers to a diminished sense of competence and achievement. Students experiencing this component feel that, despite their efforts, they are not learning effectively, not performing well, or not meeting expectations. Over time, they may internalise these experiences as evidence that they are “not capable” or “not smart enough”, which can further undermine motivation and resilience. Shim (2025) describes burnout among university students as a state in which exhaustion, cynicism and reduced efficacy combine to create a general sense of failure and dissatisfaction with student life.

The BAT-based approach adds cognitive impairment (e.g., concentration difficulties, forgetfulness, mental slowness) and emotional impairment (e.g., irritability, lack of emotional control) as core aspects of burnout. Studies with student samples using the BAT-S show that these

cognitive and emotional symptoms are strongly associated with exhaustion and mental distance, supporting the view that burnout affects both thinking and feeling. In the present study, burnout is assessed using the BAT-S, which captures these four core dimensions in the student context.

2.4.3 Burnout among university students

Research over the past five years indicates that burnout is highly prevalent among university students worldwide. In a large cross-sectional study of nearly 23,000 Chinese college students, Liu et al. (2023) reported that about 59.9% met the criteria for burnout, with particularly high scores on reduced personal accomplishment and exhaustion. Similarly, a recent study in Poland found that around 64% of university students reported having experienced burnout, with constant stress, excessive workload and imbalance between study and private life identified as leading causes.

Chong et al.'s (2025) systematic review across different student populations (secondary, undergraduate, medical and technical students) concluded that burnout has become a widespread problem linked to increasing academic demands, competitive environments and uncertainty about future employment. The review highlights common risk factors such as high workload, performance pressure, perfectionism, poor time management, lack of support from teachers or peers, financial stress and role conflicts for students who also work or care for family members. Contextual factors such as the COVID-19 pandemic have further intensified burnout risks. Studies of university students during and after the pandemic show that sudden shifts to online learning, reduced social interaction, fear of infection and economic difficulties contributed to higher burnout scores. Zhang and Chen (2025), for example, found that COVID-19 victimisation experiences significantly predicted burnout among Chinese university students, with emotional intelligence acting as a protective factor. Likewise, research on distance learning and late-pandemic stress

highlights elevated levels of exhaustion and disengagement among students who struggled with unstable internet access, home distractions and loss of campus routines.

Burnout levels can also vary across fields of study, year levels and demographic groups. Nursing, medical and other health-related students frequently report higher burnout, likely due to heavier workloads, emotionally demanding content and clinical responsibilities. There is some evidence that burnout tends to increase in higher academic years as demands accumulate; however, early-semester students may also be vulnerable as they adjust to unfamiliar teaching styles, assessment formats and expectations. These patterns reinforce the need to examine burnout specifically in first- to fourth-semester undergraduates, as in the present study.

2.4.4 Consequences for mental health and well-being

Burnout has serious implications for students' mental health. Recent studies consistently link higher burnout with increased symptoms of depression, anxiety and stress, as well as lower life satisfaction and quality of life. A 2025 study on university students' mental health reported that those with high burnout scores were significantly more likely to experience moderate-to-severe anxiety and depressive symptoms than their non-burned-out peers. Similarly, Zhang and colleagues (2025) emphasised that burnout exacerbates mental health problems and can negatively influence students' overall quality of life.

Burnout is also associated with emotional dysregulation and difficulties managing academic stress. A recent meta-analysis on emotion regulation and burnout among youth found that maladaptive strategies (such as rumination and suppression) were positively associated with burnout, whereas adaptive strategies (such as reappraisal and problem solving) were protective. Students who habitually use ineffective coping strategies may thus be more likely to progress from normal academic stress to chronic burnout.

The impact of burnout extends beyond internal distress to life satisfaction and broader well-being. Shim and Go (2025) showed that school burnout among university students was negatively related to life satisfaction, with loneliness and fear of alienation mediating this relationship. Students who feel exhausted and cynical about their studies often withdraw from social activities, feel isolated from peers, and develop pessimistic views about their future, leading to overall dissatisfaction with life.

There is also concern that severe burnout may be linked with self-harm and suicidal ideation, especially when combined with depressive symptoms and a lack of social support. Studies on COVID-19 burnout among college students indicate that burnout can intensify the effect of depressive symptoms on suicidal thoughts by undermining protective factors such as cognitive reappraisal. These findings underscore the importance of viewing burnout not as a minor inconvenience, but as a significant public health issue within university settings.

2.4.5 Consequences for academic performance and engagement

In addition to mental health, burnout has well-documented effects on academic functioning. Burned-out students commonly report difficulties concentrating, remembering information and organising their work, which naturally undermines learning and performance. A large meta-analysis showed that higher burnout is associated with lower academic achievement across different educational levels, and that this relationship is particularly strong for the exhaustion and cynicism components.

Empirical studies among university students confirm these patterns. Liu et al. (2023) found that students with higher burnout scores had poorer self-rated academic performance and were more likely to struggle with meeting course requirements. Cong et al. (2024) similarly reported that burnout was negatively associated with learning engagement and academic self-efficacy,

suggesting that exhausted students invest less behavioural and cognitive effort in their studies and feel less confident in their ability to succeed.

Burnout also undermines academic motivation and engagement. Jagodics et al. (2023) showed that student burnout is linked to decreased academic motivation and a shift from mastery-oriented to avoidance-oriented goals, which in turn reduces study effort and persistence. When students feel that studying is pointless or that they are incapable of doing well, they may procrastinate, skip classes, or complete assignments with minimal involvement, thereby reinforcing a cycle of poor performance and increased burnout.

2.4.6 Burnout and dropout intention

One of the most serious consequences of burnout is its association with dropout intention and actual withdrawal from higher education. Research based on the Study Demands Resources framework suggests that when study demands (e.g., high workload, time pressure) are high and resources (e.g., teacher support, autonomy, feedback) are low, burnout increases and intention to leave becomes more likely.

Marôco et al. (2020) found that student burnout predicted higher dropout intention and lower academic efficacy, while engagement partially suppressed this negative pathway. More recently, Gonzalez et al. (2025) reported that academic exhaustion fully mediated the relationship between satisfaction with higher education and dropout intention: students who were less satisfied with their studies were more likely to think about leaving, mainly because they felt academically exhausted.

Other studies confirm that students with high burnout are more likely to consider interrupting or abandoning their studies, especially when they lack social support or perceive limited employment prospects after graduation. From an institutional perspective, such dropout

not only represents a loss of human capital and financial resources, but may also reflect broader issues in teaching quality, support services and curriculum design. From an individual perspective, discontinuing studies can have long-term consequences for career opportunities, financial stability and psychological well-being.

Given these far-reaching effects, many scholars argue that universities should systematically monitor burnout levels and implement preventative interventions, rather than only reacting when students are already in crisis. Recent reviews of burnout interventions in students suggest that programs focusing on stress management, resilience-building, time management and psychoeducation can produce small-to-moderate reductions in burnout symptoms, especially when supported by institutional changes that reduce excessive demands.

2.4.7 Summary and implications for the present study

Overall, contemporary literature portrays burnout as a multidimensional, demand-related syndrome characterised by exhaustion, cynicism or mental distance, reduced academic efficacy and, in newer models, cognitive and emotional impairment. It is highly prevalent among university students and is driven by a combination of heavy academic demands, insufficient resources, and broader contextual stressors such as economic uncertainty and public health crises.

Burnout has profound implications for mental health (e.g., depression, anxiety, low life satisfaction), academic functioning (e.g., reduced performance and engagement), and dropout intention. Evidence from multiple countries indicates that students with higher burnout are more vulnerable to psychological distress, poorer academic outcomes and thoughts of quitting their studies.

