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The level of psychological stress and its relationship with the cognitive motivation of gifted students at King Abdullah II schools of excellence

By

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Abstract

The study aimed to identify the level of psychological stress and the level of cognitive motivation among gifted students in King Abdullah II schools for excellence. To achieve the goals of the study, the analytical correlative descriptive analytical approach was adopted, where a random sample of gifted students was selected in the fifth and sixth grades schools in King Abdullah II schools for excellence in Amman, with a total of 120 male and female students.The study found that students experience an average degree of psychological stress and that these pressures were similar in males and females in the fifth and sixth grades. The findings also revealed that gifted children have a high degree of cognitive motivation, with statistically significant differences in favor of males at this level. According to the variable of the academic grade and in favor of the students in the sixth grade, the results also showed a statistically significant impact of psychological stress on the cognitive motivation of talented students.The study recommended preparing and implementing periodic training workshops for gifted students on how to deal with psychological stress to increase their level of cognitive motivation.

Keywords: psychological stress - cognitive motivation - gifted students.

Introduction

Gifted students are the human wealth that society must discover, unleash its energies, and invest in the interest of its progress in various aspects of life, in which governance becomes the mind and creativity, because conflict exists between societies based on their children's minds, in order to establish a scientific, cognitive, and technological precedent that ensures leadership.

Nations' development and advancement are measured by the attention they pay to the talented category, which is measured by the attention they pay to the gifted group. They represent the true wealth of the country. They must therefore be cared for and provided with appropriate services to educate and care for them, as well as to address their needs and problems so that they can fully utilize their abilities and potential to the fullest extent possible and achieve progress and advancement for themselves and their communities (Belmoqadem, 2017).

A gifted student is defined as "a student who outperforms his peers in one or more areas that society values, especially in the areas of mental excellence, social intelligence, innovative thinking, academic achievement, different skills, and special abilities" (AlSafar, 2018). Many gifted and talented students exhibit behaviors that indicate their exceptional abilities that may not be noticeable, and some students may not have had talent experiences or opportunities to demonstrate their abilities. Other students may have a low achievement or hide their potential for a variety of reasons, and some talented and distinguished students may face learning difficulties that obscure the demonstration of their true abilities (Coleman & Cross, 2016).

According to Samadouni (2014), gifted students are the most vulnerable group to stressful situations because they are distinguished from other ordinary peers by a set of cognitive, emotional, physical, intuitive, and social characteristics, making them more vulnerable than others to internal pressures resulting from those characteristics and features, in particular, external pressures resulting from the family, school, and social environment, as well as dealing with talent requirements that require them to respond more to and adapt to those different sources of pressure.

Due to the diversity of scholars' opinions, psychological stress has various definitions. Selye (1956) was the father of psychological stress research and the first to use the term "stress" in the biological field. In fact, Selye used the term "stress" in his early writings to describe a state of internal rupture and wear and tear, referring to the range of nonspecific modifications to any external demand or event causing harm. Selye then defined stress as the body's unspecified physiological response to any demand (Hussein, 2015; Poojary et al., 2020; Rao et al., 2021).

Psychological stress is a threat to human health and psychological balance, as well as the negative effects of psychological stress, such as inability to adapt psychologically, poor performance, inability to exercise day-to-day tasks, low motivation to work, and a sense of psychological exhaustion (AlRuwaili, 2015; Shete et al., 2020).

Psychological stress is a modern-day disease that has an impact on people's behavior because it has become a common factor in the various environments in which we are present, including the educational environment, in which students are exposed to a variety of academic, family, psychological, and social pressures, and it varies depending on the stage's characteristics and demands, as well as their own characteristics that distinguish them from others (AlTabeekh, 2015).

The term "stress" carries many meanings, including stress, anguish, and distress, all of which reflect psychological and physical pressures, hardships, and burdens that a person must encounter or bear. It could be internal or external, and it could be brief or long. If this pressure lasts a long time, it can consume and exceed an individual's energy and lead to the collapse of his organized performance (Zaid, 2015).

