Review EL'BAHITH - ENS - Bouzareah - Algiers					
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THE MEDIATING ROLE OF CUMULATIVE ACHIEVEMENT IN THE EFFECT OF ACHIEVEMENT MOTIVATION ON BACCALAUREATE EXAMINATION PERFORMANCE

وساطة التحصيل التراكمي لتأثير دافعية الإنجاز على التحصيل في امتحان شهادة البكالوريا

Samir Boutemine
MCA , University of Abu Alkacem Saadallah, Algiers(2), Algeria
samir.boutemine@unive-alger2.dz

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Corresponding Author: *Samir Boutemine, samir.boutemine@unive-alger2.dz*

ملخّص:

تهدف الدراسة الحالية إلى اختبار نموذج وساطة بسيط، يكون فيه متغير دافعية الإنجاز (متغيرا مستقلا) و متغير التحصيل في امتحان شهادة البكالوريا (متغيرا تابعا) ومتغير التحصيل التراكمي (متغيرا وسيطا). شارك في الدراسة 209 طالبا و طالبة (108 ناجحا و 101 راسبا في امتحان شهادة البكالوريا)، منهم 129 أنثى و 80 ذكرا تمت معاينتهم بطريقة عنقودية من 03 ثانويات. استخدم مقياس (*Hermans*, 1970) لدافعية الإنجاز، كما جمعت المعدلات السنوية و معدلات نتائج شهادة البكالوريا من ملفات التلاميذ و القوائم الرسمية الخاصة بنتائج امتحان البكالوريا على التوالي .

توصلت الدراسة إلى إثبات أن الوساطة كانت جزئية، حيث اتضح أن دافعية الإنجاز تؤثر بصفة مباشرة في التحصيل في امتحان شهادة البكالوريا إلا أن التأثير كان ضعيفا رغم أنه دال. كما بينت النتائج أن دافعية الإنجاز تؤثر كذلك في التحصيل في امتحان شهادة البكالوريا بطريقة غير مباشرة أي بوساطة التحصيل التراكمي و كان التأثير قويا جدا.

الكلمات المفتاحيّة: دافعية الإنجاز؛ التحصيل التراكمي؛ التحصيل في امتحان شهادة البكالوريا

Abstract:

The present study aims to examine a simple mediation model in which achievement motivation is considered the independent variable, baccalaureate examination performance the dependent variable, and cumulative academic achievement the mediating variable. The study involved 209 secondary school students, including successful and unsuccessful baccalaureate candidates, who were selected using a cluster sampling method from three secondary schools. Achievement motivation was assessed using a standardized achievement motivation scale, while cumulative academic achievement and baccalaureate examination results were obtained from students' academic records and official examination results.

The findings revealed a partial mediation effect. Achievement motivation had a direct but weak and statistically significant effect on baccalaureate examination performance. However, achievement motivation showed a strong indirect effect on baccalaureate performance through cumulative academic achievement. These findings suggest that cumulative academic achievement plays a substantial mediating role in the relationship between achievement motivation and baccalaureate examination performance.

Keywords: *Achievement motivation; baccalaureate examination performance; cumulative academic achievement*

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1. *Introduction*

Competition among students intensifies annually as the decisive baccalaureate examination approaches, a phenomenon that extends to families and, indeed, to society at large. This event becomes a focal point of collective anticipation, engaging not only the families of candidates but also relatives, neighbours, and local communities. The government is also deeply invested, implementing necessary measures to ensure the smooth administration and integrity of the examination, thereby contributing to the highly competitive environment in which students operate.

A cursory examination of baccalaureate results in Algerian society reveals a notable inconsistency in success rates. For instance, a comparison between the 2024 success rate (58.18%) and that of 2025 (51.57%) demonstrates a substantial difference of 6.71 percentage points. More significantly, the number of students attaining the highest distinction (*excellent*) fell from 2,778 in 2024 to 1,754 in 2025, a considerable decrease of 1,024 (Ahmed, G., 2025). These trends suggest a potential decline in academic achievement motivation among students, which may have directly or indirectly influenced outcomes in this critical examination.

The concept of achievement motivation has been explored across various domains of human activity; however, its most profound theoretical and empirical linkages are found within the academic field. Consequently, scholarly interest in this construct remains not only legitimate but essential for understanding its influence on performance and attainment, particularly in high-stakes assessments such as the baccalaureate. Success in this examination is a prerequisite for access to university specializations that shape future career trajectories.

Dweck (2002), in discussing the role of achievement motivation, notes that researchers have identified it as a fundamental component of outstanding achievement. Their work suggests that exceptional accomplishment is cultivated through sustained commitment in the face of challenges (p. 38). This principle extends beyond individuals to broader societal contexts. McClelland (1961), for example, posited that cross-national differences in living standards could be attributed to variations in societal achievement motivation.

It is important to acknowledge the role of cognitive abilities, which studies such as that by Aspinwall and Taylor (1992) have shown to be closely associated with academic achievement. Notably, Gagné and St Père (2001) conducted research that challenges the influence of motivation, concluding that its role in predicting academic achievement is negligible when compared to cognitive abilities. In the

same study, the researchers also found no relationship between motivation and cognitive abilities, thereby contradicting the widely held assumption that gifted students exhibit higher motivation and engagement than their average peers (p. 93).

