

## Mastery Motivation and its Relationship with Self-Regulation among University Students

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### Abstract

**Objectives:** The present research aims to explore the mastery motivation and self-regulation among students at the University of Baghdad. It also seeks to ascertain the significance of differences in mastery motivation and self-regulation according to the gender variable (male-female), as well as to understand the correlational relationship between them.

**Methodology:** The researchers adopted the mastery motivation scale prepared by Wadaa (2022), which in its final form consists of 24 items, and the self-regulation scale prepared by Fayad (2017), which in its final form consists of 35 items. The research sample comprised 125 students, selected from the University of Baghdad.

**Results:** The findings indicate that the research sample possesses both mastery motivation and self-regulation. There is no significant difference in mastery motivation and self-regulation according to the gender variable (male-female). However, there is a correlational relationship

between mastery motivation and self-regulation among the university students.

**Conclusion:** The presentation of the results reveals that the research sample exhibits mastery motivation and self-regulation. There is no significant difference in mastery motivation and self-regulation based on the gender variable (male-female). Nonetheless, a correlational relationship exists between mastery motivation and self-regulation among the university students.

**Keywords:** Mastery Motivation, Self-Regulation, University Students

دافعية الإتقان وعلاقتها بالتحكم الذاتي لدى طلبة الجامعة

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#### ملخص

**الأهداف:** يهدف البحث الحالي معرفة دافعية الاتقان والتحكم الذاتي لدى طلبة جامعة بغداد، وكذلك التعرف على دلالة الفروق في دافعية الاتقان والتحكم الذاتي على وفق متغير الجنس (ذكور-إناث)، وكذلك التعرف على العلاقة الارتباطية بينهما.

**المنهجية:** وقد قام الباحثون بتبني مقياس دافعية الاتقان المعد من قبل (وداعة، ٢٠٢٢)، وقد تألف المقياس بصيغته النهائية من (٢٤) فقرة، وتبنوا مقياس التحكم الذاتي المعد من قبل (فياض، ٢٠١٧)، أذ تألف المقياس بصيغته النهائية من (٣٥) فقرة. وبلغت عينة البحث (١٢٥) طالب وطالبة تم اختيارهم من جامعة بغداد

**النتائج:** وكانت النتائج كالآتي: -

ان عينة البحث لديها دافعية اتقان ولديهم تحكم ذاتي. ولا يوجد فرق في دافعية الاتقان والتحكم الذاتي على وفق متغير الجنس (ذكور-إناث). بينما توجد علاقة ارتباطية بين دافعية الاتقان والتحكم الذاتي لدى طلبة الجامعة.

**الخلاصة:** من خلال عرض النتائج ظهر ان عينة البحث لديها دافعية اتقان ولديهم تحكم ذاتي. ولا يوجد فرق في دافعية الاتقان والتحكم الذاتي على وفق متغير الجنس (ذكور-إناث). بينما توجد علاقة ارتباطية بين دافعية الاتقان والتحكم الذاتي لدى طلبة الجامعة.

**Introduction:**

The motivation for mastery constitutes a significant facet within the framework of basic motivational systems, having emerged in recent years as a distinctive landmark in the study and research of personality dynamics and behaviour. It can be considered one of the achievements of contemporary psychological thought. The individual's need for achievement is a fundamental factor in their personality. Some students are fighters, perseverant, and oriented towards achievement, while others are calm, thoughtful, highly interested, and compliant, yet there exist individual differences among them in their need for achievement. The extent to which a person expects to be successful depends on their skill level in the activity or the relative ease of the task assigned to them. The more skilled and adept individual is likely to facilitate the task and be more passionate about it, thus more likely to succeed in it.

For the implementation of self-regulation, an individual must recognize how factors influence their actions and how these factors can be altered to produce the desired changes. This awareness or understanding requires the individual to carry the nature of their personal world. Starting from this point, through observation of what happens, individuals can analyse their personality and employ specific techniques and means to change aspects, such as patterns of logical thinking or the natural environment. Moreover, self-control involves a set of skills that the individual uses for the purpose of reducing and controlling many undesirable behavioural patterns.

