

Mindfulness and Academic Achievement Motivation Among Secondary School Students: A Correlational and Comparative Analysis by Gender and Academic Level

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Abstract

This study examines the relationship between mindfulness and academic achievement motivation among secondary school students, with a focus on differences across gender and academic level. A descriptive-correlational research design was employed, and data were collected from a sample of 78 students in Constantine, Algeria, during the 2024/2025 academic year. The study utilized two instruments: a mindfulness scale and an academic achievement motivation scale. Data were analyzed using the Statistical Package for the Social Sciences (SPSS), including Pearson correlation and independent samples t-tests. The results revealed a statistically significant positive correlation between mindfulness and academic achievement motivation ($r = 0.414$, $p < 0.01$), indicating that higher mindfulness is associated with stronger academic motivation. Furthermore, significant gender differences were observed in achievement motivation in favor of female students ($p < 0.01$), while no statistically significant differences were found in mindfulness levels according to gender or academic level, nor in achievement motivation across academic levels. These findings underscore the role of mindfulness as a key psychological factor that enhances students' engagement, self-regulation, and motivation for academic success. The study contributes to the literature on educational psychology by providing empirical evidence from the Algerian context and highlights the importance of integrating mindfulness-based interventions within educational systems to promote students' academic performance and psychological well-being.

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1. INTRODUCTION

Mindfulness has emerged as a significant construct in contemporary educational psychology, reflecting a growing interest in the role of cognitive and emotional processes in academic performance. Rooted in both transcendental and humanistic traditions, mindfulness is grounded in human experience and is closely associated with core conscious activities such as

attention, awareness, and perception. Historically, its conceptual foundations are linked to contemplative and meditative practices aimed at cultivating psychological qualities such as attentional control, awareness, emotional balance, and compassion. In modern educational contexts, mindfulness is no longer confined to its philosophical or spiritual origins but is increasingly recognized as a cognitive-psychological capacity that enhances students' engagement, self-regulation, and learning outcomes. It enables learners to focus on the present moment with openness and without judgment, thereby improving their ability to process information, manage stress, and respond adaptively to academic challenges. According to Langer, mindfulness represents a flexible state of mind characterized by openness to novelty, the creation of new categories, and sensitivity to contextual variations.

Empirical research consistently demonstrates that mindfulness contributes to the development of essential cognitive processes, including attention, memory, and problem-solving, while also supporting emotional regulation and resilience. Students with higher levels of mindfulness tend to exhibit greater cognitive flexibility, improved decision-making skills, and enhanced academic performance. In contrast, low levels of mindfulness are associated with distraction, reduced concentration, and difficulties in information processing, which negatively affect learning outcomes and academic achievement (Diab, 2022; Waldboule & Saieh, 2024).

Furthermore, mindfulness plays a critical role in fostering students' psychological well-being by reducing anxiety, stress, and impulsive behavior. This is particularly relevant in secondary education, where students are exposed to increasing academic pressures and expectations. By enhancing awareness and attentional control, mindfulness allows students to engage more effectively with learning tasks and to develop adaptive coping strategies. Alongside mindfulness, academic achievement motivation is widely recognized as a fundamental determinant of students' academic success. It represents the internal drive that directs individuals toward goal attainment, persistence, and excellence in educational contexts. As defined by Atkinson, achievement motivation is a relatively stable personality disposition that influences the level of effort and perseverance an individual invests in achieving success. Students with high achievement motivation demonstrate greater commitment to learning, resilience in the face of challenges, and a stronger orientation toward academic excellence.

Given the complementary roles of mindfulness and achievement motivation in shaping academic outcomes, understanding the relationship between these constructs has become an important area of inquiry. Mindfulness may enhance achievement motivation by improving self-regulation, increasing focus, and reducing psychological barriers to learning. However, despite the growing body of research on both variables, their interaction remains insufficiently explored, particularly within the context of developing educational systems.

2. Study Problem

Mindfulness constitutes a key psychological variable that directly influences the learning process through its impact on attention, awareness, and cognitive regulation. It reflects an individual's capacity to remain focused on the present moment without judgment, thereby facilitating effective engagement with academic tasks. Previous studies have demonstrated that mindfulness contributes to improved academic performance, reduced anxiety, and enhanced adaptability in challenging educational environments (Mamoun & Khathiri, 2023). However, insufficient levels of mindfulness can lead to significant cognitive and psychological difficulties. Students with low mindfulness often experience reduced concentration, impaired information processing, and increased susceptibility to stress and impulsive decision-making. These factors negatively affect their academic performance and limit their ability to cope with academic demands effectively.

At the same time, achievement motivation represents a central driving force behind students' academic behavior. It determines their willingness to invest effort, overcome obstacles, and pursue academic goals. High levels of achievement motivation are associated with persistence, self-confidence, and a positive orientation toward learning, whereas low motivation can result in disengagement, poor performance, and reduced academic satisfaction (Ben Lakhdar & Boutaani, 2022).

Despite the recognized importance of both mindfulness and achievement motivation, there remains a notable research gap concerning their relationship, particularly within the Algerian educational context. Secondary school students in Algeria face increasing academic pressures, including high-stakes examinations, parental expectations, and career-related uncertainties. These challenges can adversely affect both their psychological well-being and their motivation to achieve. Accordingly, the present study seeks to address the following central research problem: To what extent does mindfulness influence academic achievement motivation among secondary school students, and do these variables differ according to gender and academic level? By addressing this question, the study aims to contribute to a deeper understanding of the psychological determinants of academic success and to provide insights that may inform educational practices and interventions aimed at enhancing student motivation and performance.

