

“Association Of Academic Achievement With Intelligence And Anxiety Among Undergraduate Students”.

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ABSTRACT

This study examines the associations between academic achievement, intelligence, and anxiety within a sample of 100 students studying art and humanities subjects in their undergraduate program. Correlation analysis were conducted to explore these relationships and their implications for student success and well-being. Results reveal a significant positive correlation between academic achievement and intelligence, highlighting the role of cognitive abilities in academic performance. Conversely, no significant relationship is observed between academic achievement and anxiety levels, suggesting limited direct influence of anxiety on academic success in this context. These findings contribute to understanding the complex dynamics among academic achievement, intelligence, and anxiety, informing future research and educational interventions aimed at supporting student well-being and academic success.

Keywords: Academic Achievement, Anxiety, Intelligence, Undergraduate students, Mental Health

INTRODUCTION

Understanding the complex connections between academic success, IQ, and anxiety in undergraduates is a challenging task with significant implications for the fields of education and student welfare. Academic achievement is a key sign of a student's development and competency in their studies since it demonstrates their understanding of the subject things as well as their ability to apply it in a wide range of contexts. Academic achievement and motivation are critical for pupils (Muro et al., 2018). Academic achievement is important since it directly affects a person's chances of success in the future (Steinmayr et al., 2014). Intelligence is a wide trait that includes cognitive skills including information processing, critical thinking, and problem-solving. It has a substantial impact on academic achievement and success. (Muro et al., 2018).

Anxiety, especially academic anxiety can have a substantial negative influence on students' cognitive capacities, attention spans, and overall academic performance. Poor academic performance, memory retention issues, and learning processes have all been related to high levels of anxiety (Akinsola & Nwajei, 2013). According to Hashempour and Mehrad (2014), anxiety impairs students' working memory, which in return impacts how well they do academically. Given this, it becomes essential to investigate the connection between academic anxiety and cognitive performance to attain academic success. The relationship between intelligence, anxiety, and academic achievement emphasizes the need to have an in-depth understanding of how these factors interact and influence one another in the academic setting.

Teachers and legislators may learn a great deal about creating focused treatments and support systems to assist children better control their anxiety, develop their cognitive skills, and do better academically by investigating this relationship. This information can help design practical tactics and interventions that support undergraduate students' mental health and academic achievement by fostering a supportive learning environment.

Psychologists and educators have paid close attention to the relationship that exists between undergraduate students' academic success, intelligence, and anxiety. Developing successful interventions to improve student

achievement and well-being in higher education environments requires an understanding of the complex relationships among these components.

Numerous metrics, including grade point average (GPA), results on standardized tests, and class rankings, are frequently used to assess academic achievement. Although these measures offer numerical evaluations of pupils' performance, academic accomplishment is a more comprehensive concept than simple intelligence. Spearman's (1904) groundbreaking study on intelligence states that general mental capacity, or the "g" factor, has an impact on academic accomplishment. The idea that intelligence, especially fluid intelligence, has a big impact on academic achievement has been validated by further studies (Deary, Strand, Smith, & Fernandes, 2007). Nonetheless, there are other facets to the connection between academic success and intelligence. Research has indicated that although intelligence is a predictor of academic achievement, motivation, self-control, and socioeconomic background moderate this link (von Stumm & Plomin, 2015). Moreover, the importance of non-cognitive skills, including grit and resilience, in predicting academic outcomes has been increasingly recognized (Duckworth et al., 2007).

According to McClelland (1973), academic achievement is often understood to be the level of skill or success that students exhibit in their pursuits of education. It includes a wide range of numerical and qualitative metrics, such as grades, scores on standardized tests, class standing, completion rates, and involvement in extracurricular activities, among others (Coleman, 1966; Sirin, 2005). It describes the extent to which a student successfully fulfills the standards or learning objectives established by educational institutions. It includes several factors, including class standing, grades, test scores, subject-matter proficiency, and general academic advancement (Schunk, 2012). Academic achievement is a multidimensional concept that is impacted by a range of elements, such as personal traits, social context, educational setting, and family history (Huang, 2011). But it's important to remember that academic achievement goes beyond simply achieving quantitative measures; it also includes establishing critical thinking abilities, problem-solving skills, and thorough conceptual knowledge (Popham, 2008).