These findings justify the focus of the present research on burnout among early-semester BS students, a group that may be particularly vulnerable as they adjust to university life. By

examining how personal strengths such as grit and academic resilience relate to burnout and whether resilience mediates the link between grit and burnout the study seeks to contribute to a more complete understanding of how universities can support students in sustaining both academic success and psychological well-being.

2.5 Relationships Between Grit, Academic Resilience, and Burnout

2.5.1 Studies linking grit and burnout

Recent research increasingly identifies grit as a protective factor against burnout. Longitudinal work with medical students has shown that individuals higher in grit report lower levels of burnout over time, even after controlling for baseline burnout and demographic variables (Jumat et al., 2020). This suggests that perseverance and sustained commitment to academic goals may help students tolerate heavy workloads and repeated examinations without becoming chronically exhausted.

In nursing education, where students often face demanding clinical duties alongside academic work, grit again appears beneficial. Ibrahim et al. (2025) found that grit and learning agility together negatively predicted burnout among nursing students, indicating that students who persist and are willing to learn from experience are less likely to feel emotionally exhausted and detached from their studies. Studies conducted during and after the COVID-19 pandemic also report that gritty students show lower pandemic-related burnout, partly because they maintain a stronger sense of purpose and continue to engage with learning despite disruptions (Bono et al., 2020).

Meta-analytic evidence reinforces these findings by showing that perseverance of effort, the core facet of grit, is associated not only with achievement but also with reduced negative academic states such as disengagement and emotional exhaustion (Lam & Zhou, 2022). Overall, these studies suggest that grit may buffer students against burnout by sustaining effort and commitment when academic demands are high.

2.5.2 Studies linking academic resilience and burnout

The relationship between academic resilience and burnout has been examined more directly in the last few years. Resilient students tend to interpret academic stressors as challenges to be managed rather than as threats, and this appraisal style appears to protect them from prolonged exhaustion and cynicism. Tran et al. (2023) reported that academic resilience was negatively associated with burnout among international university students in Taiwan; resilient students showed fewer burnout symptoms and better emotional well-being in the post-COVID learning environment.

Similarly, Abdelrahman et al. (2025) found that university students with higher academic resilience experienced lower perceived stress and better mental health indicators across three Middle Eastern countries, which indirectly implies reduced vulnerability to burnout when stress is high. Among working students, Weny et al. (2024) showed that academic resilience and self-efficacy were both negatively related to burnout, highlighting that resilient students can better balance employment and academic responsibilities.

The protective effect of resilience extends to severe psychological outcomes. Abbas et al. (2024) demonstrated that academic resilience and psychological well-being were associated with lower suicidal ideation among medical and non-medical students in Pakistan, suggesting that

resilience mitigates the emotional consequences of sustained academic pressure. Collectively, these findings position academic resilience as a key personal resource that reduces the likelihood that ordinary academic stress will escalate into full burnout.

2.5.3 Grit and academic resilience together in predicting burnout

More recent work has begun to examine grit and academic resilience simultaneously to understand how they jointly influence burnout. Conceptually, grit may be viewed as a more stable tendency to pursue long-term goals, whereas academic resilience reflects a context-specific capacity to adapt to academic setbacks. Gritty students may therefore be more likely to develop resilient responses when they encounter academic difficulties.

Empirical evidence supports this view. In Lahore, Fatima (2024) found that grit was positively associated with academic resilience and growth mindset among university students, indicating that students who persist in their goals also tend to adopt more adaptive beliefs and coping patterns. Saifullah and Khan (2022) similarly reported a significant positive correlation between grit and academic resilience in a sample of Pakistani undergraduates.

Crucially, some studies show that resilience may mediate the relationship between grit and burnout. Khan and Mehmood (2023), investigating accountancy students in Pakistan, found that grit was negatively related to burnout and positively related to academic resilience, and that academic resilience partially mediated the grit burnout link. This suggests that gritty students are less likely to experience burnout partly because their perseverance translates into higher resilience, which helps them cope more effectively with academic stress. International work also supports this pattern: An et al. (2025) showed that grit and psychological flexibility mediated the impact of

digital fatigue on academic resilience, implying a network of relationships in which grit feeds into resilience, which then shapes burnout-related outcomes.

Together, these findings indicate that studying grit or resilience alone may provide only a partial picture. Understanding their combined effects is essential for explaining why some students maintain well-being and engagement while others become exhausted and disengaged.

2.5.4 Gaps in existing research and contextual rationale

Although the literature on grit, academic resilience and burnout has grown substantially, several gaps remain. First, many studies on grit and burnout focus on medical, nursing or other professional programmes, which involve particularly intense workloads and may not represent the broader undergraduate population (Jumat et al., 2020; Ibrahim et al., 2025). Fewer studies have investigated these constructs among early-semester undergraduates across diverse disciplines, even though the transition into university is a critical period for developing coping patterns and attitudes toward learning.

Second, while there is emerging evidence that academic resilience mediates the relationship between grit and burnout, such models are still relatively scarce, especially in South Asian contexts. The Pakistani studies by Fatima (2024), Saifullah and Khan (2022), and Khan and Mehmood (2023) provide initial support for links between grit, resilience and burnout, but they are limited to specific disciplines or single institutions and use different burnout measures. There is a need for research that applies recently validated instruments such as the BAT-S and ARS-30 to a broader sample of BS students.

Third, many existing studies are cross-sectional, rely on convenience samples and do not explicitly focus on gender-balanced or semester-specific groups. This restricts the generalisability

of findings and makes it difficult to understand how grit and resilience function in the early stages of undergraduate education. Finally, few studies integrate these constructs within a single conceptual framework grounded in resilience theory and demands resources models.

The present study addresses these gaps by examining grit, academic resilience and burnout in a sample of first- to fourth-semester BS university students from both public and private institutions, and by testing a mediation model in which academic resilience explains how grit relates to burnout.

2.6 Theoretical Framework and Conceptual Model

The present study is grounded in two complementary theoretical perspectives: resilience theory and the Study Demands Resources (SD-R) framework, an adaptation of the job demands resources model to academic settings. Resilience theory conceptualises resilience as a dynamic process of positive adaptation in the context of significant adversity, emphasising the interplay between personal resources, coping strategies and environmental supports (Fullerton et al., 2021). In the academic domain, this implies that students who possess stronger internal resources such as self-beliefs, grit and problem-solving skills and who can access supportive environments are more likely to maintain well-being and performance when facing academic stressors.

The SD-R framework proposes that burnout arises when study demands (e.g., workload, time pressure, evaluation anxiety) are high and resources (e.g., autonomy, support, self-efficacy) are insufficient. Personal resources are considered particularly important because they help students mobilise other supports and cope effectively with demands (Jagodics et al., 2023). Within this framework, grit and academic resilience are conceptualised as key personal resources that can buffer the impact of study demands on burnout.

Based on these perspectives and prior empirical findings, the present study proposes a mediation model in which academic resilience mediates the relationship between grit and burnout. Grit is expected to relate positively to academic resilience because students who persist toward long-term academic goals are more likely to engage in adaptive coping and to reinterpret setbacks as temporary obstacles rather than as failures. In turn, higher academic resilience should be associated with lower burnout, as resilient students are better able to manage workload, maintain motivation and recover from disappointing results (Tran et al., 2023).

Thus, the conceptual model can be summarised as:

Grit → Academic Resilience → Burnout

with grit also expected to have a possible direct negative effect on burnout. Testing this model among early-semester BS students allows the study to clarify how internal strengths operate together to protect against burnout in the formative stages of university education.

Chapter 3

Methodology

3.1 Research Design

A correlational research design was used for this study, which sought to determine the relationships between university students' grit, academic resilience, and burnout. Because it enabled the researcher to examine relationships between variables without changing them, this design was thought to be the most suitable. The study's goal was to find out how undergraduate university students' levels of academic resilience and grit relate to burnout.