**Chapter One****Research Problem:**

The reality of education in developing countries is characterized by precise control, definition of behaviour, and emphasis on right and wrong using punishment, which leads to the stifling of students' creative

spirit. Motivation plays a significant and crucial role in individuals' lives, among which mastery motivation stands out. This form of motivation encompasses the student's perseverance, continuation, enjoyment in learning, and quest for everything new. However, due to pressing circumstances, students find it challenging to master performance in their duties (Gottfried, 1994). Studies confirm that students driven by mastery motivation possess a great adaptability in various circumstances they interact with, leading to superior performance. They also enjoy high self-confidence, competence, and ability to accomplish any task they undertake, hence displaying high mastery and quality in their performance (Al-Aboudi, Saleh, 2015).

In an era marked by rapid change and astonishing progress across various fields (educational, political, economic, and informational), the scientific advancements and the expanding demands of life have increased students' need to control their thoughts, behaviour, and actions. Students face difficulties in organizing and controlling their behaviour. Therefore, the current research problem focuses on the following question: Is there a correlational relationship between mastery motivation and self-regulation among university students?

### **Research Significance:**

The university stage is considered one of the pivotal educational phases since it plays a significant role in shaping the student's personality through advanced curricula and the provision of human relations and social interaction. Thus, it can be said that the student's personality crystallizes and becomes more defined during this phase. University students constitute an important segment of society, serving as the backbone that actively contributes to community building and infuses the community with a distinctive and vibrant character, endowed with fresh ideas, emotions, and uncomplicated sentiments.

The essence of mastery motivation, as the core of achievement motivation, is one of the fundamental drives based on the individual's strong desire to control their environment. It signifies capability, ability, and competence, all converging towards the primary meaning of positive interaction effectiveness with the environment (Al-Aboudi & Saleh, 2015). Mastery motivation is the student's accomplishment of challenging tasks, the processing and independent organization of ideas, the ability to solve problems and overcome difficulties faced, and the desire for development and excellence (Murray, 1983:146).

The motive for academic achievement among students is the desire to excel over competitors and the capability to solve problems (McClelland,1953:2). Achievement motivation can be intrinsic, self-achievement, or extrinsic, stimulated by the teacher in the student, unlike mastery motivation, which is the student's perseverance, enjoyment in learning, interest in everything new, curiosity, and excellence in assigned tasks (Gottfried,1994:25).

Self-regulation is a fundamental characteristic of successful psychological adjustment, where the individual feels capable of controlling their behaviour, environment, thoughts, and emotions, becoming more adept at handling life's pressures (Alalwsi,2002:3). Self-regulation is essential for any adjustment achieved by the learner in any aspect of life, where an individual possessing self-control is someone who can positively regulate their impulses without losing the spontaneity and pleasure of interacting with others through the confidence gained in dealing with the environment (Al-Tanoubi,1999:46).

An individual capable of self-regulation and control is characterized by flexibility and the ability to adapt to different situations, demonstrating versatile responses according to new circumstances (Martin & Pulhas, 1988:122). Self-regulation represents the learner's pressing need to

understand themselves and develop their knowledge of human nature. When an individual can understand themselves well, they can regulate and direct themselves correctly. Self-regulation transforms the learner from a passive being into an active, positive entity controlling their behaviour in its various forms. There is a fundamental difference between doing something because we want to, based on logical, purposeful convictions, and low self-regulation levels in learners can lead to a set of negative thoughts, beliefs, and behaviours accompanied by emotional consequences or undesirable behavioural patterns (Al-Shammari,2012:12).

In the academic sphere, self-regulation is one of the most critical channels through which students' academic behaviour is understood. Students with low self-regulation levels face problems when pursuing long-term goals, whereas those with high self-regulation are better at completing their academic tasks on time (Al-Shammari,2012:24). Rachlin (2000), through his review of previous research and studies on self-regulation, asserts that learners are more capable of regulating themselves and controlling their selves (Rachlin,2000:59).

### **Research Objectives:**

1. To identify the level of mastery motivation among university students.
2. To determine the significance of differences in mastery motivation according to gender (male-female) among university students.
3. To explore self-regulation among university students.
4. To examine the significance of differences in self-regulation according to gender (male-female) among university students.
5. To investigate the correlational relationship between mastery motivation and self-regulation among university students.

### **Research Scope:**

The current research is limited to the daytime students at Baghdad University, encompassing both genders (male and female), for the academic year (2022–2023).

**Definition of Terms:**

**Firstly:** Mastery Motivation (Motivation Perfection) is defined by:

1. **Atkinson (1966):** As a need mixed with another basic need – the need to avoid failure, resulting from the conflict between approach and avoidance tendencies (Atkinson, 1966:45).
2. **Gottfried (1994):** As the students' perseverance, enjoyment in learning, interest in everything new, curiosity, engagement in learning, accomplishment of challenging tasks, recognition of competence, and excellence in the activities they undertake (Gottfried, 1994:18).
3. **Lee (2014):** As an active energy directed towards focusing on goals, denoting the student's perseverance in challenging tasks to master skills and achieve goals (Lee, 2014:12).