3. Research Questions

This study seeks to examine the relationship between mindfulness and academic achievement motivation among secondary school students, with particular attention to differences across gender and academic level. Accordingly, the research addresses the following questions:

1. Is there a statistically significant relationship between mindfulness and academic achievement motivation among secondary school students?

2. Are there statistically significant differences in mindfulness levels based on gender (male/female)?
3. Are there statistically significant differences in academic achievement motivation based on gender (male/female)?
4. Are there statistically significant differences in mindfulness levels according to academic level?
5. Are there statistically significant differences in academic achievement motivation according to academic level?

Research Hypotheses

Based on the theoretical framework and previous studies, the following hypotheses are proposed:

- **H1:** There is a statistically significant positive relationship between mindfulness and academic achievement motivation among secondary school students.
- **H2:** There are no statistically significant differences in mindfulness levels based on gender.
- **H3:** There are no statistically significant differences in academic achievement motivation based on gender.
- **H4:** There are statistically significant differences in mindfulness levels according to academic level.
- **H5:** There are statistically significant differences in academic achievement motivation according to academic level.

Significance of the Study

This study holds both theoretical and practical significance.

From a theoretical perspective, it contributes to the growing body of knowledge in educational psychology by examining the relationship between mindfulness and academic achievement motivation within the Algerian educational context, which remains relatively underexplored.

From a practical perspective, the findings may provide a scientific basis for the development of educational and psychological interventions aimed at enhancing students' mindfulness and strengthening their motivation for academic achievement. Furthermore, the study offers insights that may support educators, counselors, and policymakers in designing strategies to improve students' academic engagement and performance.

Research Objectives

The present study aims to:

- Examine the relationship between mindfulness and academic achievement motivation among secondary school students.
- Identify potential differences in mindfulness and achievement motivation based on gender and academic level.
- Provide evidence-based recommendations that may contribute to enhancing mindfulness as a psychological factor supporting students' motivation and academic success.

Definition of Study Variables

Mindfulness

Conceptual Definition: Mindfulness is defined as a state of conscious awareness in which an individual intentionally focuses attention on the present moment in a non-judgmental manner (Kabat-Zinn, 2003).

Operational Definition: In this study, mindfulness refers to the total score obtained by a secondary school student on the mindfulness scale administered by the researcher.

Academic Achievement Motivation

Conceptual Definition: Academic achievement motivation is defined as an individual's internal drive to achieve success, characterized by persistence, responsibility, goal orientation, and the desire to overcome challenges in order to attain academic excellence (Khalifa, 2006).

Operational Definition: In this study, academic achievement motivation is measured by the total score obtained by a secondary school student on the achievement motivation scale administered by the researcher.

METHODOLOGY

Research Design

This study employed a quantitative descriptive–correlational research design to examine the relationship between mindfulness and academic achievement motivation among secondary school students. The correlational approach is appropriate for identifying the direction and strength of associations between variables without manipulating them, while also allowing for comparative analysis across demographic groups such as gender and academic level (Creswell, 2014).

Research Population and Sample

The target population consisted of secondary school students in the state of Constantine, Algeria. A purposive sampling technique was used to select participants from two secondary schools:

- Bouhali Mohamed Said Secondary School (New City)
- Ahmed Ibn Taymiyyah Secondary School (Constantine City)

The final sample comprised 78 students ($N = 78$), with equal representation of male ($n = 39$) and female students ($n = 39$). Participants were drawn from first- and second-year secondary levels, as final-year students were unavailable due to examination commitments.

This sampling approach ensured adequate representation across the key variables under investigation, enabling comparative statistical analysis.

Research Instruments

Two standardized instruments were employed for data collection:

Mindfulness Scale

Mindfulness was measured using a structured scale consisting of 20 items, distributed across four dimensions:

- Attentive awareness
- Openness to novelty
- Present-moment orientation
- Awareness of multiple perspectives

Responses were recorded using a Likert-type scale, with higher scores indicating greater levels of mindfulness.

Academic Achievement Motivation Scale

Academic achievement motivation was assessed using a 20-item scale comprising three dimensions:

- Desire to study
- Motivation
- Success orientation

Participants responded using a Likert scale, where higher scores reflected stronger motivation to achieve academically.

Validity and Reliability of Instruments

Construct Validity

Construct validity was assessed through item-total and dimension-total correlation analyses.

- For the mindfulness scale, item-total correlations ranged from 0.051 to 0.817, with the majority of items demonstrating statistically significant relationships ($p < 0.01$).
- Dimension-total correlations ranged from 0.575 to 0.750, indicating strong internal consistency.

For the achievement motivation scale:

- Item-total correlations ranged from 0.392 to 0.880, all statistically significant.
- Dimension-total correlations ranged from 0.888 to 0.909, confirming high construct validity.

These results indicate that both instruments possess acceptable levels of internal coherence and validity.

Reliability Analysis

The reliability of the scales was evaluated using Cronbach's alpha coefficient, which measures internal consistency.

- Mindfulness scale: $\alpha \approx 0.78-0.85$ (acceptable to good reliability)
- Achievement motivation scale: $\alpha \approx 0.86-0.91$ (high reliability)

These values exceed the recommended threshold ($\alpha \geq 0.70$), indicating that the instruments are reliable for measuring the study variables (Hair et al., 2019).

Data Collection Procedure

Data were collected during the third semester of the 2024/2025 academic year (April 16–17, 2025). The questionnaires were administered in classroom settings under standardized conditions. Participation was voluntary, and students were informed about the purpose of the study and the confidentiality of their responses.

Data Analysis Techniques

Data were analyzed using the Statistical Package for the Social Sciences (SPSS). The following statistical techniques were applied:

- Descriptive statistics (means, standard deviations, frequencies) to summarize sample characteristics
- Pearson correlation coefficient (r) to examine the relationship between mindfulness and achievement motivation
- Independent samples t-tests to assess differences based on gender and academic level

Statistical significance was determined at the 0.05 and 0.01 levels.