This combination of quantitative, correlational and cross-sectional features is particularly suitable for the current topic. Grit, academic resilience and burnout are all psychological constructs that can be reliably assessed through validated self-report scales. A correlational approach allows the researcher to estimate the direction and strength of relationships among these constructs, while mediation analysis within this framework can provide evidence regarding potential indirect pathways (e.g., grit influencing burnout through resilience). Although causal inferences cannot be made, the design provides robust initial evidence about how these variables co-occur among early-semester BS students, and it lays the groundwork for future longitudinal or experimental studies.

3.2 Population and Sample

The target population for this study comprised BS (Bachelor of Science) students enrolled in 1st, 2nd, 3rd and 4th semesters at selected public and private universities. The focus on early-semester undergraduates is consistent with the study's interest in students who are in the initial stages of adapting to university life, academic workloads and assessment systems. During these

semesters, students typically experience transitions from school-based to university-based learning, making them particularly relevant for research on grit, academic resilience and burnout.

For practical reasons, the accessible population was defined as BS students from a few selected universities where the researcher could obtain permission to collect data. Both male and female students from different academic disciplines (e.g., social sciences, education, management and related fields) were considered eligible, provided they met the inclusion criteria.

The inclusion criteria were as follows:

1. Currently enrolled in a BS programme in 1st, 2nd, 3rd or 4th semester.
2. Aged approximately 18-25 years.
3. Able to read and understand the language of the questionnaire.
4. Willing to participate voluntarily and provide informed consent.

The exclusion criteria included:

1. Postgraduate students (e.g., MS/MPhil), diploma students, or those enrolled in short courses.
2. Individuals who declined to participate or returned incomplete questionnaires.
3. Individuals who face any psychological issues.

A sample size of 300 students was obtained for the study. This sample size is generally considered adequate for correlational and mediation analyses, as it provides sufficient statistical power to detect moderate relationships between variables and to estimate model parameters with reasonable precision.

The study used a non-probability convenience sampling technique. Participants were approached in classrooms, common areas or through online platforms (depending on institutional

conditions), and those who met the criteria and agreed to take part were included in the sample. Convenience sampling was chosen due to limitations of time, access and resources, and because it is commonly used in undergraduate research where random sampling is often not feasible. However, this approach means that the sample may not be fully representative of all BS students, and generalisations should therefore be made with caution.

3.3 Instruments

The study used a demographic information sheet and three standardized self-report instruments to assess grit, academic resilience and burnout: the Short Grit Scale (Grit-S), the Academic Resilience Scale (ARS-30) and the Burnout Assessment Tool Student Version (BAT-S). All instruments were administered in the same booklet along with an informed consent form.

3.3.1 Demographic Information Sheet

A brief demographic information sheet was developed by researchers to obtain background information about the participants. These variables were included to describe the sample and to explore possible demographic trends in the main study variables. No identifying information such as name, roll number or contact details was collected on the questionnaire booklet in order to maintain anonymity.

3.3.2 Short Grit Scale (Grit-S)

Grit was assessed using the Short Grit Scale (Grit-S), an 8-item self-report measure designed to capture perseverance of effort and consistency of interest toward long-term goals. Items reflect both the tendency to keep working hard despite setbacks and the tendency to maintain stable interests over time. In the present study, the version with 5-point response options was used, ranging from 1 = Not like me at all to 5 = Very much like me, consistent with the questionnaire

already prepared by the researcher. Four items reflect perseverance (e.g., continuing to work hard after setbacks), and four items reflect consistency (e.g., not frequently changing goals).

Several items on the Grit-S are reverse scored, typically those that indicate low consistency or low perseverance (for example, “I often set a goal but later choose to pursue a different one”). In the current study, items 1, 3, 5 and 6 were treated as reverse-keyed, and scores were recoded before computing total grit scores. A total grit score was obtained by summing (or averaging) all 8 items after reverse scoring, with higher scores indicating higher levels of grit. Subscale scores for perseverance of effort and consistency of interest can also be computed if needed.

Recent studies among university and postgraduate students provide strong evidence for the reliability and validity of the Grit-S. For example, Alhadabi (2023) reported good internal consistency and supported a two-factor structure in a sample of 450 university students, using item response theory to evaluate the scale. Young and Archer (2023) validated the Grit-S among South African postgraduate students and found satisfactory reliability and construct validity, concluding that the Grit-S is suitable for operationalizing grit in higher education contexts. Ibrahim et al. (2023) also confirmed the validity and reliability of the Grit-S among Malaysian medical students, with Cronbach’s alpha coefficients in the acceptable range. These findings support the use of the Grit-S in the present sample of BS students.

3.3.3 Academic Resilience Scale (ARS-30)

Academic resilience was measured using the Academic Resilience Scale (ARS-30), a 30-item scale specifically developed to assess students’ cognitive, emotional and behavioral responses to academic adversity. The ARS-30 presents respondents with a hypothetical academic setback (e.g., failing an important assignment or receiving lower marks than expected) and asks them to

rate how they would typically respond in that situation. Items capture processes such as positive reframing, help-seeking, problem solving, persistence and emotional regulation.

In the current study, the ARS-30 was administered in the format used in the questionnaire, with 30 statements rated on a 5-point Likert scale from 1 = Strongly disagree to 5 = Strongly agree. All items were scored in the same direction, with higher scores indicating greater academic resilience. A total academic resilience score was computed by summing or averaging responses to the 30 items. Subscales can be derived to reflect different aspects of resilience (e.g., persistence, negative affect and emotional response, reflective and adaptive help-seeking), but the present study primarily focused on the overall resilience score.

The ARS-30 has been widely used in recent research with university and college students. For example, Abbas et al. (2024) used the ARS-30 in a sample of Pakistani medical and non-medical students and reported a Cronbach's alpha of .90, indicating excellent internal consistency. Elnaem et al. (2024) employed the ARS-30 in a multi-country study of pharmacy students across 12 countries and again reported high reliability and satisfactory construct validity. More recently, Erawati and colleagues (2025) adapted and validated the ARS-30 for Indonesian students using Rasch analysis, confirming its dimensional structure and good psychometric properties in another non-Western educational context. These studies provide strong support for using the ARS-30 to assess academic resilience in the present context.

3.3.4 Burnout Assessment Tool Student Version (BAT-S)

Burnout was assessed with the Burnout Assessment Tool Student Version (BAT-S), adapted from the Burnout Assessment Tool originally developed for work contexts. The BAT-S conceptualises burnout as a higher-order construct comprising four core dimensions: exhaustion,

mental distance, cognitive impairment and emotional impairment. It is specifically tailored to capture burnout in relation to study demands rather than employment.

In this study, the BAT-S was used in its short student form with 12 items, consistent with the questionnaire. Participants responded to each item on a 5-point frequency scale ranging from 1 = Never to 5 = Always. Items ask about experiences such as feeling mentally exhausted by study, difficulty concentrating on coursework, or becoming emotionally irritable due to academic demands. All items are scored in the same direction, and a total burnout score was obtained by summing or averaging the items, with higher scores reflecting higher levels of burnout.

Recent validation studies support the use of the BAT-S with university populations. Carmona-Halty et al. (2024) examined the BAT-S in a sample of Chilean undergraduate students and found good internal consistency for the total score and each dimension, as well as evidence for the expected factor structure and associations with academic demands and resources. Popescu et al. (2024) tested the student version of the BAT in Romanian undergraduates and likewise reported that the original factor structure was supported and that subscales showed good reliability. These findings indicate that the BAT-S is a robust and conceptually grounded measure of burnout, appropriate for use in cross-cultural student samples.