**Theoretical Definition:** The researchers adopt Atkinson's (1966) definition as a theoretical framework for the current study.

**Operational Definition:** It is the total score obtained by the respondent through their responses to the items of the mastery motivation scale.

**Secondly: Self-Control is defined by:**

1. **Rogers (1986):** As the individual's capacity to control themselves, transitioning emotionally and rationally from undesirable to desirable methods of thinking and behaviour (Shalal, 2011:11).
2. **Hantool (2004):** As the individual's ability to effectively and balanced deal with stressful situations and to achieve a balance between internal and external impulses (Hantool, 2004:11).

**Theoretical Definition:** The researchers adopt Rogers's (1986) definition as a theoretical framework for the current study.

**Operational Definition:** It is the total score obtained by the respondent through their responses to the items of the self-control scale.

## Chapter Two

### Theoretical Framework Section One:

#### **Mastery Motivation (Motivation Perfection)**

Mastery motivation represents a crucial aspect within the primary motivational systems, having emerged in recent years as a distinguished milestone in the study and research on personality dynamics and behaviour. It is considered one of the contemporary psychological thought's achievements (Al-A'sar, 1983). Based on an individual's willingness to exert a specific effort to achieve a goal, Atkinson distinguished between the concept of achievement drive and achievement motivation. He viewed achievement drive as the individual's desire to work and their sense of pride from succeeding in accomplishing a task. Among the most important components of achievement drive, he included the inclination towards activity and action, satisfaction from achievement, and the joy success brings. On the other hand, achievement motivation is seen as a process of struggle and zeal, a push to hone and refine the drive and exert persistent voluntary efforts to actualize the goal (the drive) into reality (Ferguson, 1976: p.305).

Atkinson's conception posits that achievement motivation is a triadic compound of the motive's strength, the likelihood of the individual's success, and the incentive itself, representing its value to the individual. Atkinson believes that achievement drive is the outcome of the approach–avoidance conflict between the hope of success and the fear of failure.

#### Atkinson's Expectancy–Value Theory

Atkinson's efforts mark a historical phase in mastery motivation research, with a foundational assumption in his theory being that the need for achievement does not influence behaviour under any circumstance or any routine task. Instead, it occurs only when the



situation presents some form of personal challenge. Atkinson built his theory on the grounds of personality theory and experimental psychology, framing his achievement motivation theory within the expectancy–value approach. He hypothesized the conflict between the need for achievement and the fear of failure. Atkinson highlighted the determinants of risk–based achievement and noted that taking risks in accomplishing a task is one of his fundamental assumptions, suggesting that the need for achievement is always mixed with another basic need – the need to avoid failure. In other words, an individual cannot embark on achieving a goal without considering the outcome of failure. He views achievement–oriented behaviour because of the conflict between approach tendencies and avoidance tendencies, where each achievement act has a possibility of success accompanied by emotions such as pride, as well as a possibility of failure often accompanied by feelings of shame. Hence, he views achievement behaviour as a product of the emotional conflict between desires for success and fears of failure, with achievement behaviour dependent on the stronger tendency. If the need for achievement is stronger in each situation, the final inclination will be towards accepting the risk and aiming for achievement. Conversely, if the need to avoid failure is stronger, the acceptance of risk will be threatened, and the motivational outcome will be avoidance of failure in that situation (Hilal, 2004:29).

There are four factors, including two related to individual traits and two linked to the characteristics of the task or work to be accomplished, as follows (Al–Ghamdi, 2009:111):

**Firstly: –**

Factors related to individual traits: According to "Atkinson," there are two types of individuals who operate differently in the realm of achievement orientation:

1. **The first type:** Individuals characterized by a higher need for achievement than the fear of failure.

2. **The second type:** Individuals characterized by a higher fear of failure compared to the need for achievement. (Al-Kalaldeh, 2008:211).

Psychologists focusing on achievement drive have concentrated on these two opposing or symmetrical types, as no individual possesses the same degree of both types. Individuals with a high need for achievement are expected to show activity-oriented achievement because their fear of failure is very limited. In contrast, individuals with a low need for achievement are expected to lack achievement activity or have it to a limited extent due to their lack of need for achievement and domination by fear of failure and anxiety (Mousa, 1994:168).