Notwithstanding such findings, achievement motivation remains a critical personal factor that accounts for a significant portion of variance in performance and attainment not explained by cognitive abilities alone (Steinmayr & Spinath, 2009). Sunder (1999) concisely summarizes this perspective, stating that a substantial body of research indicates that low motivation can negatively affect examination performance to a degree that surpasses the impact of known ability levels (p. 2).

In this context, several recent Arab studies have established positive correlations between achievement motivation and academic achievement across diverse educational settings. For instance, Al-Sulami (2020) identified a positive correlation between these variables among students at Umm Al-Qura University. Similarly, Bedaiwy et al., (2025) found that motivation exerts a direct effect on student attitudes toward academic subjects, despite its limited direct impact on grade point average (GPA) in certain contexts. Ben Lekhdar and Boutani (2022) further contributed to this body of knowledge by identifying differences in achievement motivation among secondary school students based on personal variables. Collectively, these findings underscore motivation as a significant indicator for explaining variability in academic achievement across educational levels, aligning with theoretical frameworks such as the Need for Achievement Theory and Expectancy-Value Theory.

Corroborating international research (Sharma & Gagandeep, 2018; Sani & Inuwa, 2025; Shanmugam & Rajam, 2026; Rymbai & Deka, 2024) similarly demonstrates a close relationship between achievement motivation and academic achievement. In a relevant local study, Boutemine (2014) confirmed the strength of this relationship but also found that cumulative achievement (prior academic performance) exhibited a stronger correlation with performance on the baccalaureate examination. This study concluded by proposing a mediation model in which achievement motivation serves as the independent variable, performance on the baccalaureate as the dependent variable, and cumulative achievement as the mediating variable.

While numerous Arab and international studies have established a positive correlation between achievement motivation and academic achievement, they have largely focused on bivariate, multivariate correlations, or regression studies aiming to make predictions. The present study aims to extend this body of work by addressing the interrelationships among key student-centered variables—namely, achievement motivation, cumulative achievement, and performance on the decisive baccalaureate examination—within an analytical model designed to assess both direct and indirect effects.

Academic achievement represents a topic of considerable interest to scientists, researchers, and policymakers owing to its profound implications for individuals and societies across multiple dimensions. Consequently, examining the factors that predict academic achievement—whether positively or negatively—is of no less importance. The significance of this study, therefore, lies in its focus on investigating the factors that enable students to perform well, thereby contributing to the promotion of academic success and the enhancement of educational outcomes.

Among the determinants of success in life generally, and in academic and professional domains specifically, achievement motivation is widely cited as essential for enabling students to persist in their studies. However, examining the direct relationship between achievement motivation and performance on decisive examinations is insufficient without considering the broader academic trajectory. Prior achievement (Cumulative Achievement), which reflects the effort exerted by the student throughout the academic year, may constitute the strongest predictor of performance on such examinations.

On the other hand, given the established significance of achievement motivation in performance across life domains, particularly in the academics, the current study is predicated on the findings of (Boutemine, 2014) which proposed an analytical model warranting further investigation. The objective is to examine the interplay among three core variables: achievement motivation, cumulative achievement, and baccalaureate performance. Accordingly, this study seeks to deepen understanding of the processes leading to success or failure in this high-stakes examination, specifically investigating the extent to which achievement motivation (independent variable), measured by means of Hermans' scale (HAMQ), and cumulative achievement (mediating variable) contribute to performance on baccalaureate exam.

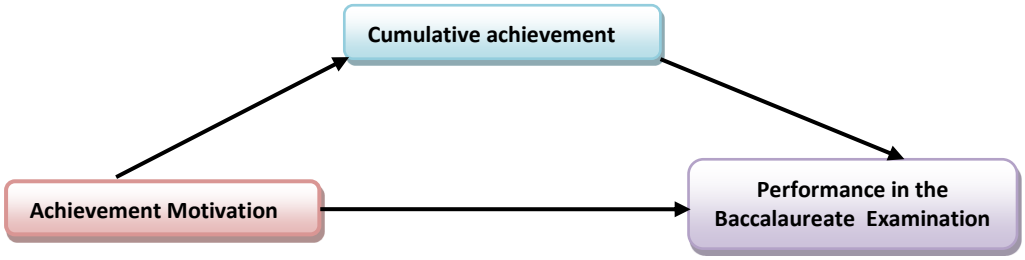
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This leads to the following research question:

- Does cumulative achievement mediate the effect of achievement motivation on performance in the baccalaureate examination?

Accordingly, we propose the following hypothesis:

- Cumulative achievement mediates the effect of achievement motivation on performance in the baccalaureate examination. The proposed model is illustrated in Figure (1).



Theoretical Diagram (01) It expresses the theoretical premise of the current study (hypothesised model), namely the mediating role of cumulative academic achievement in the effect of achievement motivation on performance in baccalaureate exam

1.1 Definition of Concepts

1.Achievement Motivation

For the purposes of this study, achievement motivation is operationally defined as: a relatively stable personal disposition that determines the degree of an individual's initiative, persistence, and perseverance in accomplishing goals that yield satisfaction, particularly in situations involving performance evaluation against a specific standard of excellence (Hermans, 1970). It is quantified by the score obtained by a final-year secondary school student preparing for the baccalaureate examination on the Hermans scale, with scores ranging from 28 to 130.