3.3.5 Permissions and adaptation

All three standardized scales used in this study the Grit-S, ARS-30 and BAT-S are freely available for non-commercial research purposes. The researcher followed the guidelines provided by the original authors and relevant websites (e.g., ARS-30 official site; BAT information pages) regarding citation and use. Where required, the researcher sought permission via email from the corresponding authors to use the scales for academic research.

The instruments were administered in the same language as the teaching medium at the participating universities, and no translation was needed. Minor formatting adjustments (e.g., layout, font size, response boxes) were made to ensure clarity and ease of completion, but no changes were made to the wording of individual items or response anchors. Therefore, the scales in this study can be considered standard applications of the original instruments, preserving their established psychometric properties.

3.4 Data Collection Procedure

Data collection was carried out after obtaining permission from the relevant departmental and institutional authorities and approval from the research supervisor. The researcher first contacted heads of departments and course instructors to explain the purpose of the study and to request access to BS students in the 1st to 4th semesters. Once permission was granted, specific class sessions were identified during which data collection could take place without disrupting teaching activities.

On the day of data collection, the researcher (and, where necessary, trained helpers) visited the selected classrooms. Students were briefly introduced to the purpose of the study, the main variables under investigation (grit, academic resilience and burnout) and the approximate time required to complete the questionnaire (about 15-20 minutes). They were informed that participation was completely voluntary, that they could decline or withdraw at any time without any academic consequences, and that there were no right or wrong answers, as the questionnaire was interested in their personal experiences.

An informed consent form was attached to the front of each questionnaire booklet. The researcher read out the key points, including the assurance of confidentiality and anonymity.

Students were informed that no names, roll numbers or other identifying details would be collected, and that their responses would be used only for research purposes in aggregated form. Those who agreed to participate signed the consent section (or ticked the consent box, depending on institutional norms) and then proceeded to complete the demographic sheet and the three scales. Students who did not wish to participate were allowed to sit quietly or engage in other work and were not pressured in any way.

The questionnaires were completed in a quiet classroom environment under the supervision of the researcher, who remained available to clarify any procedural questions (for example, how to mark responses), but did not influence students' answers. Most students completed the booklet within 15-20 minutes. After completion, the questionnaires were collected immediately to prevent loss or sharing of responses.

All completed booklets were stored securely by the researcher. Data were later entered into statistical software for analysis, using only coded identification numbers to represent each participant. This procedure ensured the privacy, dignity and welfare of participants and was consistent with standard ethical practices in psychological and educational research.

3.5 Ethical Considerations

The research was carried out following normal ethical guidelines in research in the fields of psychology and education. The research supervisor, research proposal, instruments and procedures were also reviewed and sent to the relevant departmental and institutional authorities to be allowed to collect the data. Only after this consent was given, the data were collected.

Respondents were required to be part of the study with the strict rule of participation. Students were made to understand that they could decline or pull out of the study at any point without any form of punishment or negative effect to their grades and relationship with the

institution. The objective of the research, procedures involved were well explained in an informed consent form and outlined in an informed way about the approximate time involved, and the voluntary nature of the participation. The sample was only restricted to those who gave their consent.

The questionnaires did not contain any names or roll numbers or other personally identifying information in order to safeguard the confidentiality and anonymity. All participants were assigned numerical codes in the data entry and analysis. The filled questionnaires were kept in a safe place and their use was strictly academic.

Since the instruments incorporated questions on the topics of stress, burnout and potential psychological challenges, the students were told that in case any of the items displeased them they could skip it or leave the session. Whenever possible, data regarding the counseling or support services that were available at the university was given.

3.6 Data Analysis Plan

Data were entered and analyzed using the Statistical Package for the Social Sciences (SPSS) (version 25). Before hypothesis testing, the data set was screened for missing values, outliers and entry errors. Descriptive statistics (mean, standard deviation, minimum, maximum) were computed for all major variables grit, academic resilience and burnout as well as for key demographic variables, in order to address the first objective of the study.

The reliability of each scale (Grit-S, ARS-30, BAT-S) was assessed using Cronbach's alpha, with values of .70 and above considered acceptable. To examine bivariate associations among the main variables, Pearson product moment correlation coefficients were calculated,

corresponding to hypotheses regarding relationships between grit, academic resilience and burnout.

To determine the predictive roles of grit and academic resilience in burnout, multiple regression analyses were conducted with burnout as the dependent variable and grit and academic resilience as predictors. Finally, the proposed mediation model that academic resilience mediates the relationship between grit and burnout was tested using PROCESS macro (Model 4) or an equivalent mediation procedure in SPSS, with bootstrapped confidence intervals (e.g., 5,000 resamples). A significance level of $p < .05$ (two-tailed) was adopted for all inferential analyses.

Chapter 4

Results

4.1 Introduction to the Chapter

This chapter presents the statistical results of the study examining grit, academic resilience and burnout among first- to fourth-semester BS university students ($N = 300$). The analyses were conducted in line with the objectives and hypotheses outlined in the previous chapters.

First, the demographic characteristics of the sample are described, including gender, age, semester of study, type of institution, residence status, academic program, presence of physical or psychological issues and history of counseling. These results provide a contextual profile of the participants.

Second, the reliability analyses for the three standardized instruments used in the study the Short Grit Scale (Grit-S), the Academic Resilience Scale (ARS-30) and the Burnout Assessment Tool – Student Version (BAT-S) are reported using Cronbach’s alpha coefficients. This step ensures that the scales demonstrate adequate internal consistency in the present sample.

In subsequent sections (not yet written here), the chapter will present descriptive statistics for the main variables, followed by correlation analyses to test the relationships between grit, academic resilience and burnout. Finally, regression and mediation analyses will be reported to evaluate the predictive roles of grit and academic resilience and to test the hypothesised mediation model in which academic resilience mediates the relationship between grit and burnout.

4.2 Demographic Characteristics of the Sample

The total sample consisted of **300 BS students** enrolled in 1st to 4th semesters at public and private universities.

Table 4.1

Sample characteristics of participants (N = 300)

Variable	Category	n	%	M (SD)	Min–Max
Age (years)				20.02 (1.38)	18–25
Gender	Female	164	54.7		
	Male	136	45.3		
Semester	1	78	26.0		
	2	74	24.7		
	3	79	26.3		
	4	69	23.0		
Institution type	Public	184	61.3		
	Private	116	38.7		
Residence status	Day scholar	173	57.7		
	Hostelite	127	42.3		
Academic program	BS Computer Science	63	21.0		

	BS Education	59	19.7	
	BS English	58	19.3	
	BS Psychology	53	17.7	
	BS Sociology	67	22.3	
Physical/psychological issue	No	238	79.3	
	Yes	62	20.7	
Prior counselling	No	222	74.0	
	Yes	78	26.0	
Daily study hours				2.90 (1.35) 0–7

Note. For categorical variables, values are n (%). For continuous variables, values are M (SD) and range.

4.2 Reliability Analysis of Instruments

Table 4.2 presents the reliability coefficients for each instrument in the present sample.

Table 4.2: Cronbach's alpha for study instruments ($N = 300$)

Scale	Number of items	Cronbach's alpha
Grit-S	8	0.915
Academic Resilience (ARS-30)	30	0.983

Burnout (BAT-S)	12	0.969
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For the Short Grit Scale (Grit-S), the Cronbach's alpha coefficient was 0.915, indicating excellent internal consistency. This suggests that the eight items, after appropriate reverse scoring, reliably measure a common underlying construct of grit in this sample of BS students.

The Academic Resilience Scale (ARS-30) showed a Cronbach's alpha of 0.983, which reflects very high reliability. Although extremely high alphas can sometimes indicate item redundancy, in this context the result suggests that the items are highly homogeneous and consistently capture academic resilience as defined for this study.

The Burnout Assessment Tool – Student Version (BAT-S) yielded a Cronbach's alpha of 0.969, again demonstrating excellent internal consistency. This indicates that the 12 items form a coherent measure of burnout, encompassing exhaustion, mental distance, cognitive impairment and emotional impairment.