Psychological stress is defined as: "a state of feeling tension and threat that obliges a person to respond in a variety of ways in order to confront and deal with the issue. A stressful

situation and the individual's reaction to it cause psychological stress." (AlKhawaldeh and AlKhawaldeh, 2018).

Pressure, according to Brozan (2019), is an internal and behavioral response to a threatening or disturbing stimulus. Pressure is a unique relationship between the individual and the environment characterized by a lack of harmony between them, which causes the individual to feel threatened and unbalanced, implying that the individual perceives the relationship's limits as exceeding his or her capabilities and qualifications, disrupting his or her psychological well-being.

Gifted students are frequently subjected to psychological stress as a result of their boundless ambitions and self-desires, as well as the expectations of family members, teachers, and school, as well as the negating of their special needs, and are frequently criticized and socially isolated by their peers (AlRuwaili, 2015).

Psychological stress among gifted students is defined by Zaid (2015) as: "Gifted students experience a generally permanent state of emotional strain as a result of a variety of personal, social, academic, and future events and situations that cause trauma in their lives. Those pressures also include situations and events that cause stress, tension, or intensity as a result of obligations or modifications that they must reconcile with those situations. Their psychosocial compatibility is hampered by the unfavorable psychological and physical responses that occur."

There is no doubt that the majority of gifted students' personal, social, academic, and future psychological pressures are due in large part to their inability to process emotional information, such as recognizing and understanding their own and others' emotions, as well as their ability to process cognitive information. Cognitive aptitude and mental talent are not obviously and highly connected with future success in life, and cognitive talent does not necessarily coincide with happiness or productivity in life, so they can be processed more rapidly and accurately than emotional information (Rinju & Baby, 2012).

On the other hand, the suffering of talented students from a reasonable amount of psychological stress can sometimes be beneficial. On the other hand, the suffering of talented students from a reasonable amount of psychological stress can sometimes be beneficial. The human invention would not occur, and man would not improve life on Earth. Individual accomplishment and advancement are often driven by external pressures. School responsibilities or educational issues, for example, may place pressure on students to innovate, develop, and lead (Abu Asa’ad, 2013).

Given the importance of psychological stress among gifted students, several studies have been conducted, including:

The AlGhaffar (2022) study aimed to investigate the relationship between gifted students' social communication, psychological stress, depression, and self-concept. A measure of social communication, a measure of psychological stress, a measure of depression, and a measure of self-concept were employed to meet the study's objectives, which included 32 gifted students. The study concluded that there is a negative correlation between social communication and psychological stress and depression, as well as a positive correlation between social communication and self-concept.

Mohammad (2021) performed research to determine the strategies employed by gifted

students with low achievement to cope with psychological stress, as well as the extent to which strategies change by type and grade level. Measures of strategies for dealing with psychological stress were utilized on a sample of gifted students in the preparatory stage in Assiut, which comprised 43 male and female students, to meet the study's objectives. The results of the study indicated that the withdrawal behavior strategy ranked second, followed by denial, mental fugue, and sarcasm, respectively, while re-acceptance and emotional control ranked tenth, social support and planning ranked twelfth, and positive reassessment is less used. Except for religious and spiritual adjustment in favor of males and emotional control in their favor, there are no statistically significant differences between the gifted in using the three strategies at the significance level (0.05). (Positive reassessment, mental fugue, and withdrawal behavior).

The aim of the AlHmaidi study (2019) is to determine the level of mental motivation of gifted students in Jeddah based on the gender variable, and the descriptive approach was utilized to accomplish the study objectives. The researchers used a mental motivation scale developed in Saudi Arabia, which consisted of 43 items, distributed across three dimensions (orientation towards learning, creative problem solving, and mental focus). In Jeddah, the study sample included 400 gifted male and female students. The study's findings showed that mental motivation among Jeddah's talented kids was average on the overall scale and across all sub-dimensions, with statistically significant differences in the averages of the two dimensions of orientation towards learning and creative problem-solving, and the gender variable favors females among gifted students.