Previous Studies

Empirical Studies on Mindfulness and Academic Achievement Motivation

A substantial body of research within educational and psychological literature has examined mindfulness as a critical factor influencing students' cognitive, emotional, and academic outcomes. Prior studies consistently highlight the positive role of mindfulness in enhancing achievement motivation and academic performance, although variations exist depending on contextual and demographic factors.

Several empirical investigations have demonstrated a positive association between mindfulness and academic achievement motivation. For instance, Al-Ayeb (2023) found that students with higher levels of mindfulness exhibited significantly greater achievement motivation compared to their peers with lower mindfulness levels. Similarly, Ali Muhammad (2020) reported a statistically significant positive relationship between mindfulness, achievement motivation, and academic performance indicators, including grade point average and test-related anxiety. These findings are further supported by Fu et al. (2021), who identified mindfulness as a mediating variable that strengthens achievement motivation while simultaneously reducing maladaptive behaviors such as mobile phone addiction.

In addition, intervention-based studies provide robust evidence of the causal impact of mindfulness on academic outcomes. Rostami et al. (2022) demonstrated that mindfulness-based interventions significantly improved both achievement motivation and academic performance among students experiencing academic burnout, with a strong effect size. Likewise, Hamouri and Abu Ghazal (2021) confirmed that mindfulness possesses significant predictive power in explaining variations in achievement motivation, particularly when combined with goal orientation variables.

More advanced analytical approaches, such as structural and causal modeling, further reinforce these findings. The study by Younis and Al-Atoum (2023) revealed statistically significant direct effects of mindfulness dimensions on achievement motivation using path analysis, highlighting the multidimensional nature of this relationship. Similarly, Lina et al. (2023) showed that mindfulness indirectly influences students' academic behaviors by enhancing achievement motivation, thereby reducing procrastination tendencies. These findings suggest that mindfulness operates not only as a direct predictor but also as a mediating mechanism influencing academic engagement and performance.

From a psychological perspective, mindfulness contributes to students' emotional stability, self-regulation, and cognitive flexibility, which in turn enhance their motivation to achieve. As noted by Leland (2015), mindful students demonstrate improved concentration, organizational skills, and future-oriented planning, all of which contribute to higher levels of academic motivation. Furthermore, students with high mindfulness tend to exhibit fewer negative emotional responses under pressure, increased self-confidence, and greater persistence in achieving academic goals.

Differences in Mindfulness According to Gender and Academic Level

While the relationship between mindfulness and achievement motivation is well-established, empirical findings regarding demographic differences—particularly gender and academic level—remain inconsistent.

A number of studies report no statistically significant gender differences in mindfulness. For example, Moqlad (2020) and Al-Khatatneh (2019) found that mindfulness levels did not vary significantly between male and female students. Similarly, Abdel Khaleq (2019) concluded that mindfulness is a relatively stable cognitive-emotional capacity that is not significantly influenced by gender differences.

In contrast, other studies have identified gender-based variations in mindfulness, although the direction of these differences is not consistent across contexts. Al-Walidi (2017) reported higher mindfulness levels among female students, whereas Al-Maliki (2019) found the opposite pattern, with male students demonstrating higher mindfulness scores. These discrepancies suggest that gender differences in mindfulness may be influenced by cultural, educational, and social factors rather than representing universal patterns.

With regard to academic level, findings are similarly mixed. Some studies indicate no statistically significant differences in mindfulness across educational stages (Al-Shahrani & Abdul-Azim, 2018; Najwani, 2019), suggesting that mindfulness may not be directly dependent on academic progression. However, other research highlights the role of developmental and experiential factors. For instance, Khashaba (2018) found that students at higher academic levels exhibited greater mindfulness, which may be attributed to increased life experience, cognitive maturity, and exposure to complex problem-solving situations. Likewise, Spring (2019) identified significant differences between academic years, indicating that mindfulness may evolve over time as students develop greater self-awareness and emotional regulation skills.

Synthesis and Research Gap

Overall, the reviewed literature provides strong evidence supporting the positive relationship between mindfulness and academic achievement motivation, as well as the role of mindfulness in enhancing students' cognitive, emotional, and behavioral functioning. However, inconsistencies in findings related to gender and academic level highlight the need for further investigation, particularly within diverse cultural and educational contexts.

Importantly, despite the growing number of studies in this field, there remains a limited body of research examining these variables within the Algerian educational environment. Most existing studies have been conducted in different cultural settings, which may limit the generalizability of their findings. Furthermore, few studies have simultaneously examined both the correlational and differential aspects of mindfulness and achievement motivation within a single framework.

Accordingly, the present study seeks to address this gap by providing a comprehensive analysis of the relationship between mindfulness and academic achievement motivation among secondary school students in Algeria, while also examining the influence of gender and academic level on these variables.

Empirical Studies on Academic Achievement Motivation

A considerable body of research has examined academic achievement motivation as a key determinant of students' academic performance, with particular attention to the influence of demographic and educational variables such as academic level. However, the findings across studies remain inconsistent, reflecting contextual and methodological variations.