**Secondly: –**

**Task characteristics:** There are also two situations or variables related to the task that should be considered:

A. The first factor: The likelihood of success, referring to the perceived difficulty of the task, one of the determinants of risk (Probability of Success).

B. The second factor: The task incentive for success affects performance in a task by the incentive for success in this task. The incentive for success refers to the internal or personal interest of any task relative to the person's status and position (Al-Ghamdi, 2009:113).

**This can be further clarified through:**

**The tendency to achieve success:**

Atkinson summarized the relationship between the determinants of achievement motivation with the following mathematical equations:

$$TS = Ms \times Ps \times Is$$

where:

MS: Represents the motive to achieve success (Motive to Achieve Success)

Ps: Represents the probability of success (Probability of Success)

Is: Represents the incentive value of success in performing a task (The Incentive Value of Success)

Thus, the tendency towards success is the result of the interaction of these three factors, expressed by Atkinson in the following equation:

**(The tendency towards success = Motive to achieve success x Probability of success x Incentive value of success) (Abd Al-Hafeez, 2004:170)**

**The tendency to avoid failure:**

The expression towards avoiding failure and its interactions can be represented as follows:

MAF: Represents the motive to avoid failure.

PF: Represents the expectation of failure

IAF: Represents the incentive value of failure Therefore, the value of avoiding failure (MAF) is the result of the interaction of these three factors, and Atkinson expressed this with the following equation:

**(The tendency to avoid failure = Motive to avoid failure x Probability of failure x Incentive value of failure)**

Outcome of achievement motivation: To calculate the overall motivation for achievement, we need to know:

- ❖ The tendency to achieve success.
- ❖ The tendency to avoid failure.
- ❖ And the final inclination towards an achievement situation = The tendency to achieve success The tendency to avoid failure.

Since the value of the tendency to avoid failure is always negative, the final inclination towards an achievement situation is estimated according to the following equation:

**The outcome or result of achievement motivation = The tendency to achieve success + The tendency to avoid failure = (Motive to achieve success + Probability of success x Incentive value of**

**success) + (Tendency to avoid failure x Probability of failure x Incentive value of failure).**

(Al-Ghamdi, 2009:114) Similarly, the need to avoid failure represents the desire to avoid circumstances that lead to diminishing or belittling the individual, mockery, or disdain from others, or lead to abstaining from performing an action due to the fear of failure. According to Atkinson, the tendency or inclination for success is an acquired motivational readiness, differing between individuals undertaking a task.

#### **Firstly: – The Drive for Success**

Individuals engage in tasks with significant enthusiasm and Vigor to experience the feeling of success. This drive naturally results in the fear of failure. Individuals vary in their motivation to avoid failure; facing the same task, one may approach it eagerly, anticipating success, while another may do so in a manner aimed at avoiding potential failure. The tendency to avoid failure, in such cases, appears to be learned from experiencing repeated failures and setting unattainable goals (Ghabari, 2008:52–53).

#### **Secondly: – The Probability of Success**

The individual's likelihood of succeeding in any given task ranges from very low to high, based on the importance, value, and attractiveness of success to the person tasked with it.

#### **Thirdly: – The Incentive Value of Success**

The increased difficulty of a task necessitates a higher incentive value for success. Success itself serves as a motivator, and success in more challenging tasks has a stronger motivational impact than less difficult tasks. The more difficult the task, the more "charged" the incentive needs to be for high motivational levels. Difficult tasks associated with low-value incentives do not inspire individuals to perform with high motivation. Through Atkinson's definition, the drive for success is considered a relatively stable and general characteristic of the individual,

present in any behavioural situation. The values of the probability of success and the incentive for success depend on the individual's past experiences in specific situations, which are like the new experiences they face currently (Al-Firmawi, 2004:55).

### **Theory of Mastery Motivation:**

*The theory of mastery motivation, developed by Atkinson, McClelland, and others, defines the primary driving force as follows:*

The individual's inclination towards successful achievement in a task represents a multiplicative relationship of three variables: the drive for achievement success (envisioned as a relatively general or stable predisposition of personality) and two other variables representing the immediate environment – the strength of the expectation or subjective internal probability that performing the task will lead to success, and the attractiveness of success for that particular activity, termed the incentive value of success. In other words,

**Successful achievement = Drive for achievement success x Strength of achievement expectation x Incentive value of success.**

According to the expectancy-value theory, an individual can influence motivation through performance cues, which define the individual's expectations regarding the outcomes of their actions or the incentive value of the outcomes and goals produced by the activity. The need for achievement is a fundamental aspect of personality, varying among individuals in their drive for achievement and their expectations of success based on their skills in the activity or the relative ease of the assigned task. The more skilled and adept individual is likely to facilitate the task, and the one who loves it more is likely to succeed in it (Ghalam, 2016:55).