Table 4.3:

Descriptive statistics for grit, academic resilience and burnout (N = 300)

Variable	N	Min	Max	Mean	SD
Grit	300	1.00	4.88	3.03	0.87
Academic resilience	300	1.03	4.97	3.14	0.99

Burnout	300	1.00	5.00	2.92	1.10
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As shown in Table 4.3, the mean grit score for the sample was 3.03 (SD = 0.87), with scores ranging from 1.00 to 4.88. On a 5-point scale, this mean falls within the moderate range. This suggests that, on average, first- to fourth-semester BS students in the sample report a moderate level of perseverance and consistency of effort toward their long-term academic goals.

The relatively wide standard deviation (0.87) and the full spread from the lowest to almost the highest possible value indicate substantial variability in grit among students. Some students report very low persistence (scores around 1.00-2.00), while others report very high levels (above 4.50), suggesting that individual differences in grit are quite pronounced. This variability is important because it provides a sufficient range of scores to meaningfully examine how grit relates to academic resilience and burnout in subsequent analyses.

4.4 Correlation Analysis

Table 4.4

Correlations, means, and standard deviations for study variables (N = 300)

Variable	M	SD	1	2	3
1. Grit	3.03	0.87	—		
2. Academic resilience	3.14	0.99	.39**	—	
3. Burnout	2.92	1.10	-.50**	-.63**	—

Note. Values are Pearson correlations (two-tailed). $p < .01$.

To examine the relationships among grit, academic resilience, and burnout, Pearson product moment correlation coefficients were computed using the total scale scores (all scored on a 1-5 scale). The results are presented in Table 4.4.

Table 4.5

Mediation analysis (APA format): Academic resilience as a mediator between grit and burnout (N = 300)

A. Regression paths (PROCESS Model 4)

Path	Outcome	Predictor(s)	B	T	p	Model fit
Model						
Path c (total effect)	Burnout	Grit	0.63	9.96	<.001	F(1, 298) = 99.16, R ² = .25
Path a	Academic resilience	Grit	0.44	7.26	<.001	F(1, 298) = 52.74, R ² = .15
Path b	Burnout	Academic resilience (controlling grit)	0.57	11.09	<.001	

Path	c'	Burnout	Grit (controlling	0.38	6.60	<	F(2, 297) =
(direct			resilience)			.001	131.40, R ² =
effect)							.47 (Adj. R ² =
							.469)

B. Indirect effect (bootstrapped)

Indirect pathway	Effect (ab)	95% Bootstrap CI
Grit → Academic resilience → Burnout	0.25	[0.17, 0.33]

Note. B = unstandardized coefficient. CI = confidence interval. Indirect effect is computed as a × b.

As shown in Table 4.5, grit was positively and moderately correlated with academic resilience, $r = .39$, $p < .001$. This indicates that students who report higher levels of perseverance and consistency in pursuing their academic goals also tend to report higher levels of academic resilience such as being able to bounce back from setbacks, re-engage with difficult tasks, and use more adaptive coping strategies. This finding supports Hypothesis 1 (H1), which predicted a significant positive relationship between grit and academic resilience among university students.

Grit and academic resilience was negatively correlated with burnout, $r = .50$, $.63$, $p < .001$, reflecting a moderate inverse relationship. Students with higher grit and academic resilience scores reported lower levels of exhaustion, mental distance, cognitive difficulties and emotional strain

related to their studies. Conversely, those with lower grit tended to show higher burnout. This pattern is consistent with the notion that perseverance toward long-term goals helps students continue their efforts under pressure without becoming chronically exhausted. The result supports Hypothesis 2 (H2), which proposed a significant negative relationship between grit, academic resilience and burnout.

Table 4.6

Regression and mediation analysis predicting burnout from grit and academic resilience (N = 300)

Predictor	B	SE	β	t	p
Model 1					
Constant	—	—	—	—	—
Grit	-0.63	0.06	-.50	-9.96	< .001
Model 2					
Constant	—	—	—	—	—
Grit	-0.38	0.06	-.30	-6.60	< .001
Academic resilience	-0.57	0.05	-.51	-11.09	< .001
Model fit					
Model	R ²	Adj. R ²	ΔR^2	F(df)	p
Model 1	.25	.25	—	99.16 (1, 298)	< .001
Model 2	.47	.47	.22	131.40 (2, 297)	< .001

Note. B = unstandardized coefficient; SE = standard error; β = standardized coefficient.

B. Mediation (Indirect effect)

Indirect pathway	Effect (ab)	95% Bootstrap CI
Grit → Academic resilience → Burnout	0.25	[0.17, 0.33]

Note. Indirect effect is computed as $a \times b$ using bootstrapped confidence intervals.

First, a simple regression was run with burnout as the dependent variable and grit as the sole predictor. The model was significant, $F(1, 298) = 99.16$, $p < .001$, with $R^2 = .25$, indicating that grit alone explained 25% of the variance in burnout.

- Unstandardized coefficient for grit: $b = 0.63$, $t = 9.96$, $p < .001$.

Students with higher grit reported significantly lower burnout. This confirms that grit has a substantial direct negative effect on burnout when considered on its own.

Next, a regression model was estimated with academic resilience as the dependent variable and grit as the predictor. The model was significant, $F(1, 298) = 52.74$, $p < .001$, with $R^2 = .15$, meaning that grit accounted for 15% of the variance in academic resilience.

- Unstandardized coefficient for grit: $b = 0.44$, $t = 7.26$, $p < .001$.

This indicates that higher grit is associated with significantly higher academic resilience, supporting the first step of the proposed mediation pathway (grit → resilience).

To examine the joint predictive power of grit and academic resilience, a multiple regression model was run with burnout as the dependent variable and grit and academic resilience entered simultaneously as predictors. The overall model was significant, $F(2, 297) = 131.40$, $p < .001$, with

$R^2 = .47$. Thus, grit and academic resilience together explained approximately 46.9% of the variance in burnout, providing strong support for Hypothesis 4 (H4).

The regression coefficients were:

- **Grit → Burnout (controlling for resilience):**

- $b = 0.38, t = 6.60, p < .001$

- **Resilience → Burnout (controlling for grit):**

- $b = 0.57, t = 11.09, p < .001$

Both predictors made significant unique contributions. Higher grit and higher academic resilience each independently predicted lower burnout, with resilience showing a slightly stronger unique effect.

To test Hypothesis 4 (H4) that academic resilience mediates the relationship between grit and burnout a mediation model was estimated with:

- X (predictor): Grit
- M (mediator): Academic resilience
- Y (outcome): Burnout

From the regression results:

- Path a (grit → resilience): $b = 0.44, p < .001$
- Path b (resilience → burnout, controlling grit): $b = 0.57, p < .001$
- Total effect c (grit → burnout, without mediator): $b = 0.63, p < .001$

- Direct effect c' (grit \rightarrow burnout, controlling resilience): $b = 0.38, p < .001$

The indirect effect of grit on burnout through resilience is $a \times b \approx 0.44 \times (0.57) = 0.25$. A non-parametric bootstrapping procedure with 2,000 resamples produced an estimated indirect effect of approximately 0.25, with a 95% confidence interval of about [0.33, 0.17], which does not include zero. This indicates a significant mediating effect of academic resilience.

Because both the direct effect (c') and the indirect effect are significant, the pattern is consistent with partial mediation: grit reduces burnout directly and also indirectly by increasing academic resilience, which in turn lowers burnout. This pattern fully supports Hypothesis 4 (H4) and aligns with the theoretical expectation that perseverance (grit) contributes to better coping and bouncing back (resilience), which then protects students from burnout.