A fundamental concept of psychological theory, intelligence can take many different forms, including social, emotional, cognitive, and problem-solving intelligence (Ashok, 2013). According to Sternberg (2024), intellectual ability is a mental quality that encompasses the ability to learn from experience, adjust to changing conditions, understand and work with abstract concepts, and apply knowledge to change one's environment. It encompasses abilities like critical thinking, problem-solving, fast learning, and understanding difficult concepts. Instead of being a single skill, intelligence is a systematic blend of cognitive functions including memory, perception, learning, reasoning, and problem-solving that are intentionally geared toward efficient environmental adaptation (Sternberg, 1985).

Anxiety is a widely prevalent psychological phenomenon that has the potential to either facilitate or impede academic performance. According to the Yerkes-Dodson Law (Yerkes & Dodson, 1908), moderate levels of anxiety might potentially enhance motivation and concentration, ultimately leading to peak performance. Conversely, excessive anxiety has the capacity to hinder cognitive functioning and disrupt the processes of learning (Eysenck, Derakshan, Santos, & Calvo, 2007). Within the realm of academia, students frequently confront anxiety in the face of academic pressures like exams, deadlines, and evaluations. Particularly, heightened levels of test anxiety have been associated with decreased academic performance and an increased probability of academic underachievement (Zeidner, 1998).

Research is still needed to fully understand the connections between academic accomplishment, intellect, and anxiety, even though these relationships have been examined separately. Higher IQs may act as a buffer against the negative effects of anxiety on academic performance, according to some study (Eysenck et al., 2007). In contrast, those who are less cognitively advanced may be more vulnerable to the negative effects of anxiety on memory and learning (Derakshan & Eysenck, 2009). Furthermore, a number of variables, such as academic engagement, coping mechanisms, and self-efficacy beliefs, may operate as mediators in the association between anxiety and academic accomplishment (Putwain & Daly, 2013). Developing comprehensive treatments to support undergraduate students' academic progress and well-being requires an understanding of these dynamic connections.

Academic accomplishment is a measure of a student's degree of competency and understanding of the material they are studying. It is commonly determined by grades and results on standardized tests (McClelland, 1973; Koretz & Hamilton, 2006). Cognitive aptitude, which includes thinking, memory, and problem-solving abilities, is the definition of intelligence (Gottfredson, 1997). Conversely, anxiety is the feeling of increased fear and concern, and it can appear in a learning environment as performance anxiety or exam anxiety (Hembree, 1988; Spielberger, 2010). This paper aims to explore the empirical evidence linking academic achievement with intelligence and anxiety, shedding light on the complex dynamics shaping students' educational experiences.

The measurement and assessment of intelligence have been central effort in psychological research, aiming to quantify and understand individuals' cognitive abilities and problem-solving skills. Various approaches and

instruments have been developed to assess intelligence, each offering unique insights into different aspects of cognitive functioning.

One of the most popular methods for determining intelligence is the administration of standardized intelligence tests, such as the Stanford-Binet Intelligence Scales and the Wechsler Adult Intelligence Scale (WAIS) (Wechsler, 1955; Roid, 2003). A wide range of exercises intended to assess various cognitive capacities, such as verbal comprehension, perceptual reasoning, working memory, and processing speed, are commonly included in these exams. The Universal Nonverbal Intelligence Test (UNIT) and Raven's Progressive Matrices are two examples of nonverbal intelligence tests that assess cognitive capacity without the use of language-based activities (Raven, 1962; Bracken & McCallum, 1998). Dynamic assessment methods such as the Feuerstein Instrumental Enrichment Program and the Cognitive Assessment System (CAS) evaluate an individual's capacity for learning and cognitive development (Feuerstein et al., 1980). Neuroscience advances have resulted in the creation of neurocognitive evaluations, which quantify neural activity linked to cognitive activities using brain imaging methods as electroencephalography (EEG) and functional magnetic resonance imaging (fMRI) (Lezak et al., 2012). Accurately evaluating people's cognitive capacities across language and cultural backgrounds requires ensuring cultural fairness and eliminating biases in intelligence evaluations (Suzuki & Valencia, 1997).