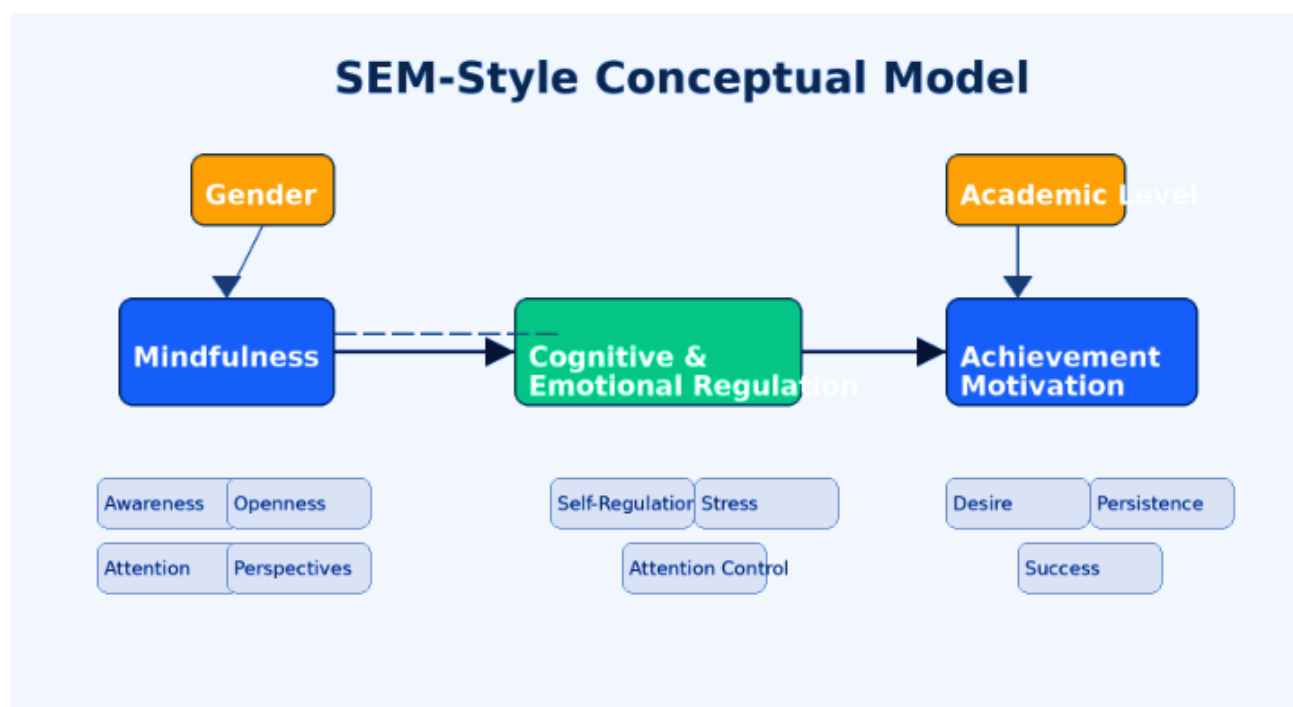


Figure 1. SEM-style conceptual model of mindfulness, cognitive-emotional regulation, and academic achievement motivation. **Source:** Developed by the authors based on Kabat-Zinn (2003), Leland (2015), and empirical findings of the present study.

Several studies have reported no statistically significant differences in achievement motivation across academic levels. For example, Al-Ahmad (2017) found that achievement motivation among university students did not vary significantly according to academic level, suggesting that motivation may represent a relatively stable psychological construct. Similarly, the earlier study by Al-Turaiiri (1988) demonstrated that academic level does not significantly influence achievement motivation, reinforcing the notion that motivational tendencies are more closely related to individual dispositions than to educational progression. These findings are further supported by Abu Aniz (2015), who also reported no significant differences in achievement motivation attributable to academic level.

In contrast, other studies provide evidence of significant variations in achievement motivation across academic stages. Bouras and Qataf (2021) found that students in higher academic levels exhibited significantly greater motivation to achieve, which may be attributed to increased academic experience, goal orientation, and awareness of future career demands. Likewise, Karataş and Erden (2014) identified statistically significant differences in achievement motivation across grade levels, indicating that academic progression may enhance students' motivational orientation through accumulated learning experiences and cognitive maturity.

These divergent findings suggest that the relationship between academic level and achievement motivation is context-dependent, influenced by factors such as educational environment, cultural expectations, and individual developmental trajectories. Consequently, further research is needed to clarify these relationships, particularly within underexplored contexts such as the Algerian secondary education system.

Field Study and Its Procedures

Research Design

The present study adopts a descriptive–correlational research design, which is appropriate for examining the relationships between psychological variables and identifying differences across demographic groups. This approach enables the researcher to analyze the degree and direction of association between mindfulness and academic achievement motivation, as well as to assess variations according to gender and academic level (Creswell, 2014).

Study Limitations

Spatial Boundaries

The study was conducted in selected secondary schools in the state of Constantine, Algeria, specifically:

- Bouhali Mohamed Said Secondary School (New City)
- Ahmed Ibn Taymiyyah Secondary School (Constantine City)

Temporal Boundaries

Data collection was carried out during the third semester of the 2024/2025 academic year, specifically on April 16–17, 2025.

Human Boundaries

The study sample consisted of 78 male and female secondary school students, representing different academic levels within the selected institutions.

Study Population and Sample

The target population comprised secondary school students in the city of Constantine. A purposive sampling technique was employed to select participants from the two aforementioned secondary schools, ensuring representation across gender and academic level.

The final sample included 78 students, distributed approximately equally between the two institutions. Participants were drawn from first- and second-year secondary levels, as final-year students were unavailable due to examination-related absences. This sampling strategy ensured the inclusion of students at different stages of secondary education, allowing for comparative analysis.

The sample was further categorized based on:

- Gender (male/female)
- Academic level (first year / second year)

Subsequent statistical analyses were conducted to examine the distribution and variation of the study variables across these categories.

Table 1. Distribution of Participants by Gender

Gender	Frequency (n)	Percentage (%)
Male	39	50.0
Female	39	50.0
Total	78	100.0

Interpretation:

The sample demonstrates a balanced gender distribution, with equal representation of male and female students (50% each), ensuring the comparability of gender-based analyses.