Chapter 5

Discussion

5.1 Discussion of Findings

This section discusses the main findings of the study in light of the stated objectives and hypotheses, and compares them with previous empirical work. The discussion is structured around: (a) levels of grit, academic resilience and burnout; (b) bivariate relationships among these variables; (c) their joint predictive power; and (d) the mediating role of academic resilience in the relationship between grit and burnout. Particular attention is given to the Pakistani university context and the implications for early-semester BS students.

5.1.1 Levels of grit, academic resilience and burnout

The first objective was to examine the level of grit, academic resilience and burnout among BS students. Descriptive analyses showed that the sample reported moderate levels of grit ($M = 3.03$), academic resilience ($M = 3.14$) and burnout ($M = 2.92$) on a 1-5 scale. These results suggest that students generally perceive themselves as reasonably persistent and able to bounce back from academic setbacks, yet they also experience a noticeable degree of emotional and cognitive strain related to their studies.

The finding of moderate grit and resilience aligns with recent research in Pakistan and comparable contexts. Fatima (2024), for example, reported moderate levels of grit and academic resilience among university students in Lahore and found that both constructs were positively linked with growth mindset and adaptive learning outcomes. Similarly, studies among nursing and health-related students in other countries have often found “normal” or mid-range grit and

resilience scores, rather than uniformly high levels, indicating that these personal resources are distributed along a continuum in student populations rather than being rare “super traits.”

The moderate level of burnout observed in this study is also consistent with the broader literature, where many samples of university students show neither extremely low nor uniformly high burnout, but rather a wide spread of scores with a moderate mean. For example, Tran et al. (2023) found that about 12% of international students in Taiwan reported high burnout, while the majority experienced moderate levels, highlighting burnout as a real but not universal problem. By contrast, Khan et al. (2023) reported very high prevalence of burnout among accountancy students in Pakistan, probably reflecting the particularly demanding nature of that programme.

In comparison, the present sample of first- to fourth-semester BS students across various disciplines shows moderate average burnout, but with some individuals scoring at the high end. This pattern may reflect the transition phase of early university years in Pakistan: students are adjusting to new teaching methods, more self-directed learning and strong family expectations, but many have not yet reached the extreme levels of exhaustion sometimes observed in professional or later-stage programmes. At the same time, resource constraints, large class sizes and limited access to counselling services in many public institutions may contribute to the presence of moderate burnout even at these early stages.

5.1.2 Relationships among grit, academic resilience and burnout

The second objective was to determine the relationships between grit, academic resilience and burnout. Correlation analysis showed that:

- Grit was positively related to academic resilience ($r \approx .39, p < .001$).
- Grit was negatively related to burnout ($r \approx -.50, p < .001$).

- Academic resilience was strongly negatively related to burnout ($r \approx .63, p < .001$).

These results support the study's core hypotheses that students with higher grit tend to be more resilient, and that both grit and resilience are associated with lower burnout.

The positive association between grit and academic resilience is consistent with Fatima's (2024) findings, where grit significantly predicted resilience and both were jointly associated with more adaptive educational outcomes among Pakistani university students. Conceptually, this makes sense: gritty students persist toward long-term academic goals and are therefore more likely to reinterpret setbacks as temporary and to employ problem-focused coping, which are central features of academic resilience.

The negative relationship between grit and burnout replicates findings from several contexts. In particular, Khan et al. (2023) reported that grit was a strong negative predictor of burnout among accountancy students in Pakistan, and that students with higher grit experienced less exhaustion and cynicism despite heavy workloads. Meta-analytic evidence also indicates that grit, especially the perseverance-of-effort component, is modestly but consistently associated with better academic outcomes and lower maladaptive states such as disengagement (Lam & Zhou, 2022). The present findings extend this evidence to a broader, mixed-discipline BS sample at an earlier stage of university.

The strong negative association between academic resilience and burnout is in line with studies showing that resilience functions as a protective factor in stressful academic environments. Tran et al. (2023) found that resilience components were inversely related to burnout symptoms among international students in Taiwan, and concluded that resilience helps protect mental health in the post-COVID "new normal." Similarly, Amiri et al. (2025) reported a negative association between resilience and burnout among Iranian medical students, again highlighting resilience as a

buffer against academic stress. The strong correlation in the present study suggests that, in the Pakistani context, students who can effectively bounce back from poor grades, seek help and maintain effort are much less likely to reach a state of academic exhaustion and mental distance.

5.1.3 Joint prediction of burnout by grit and academic resilience

The third objective was to explore how grit and academic resilience together influence burnout. Multiple regression results showed that grit alone explained about 25% of the variance in burnout, but when academic resilience was added to the model, the two predictors together accounted for roughly 47% of the variance. Both predictors remained significant: higher grit and higher resilience each uniquely predicted lower burnout.

These findings are broadly consistent with Khan et al.'s (2023) study, where grit emerged as a strong negative predictor of burnout and academic resilience further contributed to explaining variance in burnout among Pakistani accountancy students. They are also congruent with international work grounded in the study demands resources framework, which emphasises that personal resources like resilience and perseverance can substantially reduce burnout in the presence of high academic demands.

The somewhat larger contribution of academic resilience (relative to grit) when both are entered into the model suggests that, although perseverance is important, what may matter even more in this context is how students respond to setbacks and stress in the moment. Grit reflects a long-term orientation to goals, whereas resilience reflects dynamic adaptation to immediate difficulties. In Pakistani universities, students frequently confront practical stressors such as overloaded timetables, limited feedback, infrastructural issues and sometimes unclear administrative procedures. In such environments, having adaptive coping strategies, help-seeking

tendencies and emotional regulation skills (captured by resilience) may be especially crucial in reducing burnout, even when students are generally persistent.

5.1.4 Mediation role of academic resilience

The fourth objective was to examine whether academic resilience mediates the relationship between grit and burnout. Mediation analysis showed that:

- Grit significantly predicted academic resilience (path a).
- Academic resilience significantly predicted lower burnout while controlling grit (path b).
- The total effect of grit on burnout was negative and significant.
- The direct effect of grit on burnout remained significant after including resilience, but was reduced in magnitude.
- The indirect effect of grit on burnout via resilience was significant based on bootstrap confidence intervals.

This pattern indicates partial mediation: grit reduces burnout both directly and indirectly by increasing academic resilience.

Those results are quite similar to those of Khan et al. (2023), who stated that academic resilience partly mediated the connection between grit and burnout among Pakistani students of accountancy. In both articles, grit seems to enhance more resilient attitude towards academic challenges and this resiliency subsequently helps prevent the emotional draining and withdrawal of students out of their studies. This pattern of mediation is extended to a more heterogeneous BS population during early semesters in the present study, which could indicate that the mechanism is active across disciplines and stages of study in the Pakistani higher education system.

The mediation finding is also consistent with the rest of the literature describing resilience as one of the essential processes where personal resources and strengths have a central role in

academic success. To illustrate, Tran et al. (2023) also found that the elements of resilience played a significant role in the decreasing burnout in international students, and intervention strategies specifically focused on resilience-building can prove useful. In this respect, grit can be regarded as a more consistent factor that provides favorable conditions in terms of resilience developing, whereas resilience serves as the more proximal one that appears to determine the way students respond to the everyday academic stress.

5.1.5 Interpretation in the local university context

Interpreting these findings within the Pakistani university context is important. Students in this study were drawn from 1st to 4th semesters, a period often characterized by transition from school to university, adaptation to new academic norms and strong parental and societal expectations about performance. In many institutions, especially public-sector universities, students face large class sizes, limited one-to-one support and relatively scarce psychological services, while also managing family responsibilities and, in some cases, part-time work.