### **Section Two: Theory of Self-Control (Self-Control)**

Social learning theorists emphasize that humans have an innate capacity for logical thinking, and individuals are responsible for creating their world and the problems they face due to their inherent human tendency. This awareness contributes to controlling behaviour and self-talk, as what individuals tell themselves is a major factor in guiding their behaviour. Covert reinforcement, or self-reinforcement, is about individuals imagining the reinforcements they desire, positive self-talk, and envisioning positive scenarios. One of the main factors affecting behaviour is imagining its outcomes, starting from reorganizing the perceptual field and reorganizing thoughts related to the relationships between different events and environmental stimuli, i.e., the cognitive representation of the outcomes of behaviour (Mahone & Therson, 1974:19). Self-control involves a set of skills used by individuals to reduce and control many undesirable behavioural patterns, such as:

1. Delaying the performance of the behaviour to be regulated.
2. Engaging in thoughts that contradict the subject of control.
3. Setting goals as challenges.
4. Thinking about the positive outcomes of control.
5. Considering the negative outcomes of control.
6. Using self-criticism because of success in self-control.
7. Applying self-criticism because of failure in control (Al-Anani, 2001:137-138).

### **Rogers' Theory of Self (Rogers)**

Rogers views humans as fundamentally conscious, rational beings, governed by a complete awareness of self. He believes the human personality can only be understood through the individual's self-perspective, through their own experiences and practices (Bahar, 2009:50). Rogers posits that people are driven by a single motive – the tendency to realize all their capabilities and potentials, from biological aspects to the psychological dimensions most threatening to our

existence. The goal is self-actualization, a concept of central importance in Rogers' system for self-preservation and enrichment, aiming for the individual to become a fully functioning actor, directed by the individual (Schultz, 1983:262). Rogers believes that humans can consciously and rationally control themselves, transitioning from undesirable ways of thinking and behaviour to desirable ones, and does not believe that individuals are controlled by unconscious forces within themselves. Instead, personality, in his view, is formed by present events and perceptions of these events (Rabee, 1986:448). Rogers emphasizes two regulatory mechanisms for behaviour: the self and the organism, which operate in harmony and cooperation. If they oppose each other, it leads to stress and maladjustment (Nasrat, 2014:55). According to this theory, the individual is not a passive being merely receiving environmental variables but can reach their potential in the process of self-modification to adapt to the environment, playing an active and positive role in controlling social influences around them (Al-Eisawi, 1989:52). Rogers considers self-awareness one of the critical behavioural components of self-control, requiring the individual to observe their behaviour, the situations in which this behaviour appears, the reasons behind its emergence, and noting the consequences. It's a logical collection of information about the factors affecting an individual's actions and behaviour, with people varying in their self-awareness in terms of the extent to which they can observe and control their behaviour (Abdul Rahman, 1998:655). Rogers also sees self-control as enabling the individual to manage their emotions and act consciously and alertly, depending on the individual's self-efficacy. Emotional stress or tension leads to a decrease in the individual's self-efficacy and loss of psychological and physiological balance, resulting in discomfort and a decreased ability to manage situations and control themselves. Conversely, individuals with high self-efficacy can manage and control

their emotions and themselves in the most challenging situations (Shalal, 2011:23). Rogers asserts that humans' capabilities for choice and problem-solving are not only theoretically and practically possible but are part of the natural laws that gave a strong impetus to the humanistic psychology movement and its conception of humans, significantly influencing modern behavioural therapy towards understanding self-control or self-direction processes through the concepts of learning theory itself (Ibrahim, 1993:345).

### **Chapter Three:**

#### **Research Procedures**

**Research Population:** The current research population consists of students from the University of Baghdad, totalling 53,928 students, with 22,047 males and 31,881 females, distributed across 24 scientific and humanities colleges for the academic year 2022–2023.

**Research Sample:** The researchers relied on a stratified random sampling method to select their research sample, which consisted of 125 students chosen from four colleges at the University of Baghdad: (College of Education ibn Rushd, College of Arts, College of Engineering, College of Science), distributed according to the variables of college and gender, as shown in Table (1).