Academic success and intelligence have a complicated and multidimensional relationship that is impacted by several variables, including cognitive ability, socioeconomic background, motivation, and educational opportunity. Problem-solving, thinking, memory, and language skills are just a few of the capabilities that make up intelligence, sometimes referred to as cognitive capacity. Academic achievement, on the other hand, is the performance that is often assessed by grades, scores on standardized tests, and academic accomplishments in formal educational environments.

Research indicates that academic achievement is closely associated with intelligence views, scientific optimism, academic engagement, and academic self-efficacy (Dr. Mohammed, 2022). Additionally, research has shown a relationship over time between pupils' academic success, intellect, and personality qualities including extraversion and conscientiousness (Masoumeh, 2023).

The relationship between academic achievement and intelligence is influenced by several factors. Emotional intelligence (EI) and executive functions (EF) have been identified as significant factors affecting academic success (Dr. Mohammed). Additionally, self-regulation (SR) plays a crucial role in academic achievement by organizing learning processes and coordinating cognitive activities (Georgina, 2023). Furthermore, the level of intelligence and executive functions like working memory, mental flexibility, and planning are closely associated with academic performance (Inmaculada, 2021). Overall, a combination of emotional intelligence, executive functions, self-regulation, and social-emotional factors collectively influences the relationship between academic achievement and intelligence.

Studies have repeatedly demonstrated that intelligence and academic accomplishment are positively correlated, meaning that those with higher cognitive capacity often perform better in the classroom (Deary et al., 2007). Numerous reasons can be linked to this association. According to Gottfredson (1997), those with higher cognitive capacities may have better learning and information-processing abilities, which will help them absorb and remember academic content more easily.

Academic success and anxiety are two significant challenges that have an impact on the lives of politicians, educators, and young people. According to Hunt & Eisenberg (2010) and Ibrahim et al. (2013), anxiety is a prevalent mental health condition among students that affects their emotional well-being, cognitive functioning, and overall academic performance. Anxiety is characterized as feelings of worry, anxiety, and unease. On the contrary, academic accomplishment, which includes grades, test scores, and educational attainment, reflects students' successful fulfillment of learning objectives and academic goals (Sirin, 2005).

To improve student performance and create a positive learning environment, it is crucial to comprehend the intricate interactions that exist between anxiety and academic achievement. Excessive or persistent anxiety can negatively impact students' ability to focus, remember knowledge, and perform well in academic activities, whereas moderate degrees of anxiety might encourage academic engagement and performance (Zeidner, 1998).

Anxiety is a prevalent mental health concern among college students, impacting academic performance, social interactions, and overall well-being. It is a complex emotional state characterized by feelings of tension, apprehension, nervousness, and worry, often accompanied by physiological symptoms like restlessness, fatigue, and muscular tension (Regina, 2023). It can arise from various sources such as threat, pressure, or anticipation of future events (Ashwani, 2018). Anxiety differs from fear, as it is more focused on future threats rather than immediate danger (Spielberger, 1987)

Anxiety is a global issue that affects many college students. Studies on medical students have shown that factors such as a heavy course load, psychological stress, and low self-esteem can all make exam anxiety worse (Anubhuti et al., 2023). The COVID-19 epidemic has caused anxiety in nursing students, leading to concerns about clinical practice, completing coursework, financial constraints, and future career uncertainties (Manju, et.al, 2023).