In such a context, it is understandable that burnout reaches moderate levels even in early semesters. At the same time, the significant protective effects of grit and academic resilience suggest that internal psychological resources can make a substantial difference to how students cope with these environmental pressures. Students who are able to maintain long-term commitment to their goals (grit) and who can reinterpret failures, seek help and regulate their emotions (resilience) are less likely to “burn out” despite structural challenges.

Culturally, Pakistani students often report strong family involvement and high achievement expectations, which can operate as both a motivator and a stressor. Grit may be reinforced by cultural messages about hard work, perseverance and honouring family investment in education,

while resilience may be influenced by social support from family and peers as well as religious or spiritual coping. When these cultural and social supports are present, they likely strengthen the link between grit and resilience, and in turn reduce burnout. When supports are weaker for instance, for hostel students away from home, or for those in crowded programmes students with low grit and resilience may be especially vulnerable to emotional exhaustion.

Overall, the findings underscore that grit and academic resilience function as powerful protective resources for BS students in Pakistani universities. They not only correlate with lower burnout but also jointly explain a large proportion of its variance, with resilience partially mediating the influence of grit. This suggests that interventions in higher education should not focus solely on reducing academic demands, but also on actively cultivating grit and, especially, academic resilience through skills training, mentoring, constructive feedback and access to counselling services.

5.2 Conclusion

The current research involved the analysis of grit, academic resilience and burnout in 300 first- to fourth-semester BS students of both public and private universities. Measuring the levels of these constructs, the interrelationships between them and also testing a mediation model, where academic resilience mediates the relationship between grit and burnout, were the main objectives. Descriptive results revealed that students were reporting moderate grit and academic resilience, moderate levels of burnout with a significant degree of variability in the three constructs. It implies that although an extensive number of students consider themselves fairly persistent and able to recover after academic failures, still a rather significant percentage of them report significant amounts of exhaustion, psychological distance and emotional stress associated with their studies.

The correlation and regression analyses demonstrated that grit had a positive relationship with academic resilience and negative relationship with burnout, and vice versa, academic resilience had a strong and negative relationship with burnout. The combination of grit and academic resilience accounted for a high percentage of the differences in burnout when both were combined, which indicates that the two constructs are important protective against academic burnout and disengagement.

The mediation analysis above also gave an additional understanding, demonstrating that academic resilience mediates the association between grit and burnout partially. Not only did grit have a direct negative effect on burnout, but it also indirectly affected burnout by increasing the resilience of the students. All the five hypotheses were confirmed.

Comprehensively, the research concludes that both gritty and academically resilient students have a significantly lower chance of burnout even in the context of a demanding and resource-strained university setting. The results underline the need to promote persistence in long-term academic objectives as well as the ability to respond positively to failures, especially in the first and second semesters of undergraduate learning.

5.3 Recommendations

Based on the findings, several practical and research-related recommendations are proposed:

5.3.1 Recommendations for universities and departments

- Develop orientation and transition programs for 1st 4th semester students that explicitly address coping with academic stress, time management and realistic expectations.
- Integrate resilience- and grit-building workshops into co-curricular activities (e.g., goal-setting, problem-solving, adaptive thinking, managing failure, and help-seeking skills).

- Strengthen counseling and student support services, ensuring students know how and where to seek help for academic and psychological difficulties.
- Review course loads, assessment schedules and feedback practices to reduce unnecessary stressors that can fuel burnout, especially in the early semesters.

5.3.2 Recommendations for teachers and academic advisors

- Foster a supportive classroom climate by providing constructive feedback, acknowledging effort, and normalizing occasional setbacks as part of learning.
- Encourage students to set clear long-term academic goals and break them into manageable short-term tasks, reinforcing perseverance and self-regulation.
- Identify and reach out to students who show signs of high burnout and low resilience (e.g., frequent absences, withdrawal, complaints of exhaustion) and refer them to appropriate support services.

5.3.3 Recommendations for students

- Engage in active coping strategies, such as planning, problem-solving and seeking academic or emotional support, rather than withdrawing when difficulties arise.
- Work on building personal grit and resilience through practices like consistent study routines, reflective learning from mistakes, and maintaining a long-term perspective on academic goals.

5.3.4 Recommendations for future research

- Use larger and more diverse samples from multiple universities and disciplines, with probability sampling where feasible.
- Conduct longitudinal studies to track changes in grit, resilience and burnout over time and to better infer causal relationships.

- Include additional variables such as academic stress, social support, engagement and academic performance to build more comprehensive models.
- Design and evaluate intervention studies aimed at enhancing academic resilience and grit, and assess their impact on reducing burnout and improving student outcomes.

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APPENDICES

Appendix A

Permission letter from Department of Professional Psychology



Bahria University
Discovering Knowledge

BULC/PSY/2025/ 328

11th November 2025

Permission Letter

Subject: Request for Cooperation for Collecting Research Data

To Whom It May Concern

Respected Sir/Ma'am,

Bahria University is a Federally Chartered Public Sector University. Bahria University was established by the Pakistan Navy in 2000. Since then, it has steadily grown into one of Pakistan's leading higher education institutions with campuses in Islamabad, Karachi, and Lahore.

The Department of Professional Psychology (DPP) was established in 2018. The Department offers both BS Psychology and MS Clinical Psychology Programs, aims to give quality education, and promotes ethical and competent psychology practice in Pakistan.

Ms. Shafia Manzoor, a student of Bahria University Lahore Campus, currently enrolled in BS Psychology, VIII Semester. She is conducting final year research entitled "Grit, Academic Resilience and Burnout among University Students."

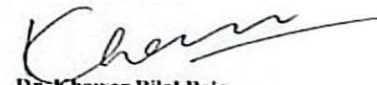
For this purpose, she needs to collect data from your institute/organization. The information provided will remain confidential, and we will ensure the ethical responsibility of all our participants. The results concluded from the collected data will be used only for educational purposes. The identity of any participant will not be disclosed at any time.

We would like to seek your cooperation in conducting this research. Your assistance in our scientific pursuit will be highly appreciated and acknowledged.

Thanking you in anticipation.

Supervisor


Ms. Salma Bano
Sr. Lecturer


Dr. Khawer Bilal Baig
Senior Associate Professor/ HOD
Department of Professional Psychology
Bahria University Lahore Campus

Appendix B

Informed Consent form



Bahria University Lahore Campus

INFORMED CONSENT

I am a student of BS Psychology at Bahria University Lahore Campus. I am conducting a research study for the purpose of completion of degree under the supervision of Ms. Saima Bano, and you are being asked to participate. The title of the study is "*Grit, Academic Resilience, and Burnout among University Students.*" The questionnaire will take approximately 15–20 minutes to complete.

- I voluntarily agree to participate in this research study.
- I understand that all information I provide will be treated confidentially and anonymously.
- I understand that my responses will be used solely for research purposes.

Signature of Participant: _____

Date: _____

Signature of Researcher: _____

APPENDIX C

Demographics Sheet

Demographic Sheet

1. Personal Information

- Age: _____ (in years)
- Gender:
 - Male
 - Female
 - Other

2. Educational Information

- Type of Institution:
 - Public University
 - Private University
- Year of Study:
 - 1st Year
 - 2nd Year
 - 3rd Year
 - 4th Year
- Program of Study: _____

3. Academic Engagement & Lifestyle

- Average Study Hours per Day:
 - Less than 2 hours
 - 2–4 hours
 - 5–6 hours
 - More than 6 hours
- Do you currently experience any psychological or emotional difficulties (e.g., anxiety, depression, excessive stress)?
 - Yes
 - No
 - Prefer not to say
- Have you ever sought help or counseling for psychological or emotional concerns?
 - Yes
 - No
 - Prefer not to say

Appendix D

Mail of Author (GRIT-S)

Request for Permission to Use the Short Grit Scale (Grit-S) in Research

Add label



Shafia Manzoor 2 Oct

to sincook, saima... ^



From Shafia Manzoor •
shafiamanzoorbhatti@gmail.com

To sincook@wharton.upenn.edu

Cc saimabano.bulc@bahria.edu.pk

Date 2 Oct 2025, 2:19 pm

[See security details](#)

Dear,

I am **Shafia Manzoor**, a final-year BS Applied Psychology student at Bahria University, Lahore. For my undergraduate thesis, I am conducting research on *GRIT, ACADEMIC RESILIENCE, AND BURNOUT AMONG UNIVERSITY STUDENTS*.