**Table (1) Research sample distributed according to the variables of college and gender.**

No.	College	Male	Female	Total
1	Education Ibn Rushd	15	17	32
2	Arts	14	21	35
3	Engineering	12	16	28
4	Science	13	17	30
Total		54	71	125

#### **Research Instruments:**

To achieve the research objectives and measure the current research variables, the researchers adopted the mastery motivation scale



developed by Wadaa (2022). The final version of the scale consists of 24 items, with five alternatives. The option "always applies" is awarded 5 points, "often applies" 4 points, "sometimes applies" 3 points, "rarely applies" 2 points, and "never applies" 1 point. As for the self-control scale, the researchers adopted the scale developed by Fayad (2017), which consists of 32 items in its final form, with the same five alternatives and corresponding points as the mastery motivation scale.

### **Validity of Items (Content Validity):**

To determine the validity of the items, the mastery motivation scale and the self-control scale were presented to a group of psychology specialists to assess the validity of the items. Based on the specialists' opinions, items that received an agreement rate of 80% or more were retained. Accordingly, all items in the mastery motivation scale were retained, while 2 items from the self-control scale were removed, resulting in a final count of 30 items.

### **Statistical Analysis of Items:**

The mastery motivation and self-control scales were administered to a sample of 200 students. This sample was used for item analysis. The purpose was to retain the good items in both scales. The extreme group method was used as a procedure for item analysis, which involved: Determining the total score for each form from both scales and arranging the forms from the highest to the lowest score for each scale. Then, 27% of the forms with the highest scores and 27% with the lowest scores in each scale were designated, representing two groups with the largest size and maximum differentiation possible. Each group contained 54 forms for each scale. The independent samples t-test was then applied to test the difference between the mean scores of the high and low groups for each item in the scales. The t-value served as an indicator of the discriminative power of each item, compared to the table value of 1.96 (the table value at a significance level of 0.05 and with

106 degrees of freedom equals 1.96). All items in the mastery motivation scale were distinctive at a significance level of 0.05. Similarly, all items in the self-control scale were distinctive at a significance level of 0.05. Tables 2 and 3 illustrate these findings.

**Table (2) The Discriminative Power of Items in the Mastery Motivation Scale**

No.	High Group		Low Group		T-Value	Significance Level (0.05)
	Average Arithmetic	Standard Deviation	Average Arithmetic	Standard Deviation		
1	4,70	1,14	3,08	1,34	3,34	function
2	4,76	1,04	3,99	1,15	5,41	function
3	4,70	0,72	3,26	0,95	3,54	function
4	4,44	1,13	3,31	1,11	4,23	function
5	4,02	1,36	3,15	0,98	7,88	function
6	4,52	0,78	3,99	1,04	4,08	function
7	4,23	1,22	3,50	1,02	5,87	function
8	4,11	1,31	3,47	1,11	4,27	function
9	4,50	1,18	3,34	1,14	2,09	function
10	4,57	0,82	3,98	1,15	4,37	function
11	4,44	1,002	3,21	1,12	1,03	function
12	4,04	1,42	3,11	1,15	6,03	function
13	4,39	1,12	3,09	1,03	6,12	function
14	4,14	1,45	3,33	1,16	3,73	function
15	4,58	0,86	3,03	1,07	4,11	function
16	4,63	1,44	3,64	1,33	6,18	function
17	4,44	1,35	3,59	1,28	5,45	function
18	4,37	1,54	3,47	1,34	5,51	function
19	4,00	0,99	3,25	1,17	5,06	function
20	4,38	0,74	3,76	0,92	5,42	function
21	4,25	0,76	3,44	1,13	6,20	function
22	3,39	1,23	2,52	1,05	5,56	function
23	4,38	0,82	3,85	1,03	4,21	function
24	3,68	1,07	2,90	1,01	5,46	function