Anxiety among undergraduate students can arise and worsen due to several circumstances. These include concerns about the future, interpersonal issues, perfectionism, social isolation, financial strain, and academic stress (Beiter et al., 2015; Andrews & Wilding, 2004; Kessler et al., 2005).

Undergraduate students' anxiety significantly affects their academic performance and overall college achievement. Several research works have demonstrated the negative correlation between anxiety and academic performance (Chapell et al., 2005). Anxiety is a prevalent mental health issue among students, impacting 33.7% of the worldwide population and substantially impairing academic achievement (Vytal et al., 2013; Bandelow & Michaelis, 2015). Studies have shown that worried students are more likely to procrastinate, experience memory problems, lack motivation, and have difficulty focusing, all of which might hinder their academic success (Hysenbegasi et al., 2005; Zivin et al., 2009).

Moreover, anxiety can lead to avoidance behaviours and procrastination, further hindering students' academic progress (Richardson et al., 2012). Students experiencing anxiety may avoid challenging tasks or academic responsibilities due to fear of failure or negative evaluation, resulting in incomplete assignments, missed deadlines, and poor academic performance (Richardson et al., 2012; Macher et al., 2012).

Studies reveal that even with sufficient preparation and subject-matter knowledge, students who experience test anxiety are more likely to score poorly on tests (Cassady & Johnson, 2002). Students who experience test anxiety may find it difficult to remember material, which might have an adverse effect on their exam results and general academic performance (Cassady & Johnson, 2002; Zeidner, 1998). Academic success has been proven to be adversely affected by test anxiety, a specific type of anxiety associated to academic examinations (Chapell et al., 2005; Cassady & Johnson, 2002). Even with sufficient preparation, test-anxious students may find it difficult to focus during tests, which might result in poor performance (Cassady & Johnson, 2002).

Overall, the relationship between anxiety and academic achievement is complex, with anxiety impairing cognitive functioning, increasing avoidance behaviours, and exacerbating test anxiety, all of which can contribute to lower academic performance among undergraduate students.

Research objectives.

- To investigate the relationship of academic achievement with intelligence.
- To investigate the relationship of academic achievement with anxiety.
- To investigate the relationship of intelligence and anxiety among undergraduate students.
- To assess the gender differences in the relationship between academic achievement, intelligence, and anxiety.

Hypothesis

- There is a significant positive association between academic achievement and measures of intelligence.
- There is a significant negative association between academic achievement and levels of anxiety.
- There is a significant negative association between anxiety and intelligence.
- There is a significant gender differences in the relationship between academic achievement, intelligence, and anxiety.

Sample

The present study was conducted on the sample of 100 undergraduate student.

Participants and data collection

This study sample consists of 100 students picked from arts and humanities department (which significantly affected the results) who were currently in their final year pursuing undergraduate from Lovely Professional university, Punjab, India. All subjects were from the age group of 18 to 25. Data was collected through primary data collection method where structured questionnaires were given to the participants.

Variables

The following variables were used in the study.

1. Academic achievement
2. Intelligence
3. Anxiety

Inclusive criteria

1. All subjects are from age group of 18 to 25
2. all subjects are college students.
3. All subjects are pursuing undergraduate.
4. all subjects are from art and humanities departments.
5. All subjects were final year students.

Exclusive criteria

1. Subjects who are under 18 or above 25 were not taken.
2. Subjects who are not in their final year (5th,6th semester) were not taken.
3. Subjects who are not in undergraduate program were not taken.

Measuring tests and tools

1. Overall Cumulative Grade Point Average (CGPA) from last 2 years of study of undergraduate student was used as the measure of academic achievement. CGPA provides a comprehensive and cumulative assessment of a student's academic performance over an extended period.

2. **Raven's Progressive Matrices (RPM):** It is a non-verbal test designed to measure abstract reasoning and fluid intelligence. It consists of a series of visual pattern puzzles where participants are required to identify the missing piece that completes each pattern. It was chosen for its ability to assess intelligence independent of language and cultural biases, making it suitable for diverse student populations.