2.Cumulative Academic Achievement

Is operationally defined as the overall or subject-specific averages attained by a student following an academic term or year, reflecting their understanding, comprehension, and retention of knowledge, experiences, and skills acquired from the curriculum. Cumulative achievement specifically refers to the annual average (across three terms) achieved by a final-year secondary school student across the prescribed subjects within their field of specialization.

3.Baccalaureate Examination

The term *baccalaureate* derives from the Late Latin *bachalariatus*, originally referring to a novice in knighthood. It denotes an academic qualification whose definition varies by country. Generally, it refers to the certificate marking the completion of secondary education in North African countries (Tunisia, Algeria, Morocco, and Mauritania), as well as in Syria, Lebanon, and Iraq, and grants holders access to higher education.

It is an annual formal assessment in which final-year secondary school students are examined in writing on specialized subjects studied over a full academic year within an official curriculum implemented under the national education system. Success in this examination permits the student to transition from secondary to higher education. A student is considered successful upon achieving an average score of 10 out of 20 or above; cumulative averages are not considered in this determination. (Wikipedia. 2025)

2.Method and Procedures

2.1 Research Design

This study adopted a correlational research approach, which is principally concerned with examining relationships among variables presumed to influence the phenomenon under investigation. This approach facilitates a comprehensive understanding of human behavior. A substantial body of social research, particularly within education, relies on correlational designs as an essential step toward elucidating the nature of relationships between variables (Cohen et al., 2005).

Specifically, the study employed a descriptive correlational analytical design, consistent with the nature of the research objective, which is to test the mediating role of cumulative academic achievement in the relationship between achievement motivation and baccalaureate examination performance. The mediation hypothesis was tested using Model (4) from the PROCESS v5.0 statistical package for SPSS (Hayes, 2013–2025). The indirect effect was estimated using the bootstrap method with 5,000 resamples, and confidence intervals were calculated at the 95% level. An indirect effect is considered statistically significant if the confidence interval does not contain zero.

2.2 Sample of the Study

The target population for this study comprised all final-year secondary school students, estimated annually at approximately 400,000 students, aged between 17 and 20 years. The final sample consisted of 209 students (108 successful and 101 unsuccessful in the baccalaureate examination), including 129 female and 80 male students, all of whom were enrolled in the final year of secondary education.

The sample was selected using cluster random sampling from three secondary schools: two in Algiers and one in Tipaza province. The distribution was as follows:

- First secondary school (Algiers): 75 students
- Second secondary school (Algiers): 100 students
- Third secondary school (Tipaza): 34 students

2.3 Research Instruments

2.3.1 Achievement Motivation Scale

The achievement motivation scale was developed by Hermans (1970) under the title *Achievement Motivation Questionnaire* (HAMQ). In constructing this scale, Hermans drew upon a set of characteristics considered capable of capturing individual differences in achievement orientation. These characteristics are:

- High level of aspiration ; Behavior involving measured risk-taking ; Propensity to move forward ; Perseverance ; Willingness to reconsider obstacles ; Awareness of the passage of time ; Future orientation ; Preference for competitive situations over empathetic situations ; Seeking recognition ; Desire for better performance.

The scale comprises 28 incomplete sentences, of which nine are negatively worded (1, 3, 4, 9, 10, 15, 16, 27, 28). Each item provides four or five optional statements for completion. Accordingly, the maximum possible score on this scale is 130—derived from 18 five-point items and 10 four-point items—while the minimum score is 28.

A higher score indicates higher achievement motivation, and vice versa. Unlike certain tests (e.g., intelligence tests), no specific time limit was imposed for completing this scale; however, it has been established that most individuals require between 35 and 45 minutes to complete it.

Regarding validity, the scale was administered to a randomly selected sample of 200 students. Mousa Farouk Abdel Fattah (1981), in discussing the scale's validity, noted that Prawat (1979) reported correlation coefficients ranging from 0.64 to 0.86 between scores on the achievement motivation scale and academic achievement across samples from third to eleventh grade (pp. 7–12).

Construct validity was also examined by Mousa Rashad (1994) by administering the Hermans scale alongside the Achievement Orientation Scale (Eysenck & Wilson, 1975). The correlation coefficients between the two scales were 0.88 for the total sample, 0.85 for the male sample, and 0.89 for the female sample, all statistically significant at the $p < .01$ level.

Reliability for the Hermans Achievement Motivation Test, calculated using Cronbach's alpha, was 0.82. Split-half reliability coefficients, corrected using the Spearman-Brown formula, were 0.75 for the male sample, 0.87 for the female sample, and 0.78 for the total sample (Mousa Abdel Fattah, 1987).

2.3.2 Academic Results

Baccalaureate examination results and cumulative averages (annual grade averages) were collected concurrently by the researcher after the release of baccalaureate results. This was accomplished by consulting student records for annual averages and official school result lists for baccalaureate outcomes for both successful and unsuccessful students.