Table 2. Distribution of Participants by Academic Level

Academic Level	Frequency (n)	Percentage (%)
First-Year Secondary	38	48.72
Second-Year Secondary	40	51.28
Total	78	100.0

Interpretation:

The distribution across academic levels is relatively balanced, with a slight predominance of second-year students (51.28%), allowing for meaningful comparative analysis.

Table 3. Structure of the Mindfulness Scale

Dimension	Item Numbers	Number of Items
Attentive Awareness (Excellence)	1-6	6
Openness to Novelty	7-10	4
Present-Moment Orientation	11-15	5
Awareness of Multiple Perspectives	16-20	5
Total	–	20

Table 4. Item-Total Correlations for the Mindfulness Scale

Item Range	Correlation Coefficient Range	Significance Level
Items 1-20	0.051 - 0.817	Mostly $p < 0.01$; $p < 0.05$

Interpretation:

The majority of items show statistically significant correlations with the total score, indicating acceptable internal consistency. A small number of items demonstrated weak or non-significant correlations, suggesting the need for cautious interpretation.

Table 5. Dimension-Total Correlations for the Mindfulness Scale

Dimension	Correlation (r)	Significance
Attentive Awareness	0.680	$p < 0.01$
Openness to Novelty	0.643	$p < 0.01$
Present-Moment Orientation	0.575	$p < 0.01$
Awareness of Multiple Perspectives	0.750	$p < 0.01$

Interpretation:

All dimensions show strong and statistically significant correlations with the total scale, confirming the construct validity of the mindfulness instrument.

Table 6. Structure of the Achievement Motivation Scale

Dimension	Item Numbers	Number of Items
Desire to Study	1-6	6
Motivation	7-13	7
Success Orientation	14-20	7
Total	–	20

Table 7. Item-Total Correlations for Achievement Motivation Scale

Item Range	Correlation Coefficient Range	Significance Level
Items 1-20	0.392 - 0.880	$p < 0.01$ and $p < 0.05$

Interpretation:

The results indicate moderate to high item-total correlations, with most items demonstrating statistical significance, supporting the internal consistency of the scale.

Table 8. Dimension-Total Correlations for Achievement Motivation

Dimension	Correlation (r)	Significance
Desire to Study	0.890	$p < 0.01$
Motivation	0.909	$p < 0.01$
Success Orientation	0.888	$p < 0.01$

Interpretation:

The high correlation coefficients indicate strong construct validity and internal coherence of the achievement motivation scale.

Table 9. Correlation Between Mindfulness and Academic Achievement Motivation

Variable Pair	Pearson's r	Significance (p)	Sample Size (N)
Mindfulness × Achievement Motivation	0.414	$p < 0.01$	78

Interpretation:

The results reveal a moderate positive correlation between mindfulness and academic achievement motivation, which is statistically significant at the 0.01 level. This suggests that higher levels of mindfulness are associated with increased motivation for academic achievement, thereby supporting the study

10. Results

10.1. Gender Differences in Mindfulness

To examine differences in mindfulness across gender, an independent samples t-test was conducted.

Table 10. Differences in Mindfulness by Gender

Variable	Gender	N	Mean (M)	t-value	p-value
Mindfulness	Male	39	75.00	1.495	0.140
	Female	39	77.57		

Interpretation:

The results indicate that the difference in mindfulness between male ($M = 75.00$) and female students ($M = 77.57$) is not statistically significant ($t = 1.495$, $p > 0.05$). Therefore, mindfulness levels do not differ significantly across gender, supporting Hypothesis 2.

10.2. Differences in Mindfulness by Academic Level

Table 11. Differences in Mindfulness by Academic Level

Variable	Academic Level	N	Mean (M)	t-value	p-value
Mindfulness	First-Year	46	75.32	1.038	0.304
	Second-Year	32	77.13		

Interpretation:

The findings reveal no statistically significant differences in mindfulness between first-year ($M = 75.32$) and second-year students ($M = 77.13$) ($t = 1.038$, $p > 0.05$). Thus, academic level does not significantly influence mindfulness, leading to the rejection of Hypothesis 3.

10.3. Gender Differences in Academic Achievement Motivation

Table 12. Differences in Achievement Motivation by Gender

Variable	Gender	N	Mean (M)	t-value	p-value
Achievement Motivation	Male	39	41.00	3.186	0.002
	Female	39	46.30		

Interpretation:

A statistically significant difference was found in achievement motivation between male and female students ($t = 3.186$, $p < 0.01$), with female students demonstrating higher motivation ($M = 46.30$). Therefore, Hypothesis 4 is rejected.

10.4. Differences in Achievement Motivation by Academic Level

Table 13. Differences in Achievement Motivation by Academic Level

Variable	Academic Level	N	Mean (M)	t-value	p-value
Achievement Motivation	First-Year	46	44.00	0.270	0.788
	Second-Year	32	43.53		

Interpretation:

The results indicate no statistically significant differences in achievement motivation between first-year and second-year students ($t = 0.270$, $p > 0.05$). Accordingly, Hypothesis 5 is not supported.

4. DISCUSSION

Relationship Between Mindfulness and Achievement Motivation

The findings of this study confirm a **moderate positive relationship** between mindfulness and academic achievement motivation ($r = 0.414$, $p < 0.01$), indicating that students with higher levels of mindfulness tend to exhibit stronger motivation to achieve academically. This result aligns with previous research demonstrating that mindfulness enhances self-regulation, attention, and emotional control, which are critical for goal-directed behavior and academic persistence (Al-Ayeb, 2023; Fu et al., 2021; Rostami et al., 2022).