3. **Anxiety:** The STAT (State-Trait Anxiety Test) by Sanjay Vohra was used to measure anxiety levels. This is a self-report inventory that assesses both state anxiety (temporary condition) and trait anxiety (general tendency).

Result and discussion

Table.1 Descriptive statistics for variables

Statistics		Academic achievement	Intelligence	Anxiety
N	Valid	100	100	100
	Missing	0	0	0
	Mean	7.765	47.50	24.36
	Median	7.800	48.00	24.00
	Mode	8.4	48 ^a	19
	Std. Deviation	.9651	5.925	7.373

a. Multiple modes exist. The smallest value is shown

Descriptive statistics were computed for three variables: academic achievement, intelligence, and raw scores (anxiety). The sample consisted of 100 valid cases for each variable, with no missing data.

For academic achievement, participants had a mean score of $M = 7.765$ ($SD = 0.9651$) and a median score of $Mdn = 7.800$. The mode was reported as 8.4, indicating a peak in the distribution of scores. These findings suggest that, on average, participants achieved a moderately high level of academic success, with relatively little variability around the mean score. Regarding intelligence, the sample had a mean intelligence score of $M = 47.50$ ($SD = 5.925$) and a median score of $Mdn = 48.00$. The mode was reported as 48a, indicating the presence of multiple modes in the distribution. This suggests that participants exhibited a range of intelligence levels, with some clustering around the mode(s).

For the raw score variable (representing anxiety), participants had a mean raw score of $M = 24.36$ ($SD = 7.373$) and a median score of $Mdn = 24.00$. The mode was reported as 19, indicating a peak in the distribution of scores. These findings suggest that participants exhibited a moderate level of variability in anxiety levels, with some clustering around the mode.

Overall, these descriptive statistics provide insights into the central tendency and variability of academic achievement, intelligence, and anxiety levels within the sample population.

Table. 2 Relation of academic achievement with intelligence and anxiety

Correlations				
		AA	Anx	Int.
AA	Pearson Correlation	1	-.145	.259**
	Sig. (2-tailed)		.151	.009
	N	100	100	100
Anx	Pearson Correlation	-.145	1	-.051
	Sig. (2-tailed)	.151		.613
	N	100	100	100
Int.	Pearson Correlation	.259**	-.051	1
	Sig. (2-tailed)	.009	.613	
	N	100	100	100

** . Correlation is significant at the 0.01 level (2-tailed).

The Pearson correlation analysis aimed to explore the relationships between academic achievement (AA), anxiety (Anx.), and intelligence (Int.) within the sample population.

The significant positive correlation between academic achievement and intelligence ($r = .259$, $p = .009$) suggests that individuals who achieve higher academic success tend to have higher levels of intelligence. This finding aligns with previous research indicating a positive association between academic performance and

cognitive abilities. It implies that individuals with higher intellectual capacities may be more likely to excel academically.

Conversely, the non-significant negative correlation between academic achievement and anxiety ($r = -.145$, $p = .151$) indicates that the relationship between academic success and anxiety levels is weak and not statistically significant within this sample. While this may seem contradictory to some literature suggesting a negative association between academic stress and performance, it's essential to consider that anxiety is a multifaceted construct, and its impact on academic achievement can vary depending on individual differences, coping strategies, and contextual factors.

Additionally, the non-significant negative correlation between anxiety and intelligence ($r = -.051$, $p = .613$) suggests that anxiety levels are not significantly related to intellectual abilities within this sample. This finding implies that individuals' levels of anxiety do not necessarily reflect their cognitive functioning. It's important to recognize that intelligence is a complex construct influenced by various factors beyond emotional states.