2.4 Study Procedures

The Hermans Achievement Motivation Scale was administered by the researcher in a dedicated setting, with the assistance of counsellors and administrative staff at the three secondary schools. Following the completion of the scale, administrative staff recorded students' names on their answer sheets to enable the subsequent collection of corresponding academic data (cumulative achievement and baccalaureate results) for the sampled students.

In this study, retrieved responses were handled with meticulous care during data entry. All responses that did not meet the required conditions—such as those containing repeated responses, missing responses, or those for which baccalaureate results or annual averages could not be obtained—were excluded. This process resulted in a final sample size of 209 participants.

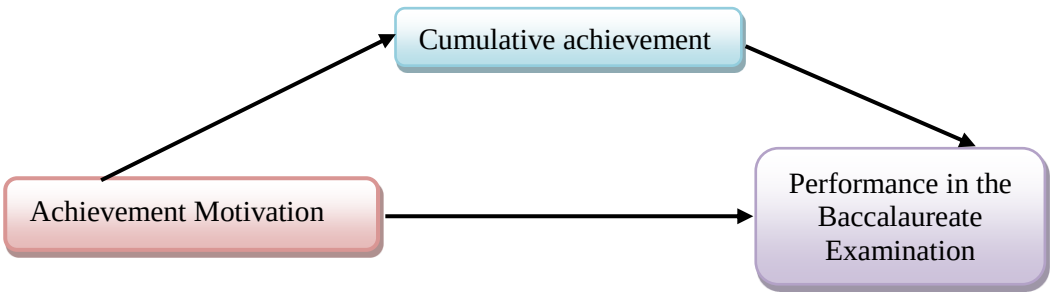
3. Data Analysis

This section presents the results of the statistical analysis conducted to test the simple mediation model (PROCESS Macro, Version 5.0; Hayes, 2013–2025), in order to elucidate the role of cumulative average (the annual average, convertible to GPA) as a mediating variable in the relationship between achievement motivation and baccalaureate examination results. Multiple regression analysis and the bootstrap method were employed to test the significance of the indirect effect. Figure (02) illustrates the statistical model as follows:

3.1 Results of Testing the Effect of Motivation on Cumulative Average

The analysis revealed that achievement motivation significantly predicts cumulative achievement, which serves as the mediator variable in this model (Path *a*). The results are as follows:

- $F(1, 207) = 292.92$, *p* < .001, $R^2 = .3139$
- Path *a* = 0.15, *t*(207) = 9.73, *p* < .001
- 95% CI [0.1181, 0.1781]



Statistical Diagram (02) Illustrating the Mediating role of Cumulative Achievement in the Effect of Achievement Motivation on Baccalaureate Examination Performance.

These findings indicate that achievement motivation accounts for approximately 31.4% of the variance in cumulative average. This suggests that students who obtain higher scores on the achievement motivation scale tend to achieve superior academic averages over the course of the academic year. Furthermore, the unstandardized coefficient for Path *a* indicates that a one-unit increase in achievement motivation is associated with a 0.15-unit increase in cumulative achievement. Given that scores on the achievement motivation scale range from 28 to 130, a 10-point in motivation corresponds to a 1.5-point increase in cumulative achievement, while a 100-point would yield a 15-point increase. These results provide clear evidence that students with higher levels of achievement motivation demonstrate substantially higher cumulative academic achievement relative to their peers with lower motivation levels.

3.2 Results of Predicting Baccalaureate Results

➢ **Effect of Cumulative Average on Baccalaureate Results**

The effect of the cumulative achievement variable (mediator) on the baccalaureate examination performance variable (dependent variable) – Path b:

- Path b = 0.8745, t(206) = 18.21, p < 0.0001
- 95% CI [0.7798, 0.9692]

The results confirm that cumulative average is a very strong predictor in explaining baccalaureate results after controlling for achievement motivation. A one-unit increase in cumulative achievement (annual average) yields a 0.875-point increase in baccalaureate examination performance, reflecting the close relationship between sustained academic performance and decisive examination outcomes.

➢ **Direct Effect of Achievement Motivation on Baccalaureate Results**

The results also showed that motivation has a direct effect on baccalaureate results after controlling for cumulative average, with:

- Path c': coeff = 0.03, t(206) = 2.37, p = 0.019
- 95% CI [0.0051, 0.0552]

Although this effect is relatively weak at 0.03, it is statistically significant, indicating that motivation influences baccalaureate results not only through cumulative achievement but also through other mechanisms such as perseverance and effort regulation. A one-unit increase in achievement motivation yields a 0.03 increase in baccalaureate examination performance, representing an independent contribution beyond cumulative achievement.

➢ **Predictive Quality of the Model**

- $F(2,206) = 280.98$, $p < 0.001$, $R^2 = 0.732$

The coefficient of determination for the model was $R^2 = 0.732$, meaning that motivation and cumulative average together explain 73.2% of the variance in baccalaureate results, a high level reflecting the strength of the statistical model used.

3.3 Mediation Test Results

Analysis of the indirect effect using the Bootstrap technique showed that achievement motivation influences baccalaureate results through cumulative average, with:

- Indirect effect = 0.129
- 95% Bootstrap Confidence Interval [0.098, 0.168].

Since the confidence interval does not include zero, the indirect effect is statistically significant, confirming the presence of mediation.