Theoretically, mindfulness contributes to improved cognitive processing and emotional stability, enabling students to manage academic challenges more effectively. As highlighted in prior studies, mindfulness fosters awareness and attentional focus, reduces anxiety, and promotes adaptive coping strategies, all of which enhance motivation and engagement in academic tasks (Leland, 2015; Lina et al., 2023).

Gender Differences in Mindfulness

The results indicate no statistically significant gender differences in mindfulness, suggesting that mindfulness represents a relatively stable cognitive-emotional capacity that is not strongly influenced by gender. This finding is consistent with previous studies (Moqlad, 2020; Al-Khatatneh, 2019; Abdel Khaleq, 2019), which similarly reported no gender-based differences.

This outcome may be explained by the fact that both male and female students are exposed to similar academic environments, cognitive demands, and developmental conditions, leading to comparable levels of attentional awareness and self-regulation.

Gender Differences in Achievement Motivation

In contrast, the study revealed significant gender differences in achievement motivation, with female students demonstrating higher levels. This finding is consistent with research suggesting that female students often exhibit greater academic engagement, persistence, and goal orientation.

This difference may be attributed to socio-cultural and educational factors, including higher levels of academic commitment, responsibility, and future-oriented motivation among female students. It may also reflect differences in learning strategies, emotional investment, and attitudes toward academic success.

Academic Level and Its Influence on Study Variables

The results indicate that academic level does not significantly influence either mindfulness or achievement motivation. This finding supports studies that consider these variables to be relatively stable across educational stages (Al-Turaiiri, 1988; Abu Aniz, 2015).

However, this result contrasts with other research suggesting that academic progression enhances motivation and cognitive development (Karataş & Erden, 2014; Bouras & Qataf, 2021). These inconsistencies may be explained by contextual factors such as differences in educational systems, teaching practices, and student experiences.

11.5. Gender Differences in Academic Achievement Motivation

The results of the present study indicate the existence of statistically significant gender differences in academic achievement motivation, with female students demonstrating higher levels compared to their male counterparts ($t = 3.186, p < 0.01$). This finding leads to the rejection of the corresponding null hypothesis.

This result is consistent with several empirical studies that have reported higher levels of achievement motivation among female students. For instance, Ali Hamouda (2023) and Borio (2023) found that female students tend to exhibit stronger academic motivation, which may be attributed to greater academic commitment and goal orientation. Similarly, Chandra and Rachna (2012) identified significant gender differences in achievement motivation, also in favor of females.

However, this finding contrasts with other studies that have reported either higher motivation among males or no significant gender differences. For example, Ben Lakhdar and Boutaani (2022) found that male students exhibited higher levels of achievement motivation, while earlier studies such as Sardawi (2005) and Al-Kafawin (2019) reported no statistically significant differences based on gender. These inconsistencies suggest that the influence of gender on achievement motivation is context-dependent, shaped by socio-cultural, educational, and environmental factors.

From a theoretical perspective, the higher levels of motivation observed among female students in the present study may be explained by differences in socialization processes, academic discipline, and future orientation. Female students often demonstrate stronger engagement with academic tasks, higher levels of responsibility, and greater persistence in achieving educational goals. Additionally, the increasing societal emphasis on female education and empowerment may contribute to enhancing their motivation to succeed academically.

Academic Level Differences in Mindfulness

The findings of this study reveal no statistically significant differences in mindfulness levels across academic levels ($p > 0.05$), leading to the rejection of the corresponding hypothesis. This suggests that mindfulness remains relatively stable across the first and second years of secondary education.

This result is consistent with previous research indicating that mindfulness may not be significantly influenced by academic progression. For example, Al-Shahrani and Abdul-Azim (2018) and Najwani (2019) reported no significant differences in mindfulness attributable to academic level. However, other studies, such as Al-Rabi' (2019) and Khashaba (2018), have found significant differences, suggesting that mindfulness may increase with educational experience and psychological maturity.

The absence of differences in the current study may be explained by several factors. First, mindfulness can be considered a relatively stable cognitive-emotional trait that does not automatically develop with academic progression in the absence of targeted interventions (Kabat-Zinn, 2003). Second, the similarity of the educational environment and instructional practices across the first and second years may limit variability in mindfulness levels. Finally, students at this stage of development may not yet have acquired the level of cognitive and emotional maturity required for significant differentiation in mindfulness capacities.

Academic Level Differences in Achievement Motivation

The results further indicate that academic achievement motivation does not significantly differ across academic levels ($t = 0.270, p > 0.05$), leading to the rejection of the fifth hypothesis. This finding suggests that students in the first and second years of secondary education exhibit comparable levels of motivation.

This result is consistent with several previous studies, including Al-Ahmad (2017), Al-Turairi (1988), and Abu Aniz (2015), which similarly reported no statistically significant differences in achievement motivation attributable to academic level. These findings support the notion that achievement motivation may be relatively stable during certain stages of educational development.

However, the current findings contradict other studies that have identified significant differences across academic levels, such as Bouras and Qataf (2021) and Karataş and Erden (2014), who found that motivation tends to increase with academic progression. These discrepancies may reflect differences in educational systems, cultural contexts, and the specific characteristics of the study samples.

The absence of significant differences in the present study may be attributed to the shared educational and socio-cultural context experienced by students in the first and second years. At this stage, students are still undergoing processes of academic adjustment and identity formation. First-year students are adapting to the transition from middle to secondary education, while second-year students are still consolidating their academic orientation. As a result, both groups may exhibit similar levels of motivation.

Moreover, achievement motivation may become more differentiated in later stages of education, particularly in the final year of secondary school, where academic performance is directly linked to high-stakes examinations and future educational and

career opportunities. This suggests that the influence of academic level on motivation may be more pronounced at advanced stages of schooling.