Table 3 descriptive statistics for gender

	gender	N	Mean	SD
Anx.	male	51	1.78	.415
	female	49	1.78	.422
AA	male	51	2.43	.575
	female	49	2.45	.542
Int.	male	51	3.65	.770
	female	49	3.47	.819

Group statistics based on gender for anx (anxiety), AA(academic achievement), and int (intelligence) were analyzed. Both male and female participants exhibited similar mean anxiety scores (Male: $M = 1.78$, Female: $M = 1.78$), with slightly higher variability among females (Male: $SD = 0.415$, Female: $SD = 0.422$). Regarding academic achievement, there was a slight difference in mean scores between genders (Male: $M = 2.43$, Female: $M = 2.45$), with similar variability within each group (Male: $SD = 0.575$, Female: $SD = 0.542$). In terms of intelligence, male participants had a higher mean score compared to females (Male: $M = 3.65$, Female: $M = 3.47$), with slightly higher variability among females (Male: $SD = 0.770$, Female: $SD = 0.819$). These findings suggest potential gender differences in academic achievement and intelligence levels within the sample, although further analyses are necessary to confirm the significance of these differences

Table 4 Independent sample t-test of variables with respect to genders

Independent Samples Test									
	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
A	.044	.834	.105	98	.916	.009	.084		
AA	.269	.605	-.157	98	.875	-.018	.112	-.240	.204
I	.037	.847	1.118	98	.266	.178	.159	-.138	.493

The independent samples t-tests were conducted to investigate potential differences in anxiety levels, academic achievement, and intelligence between male and female participants. Prior to conducting the t-tests, Levene's tests were employed to assess the assumption of equal variances between the two gender groups for each variable. The results of Levene's tests indicated that the assumption of equal variances was met for all variables, suggesting that the variability in anxiety levels, academic achievement, and intelligence did not significantly differ between male and female participants.

Subsequently, the t-tests were conducted assuming equal variances, and the results revealed non-significant differences between male and female participants in anxiety levels ($t(98) = 0.105$, $p = 0.916$), academic achievement ($t(98) = -0.157$, $p = 0.875$), and intelligence ($t(98) = 1.118$, $p = 0.266$). These findings suggest that, on average, male and female participants did not significantly differ in their reported levels of anxiety, academic achievement, or intelligence.

Furthermore, when the assumption of equal variances was not met, the results of the t-tests remained non-significant for anxiety ($t(97.703) = 0.105$, $p = 0.916$), academic achievement ($t(97.971) = -0.158$, $p = 0.875$), and intelligence ($t(96.990) = 1.117$, $p = 0.267$). This indicates that even when assuming unequal variances, there were no significant differences between male and female participants in anxiety levels, academic achievement, or intelligence within the sample population.

Overall, these findings suggest that gender differences were not observed in anxiety levels, academic achievement, or intelligence among the participants in the study. However, it's essential to consider that additional factors, such as sample size, demographic characteristics, and measurement tools, may influence the results and should be further explored in future research.

Table 4.5 Relation of academic achievement (AA) with intelligence and different dimensions of anxiety scale

Correlations		AA	I	Gp	Ma	Sc	Sn	Tn
AA	Pearson Correlation	1	.259**	-.062	.001	-.171	.181	.025
	Sig. (2-tailed)		.009	.540	.990	.089	.071	.808
	N	100	100	100	100	100	100	100
I	Pearson Correlation	.259**	1	-.165	.021	.064	.030	.001
	Sig. (2-tailed)	.009		.101	.838	.528	.767	.994
	N	100	100	100	100	100	100	100
gp	Pearson Correlation	-.062	-.165	1	.441**	.259**	.247*	.349**
	Sig. (2-tailed)	.540	.101		.000	.009	.013	.000
	N	100	100	100	100	100	100	100
ma	Pearson Correlation	.001	.021	.441**	1	.306**	.285**	.257**
	Sig. (2-tailed)	.990	.838	.000		.002	.004	.010
	N	100	100	100	100	100	100	100
Sc	Pearson Correlation	-.171	.064	.259**	.306**	1	.084	.248*
	Sig. (2-tailed)	.089	.528	.009	.002		.408	.013
	N	100	100	100	100	100	100	100
Sn	Pearson Correlation	.181	.030	.247*	.285**	.084	1	.175
	Sig. (2-tailed)	.071	.767	.013	.004	.408		.082
	N	100	100	100	100	100	100	100
Tn	Pearson Correlation	.025	.001	.349**	.257**	.248*	.175	1
	Sig. (2-tailed)	.808	.994	.000	.010	.013	.082	
	N	100	100	100	100	100	100	100
**. Correlation is significant at the 0.01 level (2-tailed).								
*. Correlation is significant at the 0.05 level (2-tailed).								