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3.4 Type and Proportion of Mediation

Given that:

- The direct effect of motivation remains significant, and the indirect effect is statistically significant, cumulative average plays a partial mediation role.

3.5 Proportion Mediated:

- Total effect = 0.159
- Indirect effect = 0.129

The proportion of mediation in this model was estimated at 81% of the total effect. As noted above, the model explained 73.2% of the variance, meaning that 81% of the effect of achievement motivation on baccalaureate results operates through cumulative average.

4. Interpretation of Results

The results of the present study are interpreted according to a specific strategy comprising the following points:

1. Objective reading of the explanatory model tested in this study.
2. Reading of the results in light of the Hermans Achievement Motivation Scale.
3. Reading of the results with reference to some contemporary theories of achievement motivation.

4.1 Interpretation of the Model Results

The mediation analysis results indicate that motivation has a statistically significant effect on baccalaureate results, with most of this effect occurring through cumulative average. Cumulative average was found to play a very strong mediating role, explaining 81% of the total variance in baccalaureate examination performance, while the direct effect of motivation remained present but relatively weak, indicating partial mediation. That is, motivation explains a modest portion of the variance in baccalaureate results, while the larger portion is explained through its mediation by cumulative achievement.

These results are consistent with findings from both recent and earlier studies. Al-Khalifa (2023) found a direct and notable effect of both self-efficacy and learning motivation on cumulative average, as well as a mediating effect of learning motivation in the relationship between self-efficacy and academic achievement. Sereda et al. (2024) provided strong empirical evidence that educational-cognitive motivation (the internal desire to learn and understand) is a stronger predictor of academic achievement (GPA) than entrance exam scores or other psychological variables, which aligns closely with the indirect effect of motivation on baccalaureate performance through cumulative achievement.

This finding also aligns with previous studies on this topic, such as Harackiewicz et al. (2002), which showed that two variables stand out as primary predictors of success: cognitive abilities and prior performance (cumulative achievement), both being independent positive predictors of student grades, with no question about their utility in predicting academic success (p. 562). Gerlich et al. (2010) were not surprised that the cumulative GPA achieved by students was the sole predictor of success among several variables, reflecting prior effort (p. 8). Olani (2009) similarly demonstrated that prior achievement explained the largest proportion of variance in achievement rates, meaning that students who performed well before college achieved similar results in college, even in the presence of psychological variables such as self-efficacy and achievement motivation (p. 1067). Moreover, Robins et al. (2004) concluded that achievement motivation and self-efficacy are the primary predictors of cumulative GPA.

However, it should be noted that cumulative achievement is not realized without strong achievement motivation. The present study revealed that motivation predicts approximately 31.4% of the variance in cumulative achievement, which in turn influences performance on decisive examinations. Covington (2000) explained that a student aspiring to succeed in an examination sets this goal from the beginning of the year and exerts all efforts to achieve it. What reflects the effort exerted is the What reflects the effort exerted is the results obtained during the year.

Ultimately, achievement motivation remains the primary driver of all forms of human behavior according to the circumstances in which the individual finds themselves. It activates cognitive abilities, sustains them, and directs them toward desired goals. According to Locke and Latham (2004), motivation can affect not only people's achievement abilities and skills but also how and to what extent they can utilize them. Covington (2000) demonstrated the triadic relationship—goals, effort, achievement— establishing that goals (goal theory) are the most influential driver of achievement, leading to effort expenditure, perseverance, and disciplined use of time and cognitive abilities.

4.2. Reading of the Results in Light of Hermans' Achievement Motivation Scale

On the other hand, in light of the components of the Hermans Scale (high level of aspiration, behavior involving measured risk-taking, propensity to move forward, perseverance, willingness to reconsider obstacles, awareness of the passage of time, future orientation, preference for competitive situations over empathetic situations, seeking recognition, desire for better performance) applied in this study to measure achievement motivation, the following points can be drawn:

First: The Relationship with Cumulative Achievement

Cumulative achievement is the product of sustained and consistent effort over an extended period. The following components are strongly associated with it:

-Perseverance: Cumulative achievement requires continuity of effort, and perseverance transforms intermittent attempts into accumulated performance. Perseverance and moving forward without retreat are the currency of excellence. When Albert Einstein was once asked if he was a genius, his answer reflected this meaning: "I try to solve a problem 99 times and only succeed on the 100th; if that is genius, then I am a genius." Continuity in trying opens the mind and enables it to tackle the most difficult problems. A persevering student can move from fear of mathematics to excellence in it.

-Awareness of the Passage of Time: Students who recognize that time passes quickly organize their studying more effectively throughout the term, positively reflecting on their cumulative achievement. This enables them to avoid procrastination and complete daily tasks on time, reviewing challenging material multiple times.

-Future Orientation: When students are future-oriented, they see value in every test or assignment as part of building their future, making them consistently diligent in performing these tasks. Such students are realistic; they work hard now with future projects in mind, which become a source of fuel for continuity and perseverance to achieve future goals. The larger these goals, the greater the effort required.