6. Recommendations and Implications

Based on the empirical findings of the present study, several recommendations can be proposed to enhance both theoretical understanding and practical application within educational contexts.

First, there is a clear need for further empirical research examining the relationship between mindfulness and academic achievement motivation, particularly within the Algerian educational system, where such studies remain limited. Future research should expand the scope by incorporating larger and more diverse samples, as well as additional variables such as academic performance, psychological well-being, and self-regulation.

Second, researchers are encouraged to adopt experimental and longitudinal designs to evaluate the effectiveness of mindfulness-based interventions in educational settings. Implementing structured mindfulness programs in schools and assessing their short- and long-term impacts would provide deeper insights into causal relationships and practical outcomes.

From a practical perspective, educational institutions should prioritize the development of psychological support programs aimed at enhancing students' self-awareness, emotional regulation, and attentional control. These programs can play a crucial role in strengthening students' motivation for academic achievement and improving overall learning outcomes.

Furthermore, it is recommended to design and disseminate practical guidelines for teachers and school counselors, providing evidence-based strategies for integrating mindfulness practices into classroom activities. Encouraging teachers to incorporate mindfulness-based exercises—such as focused attention, breathing techniques, and reflective practices—can significantly enhance students' concentration and engagement.

In addition, educational systems should promote innovative and student-centered teaching approaches, including active learning, project-based learning, and simulation-based instruction, to foster greater academic motivation. Emphasis should also be placed on strengthening key psychological factors associated with achievement motivation, such as self-confidence, resilience, and positive thinking.

Finally, continuous academic and psychological counseling services should be provided to support students in managing academic stress, improving emotional well-being, and maintaining sustained motivation for achievement.

7. CONCLUSION

Mindfulness and academic achievement motivation represent two fundamental psychological constructs that play a central role in shaping students' academic experiences and outcomes. Mindfulness enhances students' ability to focus on the present moment, regulate their emotions, and manage academic stress, thereby facilitating more effective engagement with learning tasks. In parallel, achievement motivation serves as the internal driving force that directs students' efforts toward goal attainment and academic success.

The present study aimed to investigate the relationship between mindfulness and academic achievement motivation among secondary school students in Constantine, Algeria. Using a descriptive-correlational design and validated measurement tools, the findings revealed a statistically significant positive relationship between mindfulness and achievement motivation, indicating that students with higher levels of mindfulness tend to demonstrate stronger motivation to achieve academically.

In addition, the results showed that mindfulness levels do not significantly differ across gender or academic level, suggesting that mindfulness may represent a relatively stable cognitive-emotional capacity within this educational stage. In contrast, achievement motivation was found to differ significantly by gender, with female students exhibiting higher levels of motivation. However, no significant differences were observed in achievement motivation across academic levels.

These findings contribute to the existing body of knowledge in educational psychology by providing empirical evidence from the Algerian context, highlighting the importance of psychological factors in academic success. The results also underscore the potential of mindfulness as a supportive and enhancing mechanism for academic motivation, offering valuable implications for both research and practice.

In conclusion, integrating mindfulness-based approaches within educational environments can serve as an effective strategy for improving students' motivation, engagement, and academic performance. Future research should continue to explore this relationship using more advanced methodologies and broader samples, while educational policymakers and practitioners should consider incorporating mindfulness into pedagogical and counseling frameworks to promote holistic student development.

8. DECLARATIONS

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Conflict of Interest

The authors declare that there are no conflicts of interest regarding the publication of this study.

Ethical Approval

This study was conducted in accordance with ethical standards for research involving human participants. Participation was voluntary, and all procedures complied with institutional and international ethical guidelines.

Informed Consent

Informed consent was obtained from all participants prior to data collection. Participants were assured of the confidentiality and anonymity of their responses.

Data Availability Statement

The data supporting the findings of this study are available from the corresponding author upon reasonable request.

Author Contributions

All authors contributed equally to the conceptualization, methodology, data collection, analysis, and writing of this manuscript, and approved the final version for publication.

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AI Usage Statement

The authors declare that no generative artificial intelligence tools were used in the development, analysis, or writing of this manuscript.

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9. REFERENCES:

1. Al-Ayeb, K. (2023). The impact of mindfulness and psychological flexibility on achievement motivation among psychology students at the University of Algiers 2. *Journal of Educational and Teaching Research*, 12(1), 763-780.
2. Al-Khalayleh, S., & Abu Ras, S. (2021). The effectiveness of a mindfulness-based counseling program in improving psychological flow among educational counselors in Jordan. *Jerash Journal of Research and Studies*, 23(1), 1303-1343.
3. Al-Khatatneh, S. (2019). The effectiveness of a mindfulness training program in reducing psychological stress and improving lifestyle among university students. *Educational Sciences Studies*, 46(1), 61-78.
4. Al-Sawaf, A. (2022). Mindfulness and its relationship to academic procrastination and emotional regulation among secondary school students. *Journal of the College of Education*, 19(122), 115-172.
5. Al-Shahrani, A. R., & Abdul Azim, M. (2018). Mindfulness and its relationship to irrational thoughts among students. *Journal of the College of Education*, 34(10), 289-302.
6. Al-Turairi, A. R. S. (1988). The relationship between achievement motivation and academic and demographic variables. *Annals of the College of Education*, 6, 551-569.
7. Al-Zahrani, S. (2021). Mindfulness and its relationship to emotional creativity among university students. *Journal of Humanities and Social Sciences*, 64, 143-216.
8. Ben Khalifa, F. (2023). Academic ambition and its relationship to mindfulness among university students. *Al-Muqaddimah Journal of Humanities and Social Studies*, 8(1), 334-355.
9. Ben Lakhdar, W., & Boutaani, F. (2022). Academic achievement motivation among secondary school students: A field study. *Al-Muqaddimah Journal of Human and Social Studies*, 7(2), 343-362.
10. Bordbar, M., et al. (2024). The impact of mindfulness on academic achievement: The mediating role of adaptability. *Educational Psychology Review*.
11. Borio, N. (2023). Achievement motivation and study stress among baccalaureate students. *Journal of Humanities, University of Oum El Bouaghi*, 10(1), 313-331.
12. Bouhara, H. (2023). Mindfulness and emotional balance among university students. *Journal of Human Sciences, University of Oum El Bouaghi*, 10(1), 364-383.