**Table (3) The Discriminative Power of Items in the Self-Control Scale**

No.	High Group		Low Group		T- Value	Significa nce Level ( $\alpha$ )
	Average Arithmetic	Standard Deviation	Average Arithmetic	Standard Deviation		
1	4,61	2,30	3,86	1,92	5,79	function
2	4,70	2,34	3,76	1,81	6,79	function
3	4,93	1,53	3,45	2,02	6,16	function
4	4,52	0,96	3,40	1,33	6,31	function
5	4,32	1,65	3,66	1,94	5,62	function
6	4,75	1,74	3,47	2,07	7,81	function
7	4,38	1,28	3,40	1,68	7,92	function
8	4,01	1,54	3,47	1,71	7,11	function
9	4,66	1,39	3,36	1,87	9,47	function
10	4,12	1,22	3,12	1,77	9,01	function
11	4,75	1,59	3,64	1,83	8,24	function
12	4,79	1,75	3,91	2,12	6,65	function
13	4,77	1,62	3,36	1,87	9,85	function
14	4,53	0,83	3,85	1,48	6,65	function
15	4,88	1,59	3,64	2,12	8,09	function
16	4,04	1,57	3,15	1,90	6,96	function
17	4,77	1,62	3,81	1,82	7,38	function
18	4,42	1,21	3,24	1,83	9,03	function
19	4,03	1,56	3,69	1,91	9,47	function
20	4,82	1,64	3,25	1,52	5,33	function
21	4,65	1,47	3,79	1,62	7,08	function
22	4,69	1,62	3,17	1,64	4,99	function
23	4,25	1,96	3,16	1,14	7,59	function
24	4,76	1,44	3,51	1,84	9,17	function
25	4,72	1,71	3,44	2,06	7,45	function
26	4,33	1,24	3,45	1,66	6,99	function
27	4,82	1,54	3,66	2,18	8,10	function
28	4,14	1,53	3,17	1,99	6,91	function
29	4,15	1,27	3,19	1,11	9,13	function
30	4,71	1,52	3,63	1,84	8,25	function

### Relationship between Item Score and Total Score:

Pearson's correlation coefficient was used to extract the correlational relationship between the score of each item in the scale and the total score. The correlation coefficients were statistically significant in both scales when compared with the table value of 0.138 at a significance level of 0.05 and with 198 degrees of freedom. Tables 4 and 5 illustrate this.

**Table (4) Correlation Coefficients of Items in the Mastery Motivation Scale**

Item	Correlation Coefficient	Item	Correlation Coefficient	Item	Correlation Coefficient
1	0.306	9	0.304	17	0.229
2	0.162	10	0.459	18	0.183
3	0.365	11	0.208	19	0.378
4	0.155	12	0.210	20	0.219
5	0.226	13	0.112	21	0.465
6	0.221	14	0.267	22	0.395
7	0.165	15	0.265	23	0.321
8	0.255	16	0.185	24	0.225

**Table (5) Correlation Coefficients of Items in the Self-Control Scale**

Item	Correlation Coefficient	Item	Correlation Coefficient	Item	Correlation Coefficient
1	0.277	11	0.255	21	0.307
2	0.234	12	0.175	22	0.276
3	0.338	13	0.320	23	0.280
4	0.231	14	0.222	24	0.294
5	0.173	15	0.297	25	0.232
6	0.264	16	0.295	26	0.248
7	0.265	17	0.218	27	0.299
8	0.358	18	0.292	28	0.306
9	0.333	19	0.331	29	0.330
10	0.226	20	0.224	30	0.219

### Psychometric Properties of the Scales:

➤ **Validity:** Validity is one of the fundamental measurement properties of educational and psychological tests and scales. The research was confined to establishing face validity for the scale:

➤ **Face Validity:** The face validity of the mastery motivation and self-control scales was established after presenting them to a committee of experts in the field of educational and psychological sciences. Ebel mentions that the preferred method to ensure the face validity of a scale is for a number of experts and specialists to assess the appropriateness of the items for measuring the trait for which they were designed.

➤ **Reliability:** The reliability of the current research scales was calculated using Cronbach's Alpha, with the reliability coefficient reaching 0.79 for the mastery motivation scale and 0.82 for the self-control scale.

#### **Statistical Methods:**

- Independent samples t-test (T-test).
- Pearson's correlation coefficient.
- Cronbach's Alpha.
- One-sample t-test (T-test).
- Percentage equation.

#### **Chapter Four:**

#### **Presentation and Interpretation of Results**

##### **Objective One:**

##### **To identify the mastery motivation among university students:**

The statistical analysis results showed that the sample's mean score was 96.45 with a standard deviation of 11.86, while the hypothetical mean of the test was 72. Using the one-sample t-test (t-test), the calculated t-value was 23.05. When compared with the table value of 1.96, it was found to be statistically significant at the level of 0.05 and with 124 degrees of freedom, indicating that the research sample possesses a motivation for mastery. Table (6) illustrates this.