-Desire for Better Performance: This drives students not to settle for mere success but to improve their performance in every task, gradually raising their cumulative average. Some students are content with passing (a score of 10/20), while others strive to go to the maximum extent, dedicating sufficient time, focus, understanding, retention, and continuous revision. It is unsurprising to find students with similar cognitive abilities achieving different final outcomes because some exert greater effort and consistently improve their performance.

Second: The Relationship with Performance on the Decisive Examination

The decisive examination is characterized by limited time, high psychological pressure, significant challenges, and intense competition. The following components of the Hermans Scale are particularly prominent in this context:

-High Level of Aspiration: In the decisive examination, high aspiration drives students to aim for the highest scores, increasing their psychological and academic readiness. Ambitious students are not satisfied with average performance; they aspire to achieve top ranks.

-Seeking Recognition: The decisive examination often serves as a gateway to social or professional recognition or a broad entry to prestigious universities and distinguished specializations needed by society, making the search for recognition a powerful motivator for thorough preparation.

-Willingness to Reconsider Obstacles: The decisive examination may involve psychological obstacles (such as anxiety) or cognitive obstacles (difficulty of questions). Those who reconsider obstacles can transform them into challenges to overcome rather than surrendering to them. Worry and anxiety are serious impediments that can undermine students' abilities, especially in evaluative situations. Positive reappraisal enables them to give threatening situations alternative meanings, allowing effective coping to overcome difficulties, particularly during exam preparation and performance.

4.3 Theoretical Link Between Hermans' Scale and Major Theories

The explanatory theories of motivation can be linked to Hermans' concept of achievement motivation and his scale in a scientific and systematic manner. Hermans did not propose a completely independent theory but rather built his conceptual framework and measurement tool on the contemporary extension of the Need for Achievement theory. Achievement motivation is viewed as a relatively stable internal disposition that drives the individual to strive for excellence, perseverance, and responsibility-taking to achieve high performance standards. It relies on the cognitive–affective–behavioral dimension in explaining achievement behavior.

➢ ***Link with David McClelland's Theory***

The essence of McClelland's Need for Achievement theory (nAch) lies in the fact that individuals differ in their level of need for achievement. People with high need for achievement are characterized by:

- Preferring moderately difficult tasks
- Striving for excellence
- Taking personal responsibility
- Persevering despite difficulties

The relationship lies in the fact that the Hermans Scale is essentially an applied educational development for measuring the need for achievement in students. It measures: perseverance, positive competition, ambition, desire for excellence, and responsibility-taking. Thus, it can be concluded that Hermans' concept is a standard educational extension of McClelland's theory.

➢ ***Link with Expectancy-Value Theory (Eccles and Wigfield)***

The core idea of this theory is that achievement = (expectancy of success) × (task value). Examining the Hermans Scale, it measures components related to: high expectancy of success, awareness of the importance of excellence, and valuing academic achievement. Therefore, students with high scores on the Hermans Scale, particularly in these components, have high expectations of success, perceive study as valuable, and consequently achieve higher results.

➢ ***Link with Carol Dweck's Achievement Goal Theory***

This theory distinguishes between: Mastery goals and Performance goals. The relationship with the Hermans Scale lies in the fact that the scale contains items reflecting: striving for mastery, desire to outperform others, and improving personal performance. The similarity between this theory and certain components of the Hermans Scale is immediately apparent, suggesting a close theoretical relationship. Hermans translated this approach into a measurement framework by including clear items representing this very important theory in the field of intelligence development and distinguished achievement.

➢ ***Link with Self-Determination Theory (Edward Deci and Richard Ryan)***

Self-Determination Theory (Deci & Ryan) emphasizes that motivation, especially intrinsic motivation, leads to deeper engagement in learning, increased perseverance, and improved academic performance. The strong relationship between motivation and cumulative average reflects that students who feel autonomy, competence, and relatedness are more committed to academic tasks, which positively affects their sustained academic achievement and subsequently manifests in baccalaureate results. The elements of competence, perseverance, and ambition in the Hermans Scale reflect the level of perceived self-efficacy, a fundamental component of intrinsic motivation.

5. ***Conclusion***

The results of the present study confirm that achievement motivation is a fundamental factor not only in academic success and excellence but in all areas of life. However, its greatest effect is realized through improving sustained academic performance. Therefore, enhancing learners' motivation represents an effective approach to improving their academic and final outcomes, especially in decisive examinations such as the baccalaureate. In other words, it became clear that cumulative achievement explains the lion's share—81%—of the variance in baccalaureate examination performance, accounting for 73.2% of what the overall model explains. Yet, achievement motivation remains the primary driver of what

students strive to achieve. The effort students exert during the year, enabling them to achieve a high cumulative average, is what facilitates their success and excellence in the final examination.

Drawing from this study and the various motivation theories that the study attempted to integrate practically with the Hermans Scale used to measure achievement motivation, we can conclude that the strength of motivation is influenced by multiple internal and external factors that must be considered to understand an individual's pursuit of goals. In this context, it can be said that individuals who set ambitious goals expend more effort, harness more mental, psychological, and emotional energy to achieve them, and stand firm in the face of all obstacles and difficulties that arise along the way.