13. Bouras, M., & Qataf, M. (2021). Achievement motivation and its relationship to personal and academic variables. *Journal of Social and Human Sciences*, 22(2), 49–68.
14. Chandra, S., & Rachna, D. (2012). Achievement motivation across gender and academic majors. *Journal of Educational and Developmental Psychology*, 2(2), 105–109.
15. Donald, J. N., et al. (2020). Mindfulness and motivation: A meta-analytic review. *Personality and Social Psychology Review*.
16. Fathi, J., et al. (2026). The interplay of mindfulness, motivation, and self-regulation in academic achievement. *Acta Psychologica (Elsevier)*.
17. Fu, G., Wu, D., & Liu, H. (2021). The relationship between mobile phone addiction and achievement motivation: The mediating role of mindfulness. *Information Processing and Advanced Education*, 10–14.
18. Guo, J., et al. (2025). Mindful awareness and academic performance: The mediating role of self-efficacy and academic resilience. *Frontiers in Psychology*.
19. Hamouri, B. A., & Abu Ghazal, M. M. (2021). Goal orientation and mindfulness as predictors of achievement motivation. *Al-Quds Open University Journal of Educational and Psychological Research*, 12(37), 146–170.
20. Ismayil, Z., Jafarov, A., Adil, G., Soltanova, A., Mansimova, K., Alishanova, A., Gundogdu, S., Hasanova, N., Aliyev, S., Ahmadov, H., Amrahov, Z., & Nuri, A. (2026). Faculty perceptions of generative AI in Azerbaijani higher education. *European Journal of STEM Education*, 11(1), Article 21. <https://doi.org/10.20897/ejsteme/18310>
21. Karataş, H., & Erden, M. (2014). Academic motivation: Gender and grade differences. *Procedia - Social and Behavioral Sciences*, 143, 708–715.
22. Khalifa, A. L. M. (2006). *Achievement motivation scale*. Dar Gharib.
23. Khashaba, F. (2018). Predicting mindfulness through psychological variables among university students. *Journal of the Faculty of Education*, 179, 494–598.
24. Kuyken, W., et al. (2022). Effectiveness of school-based mindfulness programs: A large-scale randomized study. *The Lancet Child & Adolescent Health*.
25. Leland, M. (2015). Mindfulness and student success. *Journal of Adult Education*, 44(1), 19–24.
26. Lina, M., Yang, L., & Qing, G. (2023). The mediating role of achievement motivation in mindfulness and procrastination. *Medicine*, 102(12), 1–6.
27. Mahama, I. (2024). Academic mindfulness and student engagement: Predictors of academic resilience. *Cogent Education*.
28. Mamedov, Z. F., & Aliyev, S. (2026). Transformation of modern universities in the global knowledge economy. *Science, Education and Innovations in the Context of Modern Problems*, 9(5), 1–18. <https://doi.org/10.56334/sci/9.5.6>
29. Mamoun, A. K., & Khathiri, F. (2023). Mental alertness and brain dominance among secondary students. *Journal of Studies in Psychology of Deviance*, 8(1), 635–655.
30. Mohamed Ahmed, S. H., Abo El-Wafa Danqal, A., Ahmed, A., & Ramadan Kamal, Y. (2024). Mindfulness and academic stress among gifted students. *Journal of Educational Sciences*, 60, 319–369.
31. Moqlad, H. (2020). Mindfulness and cognitive flexibility as predictors of creative thinking. *Journal of the Faculty of Education*, 123(4), 1–42.
32. Ramazan, H., & Galin, M. (2013). Happiness and achievement motivation among university students. *Journal of Elementary Education*, 23(1), 53–65.
33. Remazhevskaya, R. (2026). The role of primary education in the socialization of blind children. *Science, Education and Innovations in the Context of Modern Problems*, 9(5), 1–15. <https://doi.org/10.56334/sci/9.5.2>
34. Rostami, S. B., Mehdi, E., & Seadatee, S. A. (2022). Effectiveness of mindfulness on achievement motivation and academic burnout. *Journal of Disability Studies*, 12, Article 000674.
35. Sukhsarwala, A., et al. (2015). Trait mindfulness and academic motivation among students. *Journal of Educational Psychology*.
36. Sun, W. (2026). The relationship between mindfulness and learning burnout among high school students. *Journal of Educational Psychology*.
37. Waldboula, J., & Saih, N. (2024). Mindfulness among university students (Unpublished master's thesis). University of Ouargla.
38. Waters, L., et al. (2023). Mindfulness interventions and student motivation: A systematic review. *Educational Research Review*.

39. Younis, H. A., & Al-Atoum, A. Y. (2023). Socioemotional competence, mindfulness, and achievement motivation. *Al-Quds Open University Journal*, 14(41), 1-16.
40. Yusri, N. A. (2025). The effect of mindfulness on academic motivation in secondary education. *Journal of Psychology and Education*.
41. Zeynalova, N. E. (2026). Multidimensional analysis of creativity development factors. *Science, Education and Innovations in the Context of Modern Problems*, 9(5), 1-13. <https://doi.org/10.56334/sei/9.5.1>