I would like to request your permission to use the **Short Grit Scale** as a research instrument in my study. The

Appendix E

Mail of Author (ARS-30)

Request for Permission to Use the Academic Resilience Scale (ARS-30) in Research Add label 

 **Shafia Manzoor** 2 Oct
to s.cassidy, saim...   

From Shafia Manzoor •
shafiamanzoorbhatti@gmail.com

To s.cassidy@chester.ac.uk

Cc saimabano.bulc@bahria.edu.pk

Date 2 Oct 2025, 2:12 pm

[See security details](#)


Dear,

I am **Shafia Manzoor**, a final-year BS Applied Psychology student at Bahria University, Lahore. For my undergraduate thesis, I am conducting research on *GRIT, ACADEMIC RESILIENCE, AND BURNOUT AMONG UNIVERSITY STUDENTS*.

I would like to request your permission to use the **Academic Resilience Scale** as a research

Appendix F

Mail of Author (BAT-S)



Schaufeli, W.... 10 Oct
to me ▾

Dear Shafia,

Thank you for your inquiry. I am pleased to inform you that the Burnout Assessment Tool (BAT) can be used freely by everyone without any restrictions. Therefore, permission is granted!

You can find all relevant information on our website:
www.burnoutassessmenttool.be.

Good luck with your research, and please ensure to refer to the following sources:

- Schaufeli, W.B., De Witte, H., & Desart, S. (2020). [Manual Burnout Assessment Tool \(BAT\)](#). KU Leuven, Belgium.

Appendix G

Short Grit Scale (Grit-S)

Instructions: Please respond to the following 8 items. Be honest there are no right or wrong answers. Place a ✓ check mark in the box that best represents how much each statement describes you.

	Statement	Very much like me	Mostly like me	Somewhat like me	Not much like me	Not like me at all
1	New ideas and projects sometimes distract me from previous ones.					
2	Setbacks don't discourage me.					
3	I have been obsessed with a certain idea or project for a short time but later lost interest.					
4	I am a hard worker.					
5	I often set a goal but later choose to pursue a different one.					
6	I have difficulty maintaining my focus on projects that take more than a few months to complete.					
7	I finish whatever I begin.					
8	I am diligent.					

Appendix H

Academic Resilience Scale (ARS-30)

Instructions:

Read each of the statements below and tick (✓) the box between 1 (Strongly Agree) and 5 (Strongly Disagree) that best reflects how much you think each statement describes how you personally would react.

Please make sure that you give a response to ALL the statements and try to be as sincere and precise as possible in your answers.

	Statement	Strongly Agree	Agree	Neutral	Disagree	5 Strongly Disagree
1	I would not accept the tutors' feedback					
2	I would use the feedback to improve my work					
3	I would just give up					
4	I would use the situation to motivate myself					
5	I would change my career plans					
6	I would probably get annoyed					
7	I would begin to think my chances of success at university were poor					
8	I would see the situation as a challenge					
9	I would do my best to stop thinking negative thoughts					
10	I would see the situation as temporary					
11	I would work harder					

12	I would probably get depressed					
13	I would try to think of new solutions					
14	I would be very disappointed					
15	I would blame the tutor					
16	I would keep trying					
17	I would not change my long-term goals and ambitions					
18	I would use my past successes to help motivate myself					
19	I would begin to think my chances of getting the job I want were poor					
20	I would start to monitor and evaluate my achievements and effort					
21	I would seek help from my tutors					
22	I would give myself encouragement					
23	I would stop myself from panicking					
24	I would try different ways to study					
25	I would set my own goals for achievement					
26	I would seek encouragement from my family and friends					
27	I would try to think more about my strengths and weaknesses to help me work better					

28	I would feel like everything was ruined and was going wrong					
29	I would start to self-impose rewards and punishments depending on my performance					
30	I would look forward to showing that I can improve my grades					

Appendix I

Burnout Assessment Tool for Students (BAT-S)

Instructions:

Read each of the statements below and tick (✓) the box between 1 (Never) and 5 (Always) that best reflects how often each statement applies to you.

Please respond to all statements as sincerely and precisely as possible.

	Statement	Never	Rarely	Sometimes	Often	Always
1	Due to my studies, I feel mentally exhausted					
2	After a day of working on my study, I find it hard to recover my energy					
3	While working on my studies, I feel physically exhausted					
4	I struggle to find any enthusiasm for my studies					
5	I feel a strong aversion toward my studies					
6	I'm cynical about what my study means to others					
7	When I am working on my studies, I have trouble staying focused					
8	When I am working on my studies, I have trouble concentrating					
9	I make mistakes while working on my studies because I have my mind on other things					
10	I feel unable to control my emotions					

11	I do not recognize myself in the way I react emotionally					
12	I may overreact unintentionally					

Appendix J
Plagiarism Report

ORIGINALITY REPORT

12%	7%	9%	4%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	www.ncbi.nlm.nih.gov Internet Source	1%
2	Allen, Heather. "The Impact of Mindfulness on Burnout and Job Satisfaction Among K-12 Teachers", Keiser University Publication	1%
3	Dalia Bagdžiūnienė, Irena Žukauskaitė, Laima Bulotaitė, Rūta Sargautytė. "Study and personal resources of university students' academic resilience and the relationship with positive psychological outcomes", Frontiers in Psychology, 2025 Publication	<1%
4	core.ac.uk Internet Source	<1%
5	Miles, Leslie. "Grit in School Psychologists: A Protective Factor for Burnout", Georgian Court University, 2024 Publication	<1%
6	Yusof M. Omar, Ahmed Abdelmageed, Omar Shaker, Samir Oransa et al. "The interplay of grit, resilience, and burnout among medical students during exams: a cross-sectional study in Mansoura University, Egypt",	<1%

*% detected as AI

AI detection includes the possibility of false positives. Although some text in this submission is likely AI generated, scores below the 20% threshold are not surfaced because they have a higher likelihood of false positives.

Caution: Review required.

It is essential to understand the limitations of AI detection before making decisions about a student's work. We encourage you to learn more about Turnitin's AI detection capabilities before using the tool.

Disclaimer

Our AI writing assessment is designed to help educators identify text that might be prepared by a generative AI tool. Our AI writing assessment may not always be accurate (i.e., our AI models may produce either false positive results or false negative results), so it should not be used as the sole basis for adverse actions against a student. It takes further scrutiny and human judgment in conjunction with an organization's application of its specific academic policies to determine whether any academic misconduct has occurred.

Frequently Asked Questions

How should I interpret Turnitin's AI writing percentage and false positives?

The percentage shown in the AI writing report is the amount of qualifying text within the submission that Turnitin's AI writing detection model determines was either likely AI-generated text from a large-language model or likely AI-generated text that was likely revised using an AI paraphrase tool or word spinner.

False positives (incorrectly flagging human-written text as AI-generated) are a possibility in AI models.

AI detection scores under 20%, which we do not surface in new reports, have a higher likelihood of false positives. To reduce the likelihood of misinterpretation, no score or highlights are attributed and are indicated with an asterisk in the report (*%).

The AI writing percentage should not be the sole basis to determine whether misconduct has occurred. The reviewer/instructor should use the percentage as a means to start a formative conversation with their student and/or use it to examine the submitted assignment in accordance with their school's policies.