The Prophet Muhammad (peace be upon him) said in a authentic hadith narrated by Umar ibn al-Khattab (may Allah be pleased with him): "Actions are but by intentions, and every person will have only what they intended." Sincere intention in achieving a goal, whether in worldly matters or matters of the hereafter, enables a person to advance with great strength and determination toward it. The stronger a person's intention and motivation, the more they persist in their pursuit until they achieve their objective, placing their trust in Allah.

6. ***Recommendations***

Achieving success is linked to sustained effort, effective handling of difficulties and obstacles without retreat. Students who think big, advance toward their goals with perseverance, discipline, and continue trying after failure will reach the highest peaks. However, this information must become widespread among young people in society so that students, grocers, and even bakers alike understand that they are no different from the Japanese, Americans, or Europeans—Allah created us all equal.

Moreover, teachers, following parents, can play a crucial role. They spend hours with students and interact with them in the classroom from an early age. They can instill values of motivation, perseverance, discipline, continuity, efficacy, confidence, and resilience in the face of difficulties—all factors linked to motivation and success in whatever students pursue.

If some researchers may argue that achievement motivation is a classical topic and researching it is a waste of time, when we understand that the progress nations achieve in various areas of life, particularly in the academic field, is closely linked to achievement motivation, we realize that research on this concept and other concepts

related to success remains an indispensable necessity. Therefore, more research is required, and it is essential that decision-makers pay greater attention to it.

Constructing counselling programs in light of accumulated scientific evidence from scientific research becomes imperative in order to help students be aware of their intellectual abilities and their limits (If any at all!). It can be said that some societies attended to this concept in the 1950s and 1960s and are now leaders in all areas of life. I do not understand how a people who managed to rid themselves of the most powerful colonial forces could shrink after independence, when it should have surged forward with all its strength to achieve progress, acquire immunity, and achieve decision-making independence.

Consequently, there must be a convergence of influential forces through various media, artistic, educational, and political channels toward energizing determination and raising awareness in society—especially among young people—of the abilities they possess and that they are truly capable of rising to challenges to contribute to strengthening immunity and decision-making independence.

7. ***References***

Ahmed, G. (2025). Three female students top the list of successful candidates in the 2025 baccalaureate examination. El Djazairi News. https://elghadeldjazairi.dz/3/ [In Arabic]

Al-Rabti, M. A. R. (2025). Motivation for learning and its relationship to academic achievement among secondary school students in Al-Bayda. Academic Forum Journal (Human Sciences), 9(2), 3917–3937. [In Arabic]

Al-Sulami, T. A. A. (2020). Frustration, achievement motivation, and their relationship to academic achievement among students at Al-Jumum University College, Umm Al-Qura University. The Educational Journal, (69), 1–25. [In Arabic]

Aspinwall, L. G., & Taylor, S. E. (1992). Modeling cognitive adaptation: A longitudinal investigation of the impact of individual differences and coping on college adjustment and performance. Journal of Personality and Social Psychology, 63, 989–1003. https://pubmed.ncbi.nlm.nih.gov/1460565/

Bedaiwy, A. A., Elsharkasy, A. S., Magdy Rezk, W., Arafa, S. Z., Aboud, Y. Z., & Helali, M. M. (2025). The relative contribution of achievement motivation and some variables in predicting attitudes and GPA. Journal of Posthumanism, 5(5), 1910–1925. https://doi.org/10.63332/joph.v5i5.1575

Ben Lakhdar, W., & Boutani, F. (2022). Academic achievement motivation among secondary school students: A field study in selected secondary schools in Tamanrasset. Al-Muqaddimah Journal of Human and Social Studies, 7(2), 334–362. https://doi.org/10.59791/ahssj.v7i2.2894 [In Arabic]

Boutemine, S. (2014). The relationship between achievement motivation, prior academic achievement, and performance in the baccalaureate examination. Al-Bahith Journal, 6(1), 34–61. https://www.asjp.cerist.dz/en/article/23020 [In Arabic]

Bouras, M., & Gattaf, M. (2021). Achievement motivation and its relationship to selected personal and academic variables. Journal of Social and Human Sciences, University of Batna 1, 22(2), 49–68. https://asjp.cerist.dz/en/downArticle/97/22/2/176618 *[In Arabic]*

Cohen, L., Manion, L., & Morrison, K. (2005). Research methods in education (5th ed.). Taylor & Francis e-Library.

Covington, M. V. (2000). Goal theory, motivation, and school achievement: An integrative review. Annual Review of Psychology, 51, 171–200. https://doi.org/10.1146/annurev.psych.51.1.171

Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and self-determination of behavior. Psychological Inquiry, 11(4), 227–268. https://doi.org/10.1207/S15327965PLI1104_01

Dweck, C. S. (1986). Motivational processes affecting learning. American Psychologist, 41(10), 1040–1048. https://www.sciepub.com/reference/167482

Dweck, C. S. (2002). The development of ability conceptions. In A. Wigfield & J. S. Eccles (Eds.), Development of achievement motivation (pp. 57–88). Academic Press. https://doi.org/10.1016/B978-012750053-9/50005-X

Eccles, J. S., & Wigfield, A. (2002). Motivational beliefs, values, and goals. Annual Review of Psychology, 53, 109–132. https://doi.org/10.1146/annurev.psych.53.100901.135153