**Table (6) T-test Value for the Difference Between the Mean and Hypothetical Scores of the Research Sample in Mastery Motivation**

Sample Size	Mean Score	Standard Deviation	Hypothetical Mean	Calculated T-Value Table Value (0.05)		Table Value (0.05)
				Calculated	Tabular	
125	96.45	11.86	72	23.05	1.96	Function

**Objective Two:**

**To identify the significance of the difference in mastery motivation according to the gender variable (male-female) among university students:**

To achieve this objective, the mean scores of both males and females were calculated separately. The mean score for males was 95.61 with a standard deviation of 13.33, while the mean score for females was 96.09 with a standard deviation of 10.66. Using the independent samples t-test, the calculated t-value was 0.69. When compared with the table value of 1.96, it was found that there is no significant difference between males and females in mastery motivation at the level of 0.05 and with 123 degrees of freedom. Table (7) illustrates this.

**Table (7) Independent Samples T-test Results Between Male and Female Mean Scores in Mastery Motivation**

Gender	Number	Mean	Standard Deviation	Calculated T-Value	Table T-Value	Significance Level (0.05)
Male	54	95.61	13.33	0.69	1.96	Not Significant
Female	71	96.09	10.66			

**Objective Three:**

To explore self-control among university students: The statistical analysis revealed that the mean score of the sample in self-control was 95.64, with a standard deviation of 9.29, while the hypothetical mean for the scale was 90. Using the one-sample t-test, the calculated t-value was 78.6. When compared with the table value of 1.96, it was found to be statistically significant at the level of 0.05 and with 124

degrees of freedom, indicating that the research sample possesses self-control. Table (8) illustrates this.

**Table (8) T-test Result for the Difference Between the Actual and Hypothetical Mean Scores of the Research Sample in Self-Control**

Significance Level (0.05)	Calculated T-Value	Table T-Value	Sample Size	Mean	Standard Deviation	Hypothetical Mean
	Calculated	Table				
125	95.64	9.29	90	6.78	1.96	Significant

#### **Objective Four:**

To determine the significance of the difference in self-control according to the gender variable (male-female) among university students: To achieve this objective, the mean scores of both males and females were calculated separately for the self-control scale. The mean score for males was 96.88 with a standard deviation of 10.15, while the mean score for females was 95.64 with a standard deviation of 8.53. Using the independent samples t-test, the calculated t-value was 1.31. When compared with the table value of 1.96, it was found that there are no significant differences between males and females in self-control at the level of 0.05 and with 123 degrees of freedom. Table (9) illustrates this.

**Table (9) T-test Results Between Male and Female Mean Scores in Self-Control.**

Gender	Number	Mean	Standard Deviation	Calculated T-Value	Table T-Value	Significance Level (0.05)
Male	54	96.88	10.15	Calculated	Table	Not Significant
Female	71	95.69	8.53	1.31	1.96	

#### **Objective Five:**

To identify the correlational relationship between mastery motivation and self-control among university students: After analysing the results using Pearson's correlation coefficient, a positive correlation was found between mastery motivation and self-control in the overall sample. This means that as mastery motivation increases, self-control also increases, and vice versa. The correlation coefficient value was 0.190, which is

higher than Pearson's table value of 0.174 at a significance level of 0.05 and with 123 degrees of freedom.

**Discussion of Objectives:**

1. The results can be interpreted to mean that the research sample of university students has both mastery motivation and self-control. This outcome is logical since the sample comprises educated, aware individuals striving to achieve their scientific, academic, and practical achievements positively and professionally, in line with their cognitive capabilities, in addition to their ability to control themselves and set goals that align with their future aspirations.

2. It was also found that there are no differences between males and females in both mastery motivation and self-control, indicating the cognitive development of both genders, in addition to their exposure and access to the same university level in terms of curricula, cognitive abilities, and academic capabilities, which dilutes the differences between them as they are exposed to nearly the same stimuli in society and the university.

**Recommendations:**

1. Encourage guidance centres in colleges and institutes on the necessity of holding lectures and educational seminars that address the psychological, cognitive, and social needs of students.

2. The media should play an essential role in promoting and affirming noble behaviours and values among students.

3. Continuously train students by participating in training courses and workshops to encourage their integration into school and classroom activities.

**Suggestions:**

1. Conduct further research on self-control and its relationship with learning styles.



2. Study mastery motivation on other samples such as (orphans, teachers).

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