A Pearson correlation analysis was conducted to explore the relationships among academic achievement (AA), intelligence (I), and various personality traits: guilt proneness (gp), maturity (Ma), suspiciousness (Sc), self-control (Sn), and tension (Tn).

The correlation between academic achievement and intelligence was found to be statistically significant, indicating a positive relationship between these constructs ($r = .259$, $p = .009$). This suggests that individuals who achieve higher academic success tend to have higher levels of intelligence.

Additionally, guilt proneness (gp) demonstrated significant positive correlations with maturity (Ma) ($r = .441$, $p < .001$), self-control (Sn) ($r = .247$, $p = .013$), and tension (Tn) ($r = .349$, $p < .001$), indicating that individuals who report higher levels of guilt proneness also tend to report higher levels of maturity, self-control, and tension.

However, there were no significant correlations observed between academic achievement and guilt proneness ($r = -.062$, $p = .540$), maturity ($r = .001$, $p = .990$), suspiciousness ($r = -.171$, $p = .089$), self-control ($r = .181$, $p = .071$), or tension ($r = .025$, $p = .808$).

Similarly, intelligence showed no significant correlations with guilt proneness ($r = -.165$, $p = .101$), maturity ($r = .021$, $p = .838$), suspiciousness ($r = .064$, $p = .528$), self-control ($r = .030$, $p = .767$), or tension ($r = .001$, $p = .994$).

Conclusion

5.1 Conclusion

Based on the correlation analyses conducted, several key insights into the relationships between academic achievement, anxiety, intelligence, and various personality traits have emerged within our sample population.

1. Firstly, a significant positive correlation was found between academic achievement and intelligence ($r = .259$, $p = .009$). This suggests that individuals who achieve higher academic success also tend to exhibit higher levels of cognitive abilities, supporting previous research and emphasizing the importance of intellectual capacities in academic performance.

2. Conversely, a non-significant negative correlation was observed between academic achievement and anxiety levels ($r = -.145$, $p = .151$). This suggests that anxiety may not significantly impact academic success within our sample. This finding underscores the complexity of the relationship between anxiety and academic achievement, highlighting the need to consider individual differences and coping strategies when examining this association.

3. Non-significant correlations were found between anxiety and intelligence ($r = -.051$, $p = .613$), indicating that anxiety levels do not necessarily reflect cognitive abilities. This underscores the multifaceted nature of intelligence and emphasizes the importance of considering various factors beyond emotional states when assessing cognitive functioning.

4. There was non-significant differences between male and female participants in anxiety levels ($t(98) = 0.105$, $p = 0.916$), academic achievement ($t(98) = -0.157$, $p = 0.875$), and intelligence ($t(98) = 1.118$, $p = 0.266$). These findings suggest that, on average, male and female participants did not significantly differ in their reported levels of anxiety, academic achievement, or intelligence.

5. Additionally, correlations between academic achievement and various personality traits were explored. While significant positive correlations were observed between guilt proneness and maturity ($r = .441, p < .001$), self-control ($r = .247, p = .013$), and tension ($r = .349, p < .001$), no significant correlations were found between academic achievement and these personality traits. Similarly, intelligence showed no significant correlations with the examined personality traits.

In conclusion, these finding highlights the complexity of the relationships between academic achievement, anxiety and intelligence. While a significant positive correlation was found between academic achievement and intelligence, anxiety levels showed weak associations with both academic achievement and intelligence. However, further research is needed to better understand these relationships and explore potential underlying mechanisms.

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