Elliot, A. J., & McGregor, H. A. (2001). A 2 × 2 achievement goal framework. Journal of Personality and Social Psychology, 80(3), 501–519. http://www.selfdeterminationtheory.org/SDT/documents/2001_ElliotMcGregor.pdf

Gagné, F., & St Pére, F. (2001). When IQ is controlled, does motivation still predict achievement? Intelligence, 30, 71–100. https://doi.org/10.1016/S0160-2896(01)00068-X

Gerlich, R. N., Mills, L. H., & Sollosy, M. (2010). An evaluation of predictors of achievement on selected outcomes in a self-paced online course. Research in Higher Education Journal, 4, 1–14. https://www.researchgate.net/publication/237308182

Hajja, A. R. A., & Al-Hadi, H. S. M. (2022). Achievement motivation and its relationship to coping strategies for academic stress. Journal of Education, (195, Part 3), 239–263. https://search.emarefa.net/ar/detail/BIM-1394571- *[In Arabic]*

Harackiewicz, J. M., Barron, K. E., Tauer, J. M., & Elliot, A. J. (2002). Predicting success in college: A longitudinal study of achievement goals and ability measures as predictors of interest and performance from freshman year through graduation. Journal of Educational Psychology, 94(3), 562–575. https://doi.org/10.1037/0022-0663.94.3.562

Hayes, A. F. (2018). Introduction to mediation, moderation, and conditional process analysis: A regression-based approach (2nd ed.). The Guilford Press.

Hayes, A. F. (2025). PROCESS for SPSS and SAS (Version 5.0) [Computer software]. https://www.processmacro.org/download.html

Hermans, H. J. M. (1970). A questionnaire measure of achievement motivation. Journal of Applied Psychology, 54(4), 353–363. https://doi.org/10.1037/h0029675

Locke, E. A., & Latham, G. P. (2004). What should we do about motivation theory? Six recommendations for the twenty-first century. Academy of Management Review, 29(3), 388–403. https://doi.org/10.2307/20159050

McClelland, D. C. (1961). The achieving society. Van Nostrand.

Olani, A. (2009). Predicting first-year university students' academic success. Electronic Journal of Research in Educational Psychology, 7(3), 1053–1072. https://eric.ed.gov/?id=EJ869205

Richardson, M., Abraham, C., & Bond, R. (2012). Psychological correlates of university students' academic performance: A systematic review and meta-analysis. Psychological Bulletin, 138(2), 353–387. https://doi.org/10.1037/a0026838

Robbins, S. R., Lauver, K., Le, H., Davis, D., Langley, R., & Carlstrom, A. (2004). Do psychosocial and study skill factors predict college outcomes? A meta-analysis. Psychological Bulletin, 130(2), 261–288. https://doi.org/10.1037/0033-2909.130.2.261

Ryan, R. M., & Deci, E. L. (2017). Self-determination theory: Basic psychological needs in motivation, development, and wellness. Guilford Press. https://doi.org/10.1007/978-3-319-69909-7_2630-2

Rymbai, H. E., & Deka, P. K. (2024). Exploring the relationship between academic motivation and achievement: A study of university students in North-East India. Journal of Management in Practice, 9(1), 1–17.

Sani, B., & Inuwa, S. A. (2025). Achievement motivation as correlates of academic achievement among early childhood education student-teachers of Sa'adatu Rimi College of Education, Kumbotso, Zaria Road, Kano State. Kano Journal of Educational Psychology, 5(1), 146–155. https://doi.org/10.59479/jiaheri.v5i1.114

Sereda, N., Reznik, S., Solodovnyk, T., Bogdan, Z., & Romanovskyi, O. (2024). Grade point average: The relationship with results of entrance assessment, learning motivation, achievement motivation, and perception of teacher leadership. Journal on Efficiency and Responsibility in Education and Science, 17(1), 23–34. https://doi.org/10.7160/eriesj.2024.170103

Shanmugam, P. N. L., & Rajam, S. S. (2026). The relationship between academic achievement and achievement motivation among high school students in Chennai District, Tamil Nadu, India. Asian Journal of Education and Social Studies, 52(1), 147–156. https://doi.org/10.9734/ajess/2026/v52i12765

Sharma, M., & Kaur, G. (2018). Relationship between achievement motivation and academic achievement of secondary school students. Indian Journal of Educational Research, VI, 82–88. https://www.researchgate.net/publication/390617243

Steinmayr, R., & Spinath, B. (2009). The importance of motivation as a predictor of school achievement. Learning and Individual Differences, 19, 80–90. https://doi.org/10.1016/j.lindif.2008.05.004

Steinmayr, R., Weidinger, A. F., & Spinath, B. (2019). The importance of students' motivation for their academic achievement. Frontiers in Psychology, 10, Article 1730. https://doi.org/10.3389/fpsyg.2019.01730

Sunder, D. L. (1999, April). Does examinee motivation moderate the relationship between test consequences and test performance? [Symposium paper session]. AERA Meeting, Montreal, Canada. https://eric.ed.gov/?id=ED432588

Wigfield, A., & Eccles, J. S. (2000). Expectancy–value theory of achievement motivation. Contemporary Educational Psychology, 25(1), 68–81. https://doi.org/10.1006/ceps.1999.1015