Al-Safar's (2018) study also sought to determine the level of psychological stress among gifted secondary students in Kuwait, as well as the primary sources of this stress. To achieve the study's objective, the analytical descriptive approach was used, through the application of a study tool, a psychological stress scale, on a sample of (60) gifted male and female students and (134) ordinary secondary school students in Kuwaiti schools. The study's findings revealed that gifted students experience less psychological stress than ordinary students, with a statistically significant difference between gifted and ordinary students in assessing overall stress and all sources of psychological stress.

Paul (2018) sought to determine the levels of psychological stress among gifted students in secondary schools in California, USA, as well as the role of school psychological counseling in alleviating these pressures. The analytical descriptive approach was employed on a sample of 80 gifted students to meet the study's objectives, with the psychological stress scale established by the researcher. The study's findings revealed that gifted students experience an average level of psychological stress and that school-based psychological counseling programs altered the level of these pressures and reduced their levels.

The goal of (AlRuwaili, 2015) study was to determine the level of psychological stress among gifted and outstanding secondary students. The descriptive-analytical approach was used to achieve the study objectives, as well as the psychological stress scale, on a study sample of (80) gifted secondary school students in King Abdullah Schools for Excellence. According to the study's findings, gifted and talented students have a lower level of psychological stress as a result of their ability to confront psychological problems as a result of their high intelligence and ability to sense and solve problems before they occur, and there are no gender differences in the level of psychological stress among students.

Abu Bakar and Ishak (2014) investigated the levels of depression, anxiety, stress, and alterations (psychosocial, social, and emotional) faced by Malaysian gifted students at school, as well as the link between all of these variables, in order to meet the study's goals. The

researchers used a survey approach, in which 112 16-year-old students participated. The data was gathered using two sets of questionnaires: measures of depression, anxiety, and stress, and a social welfare questionnaire. The findings revealed that gifted students had experienced depression and anxiety in some form, had high levels of psychological, emotional, and social adjustment; and that they had lower levels of psychological stress.

Motivation, on the other hand, is one of the most significant subjects in psychology since it helps to analyze many behavioral difficulties that arise when a person's motives are known. Most psychology experts agree that the cause for human activity and diversity is primarily due to the human being's great number of motives and interests. The diversity of such needs, motives, or desires in an individual helps to diversify the behavioral patterns and choices they make in order to achieve certain goals or satisfy specific purposes (Abu Awn, 2014). Furthermore, cognitive motivation is important in cognitive psychology since it has an impact on human life, national advancement, and helps solve and overcome many of the problems that individuals face while avoiding the risks surrounding them. It allows a person to regulate his surroundings and cope with quick and continuous changes in numerous facets of life (John, 1982). The cognitive motive in general is defined as the desire for knowledge, understanding, mastering information, formulating and solving the problem, and it is the strongest type of motive in school learning (Bakir, 2016).

The importance of motivation appears from the educational point of view in terms of being an educational goal in itself. It stimulates students' motivation, leads them, and creates specific interests for them that encourage them to participate in cognitive, emotional, and kinetic activities. As a result, one of the most essential educational goals pursued by any educational system is motivation, which has significant ramifications for student learning and behavior. These effects include guiding behavior toward specific objectives, increasing the learner's effort, energy, initiative, and perseverance, and improving his ability to process information and thus enhance performance (Halim and Bulbul, 2019).

Some argue that extrinsic factors such as socialization and the role of family, parents, and friends impact people's cognitive motivation. All of these factors contribute directly to the development of motivation and a love of learning and discovery, and they grow when individuals receive material and moral support and reinforcement from their families and others, encouraging a spirit of collaboration and healthy competition (Yahya, 2010).

Mahmoud (2004) defined cognitive motivation as: "the continuous desire and pursuit of knowledge, curiosity, discovery, the desire to read, ask questions, and obtain as much information and knowledge as possible that arouses the learner's attention and urges him to continue performance and reach a state of cognitive balance."

Cognitive motivation is significant because of its link to a number of elements that have direct or indirect interaction with the learner and educational conditions. It comprises cognitive and psychological components that motivate students to seek information that is not restricted to textbooks and research inside their restrictive confines, but rather encompasses free readings, research, and exploration, and this desire persists throughout their lives (AlBuayji and AlTamimi, 2019). As a result, several prior research, such as AlMajali, Anshasi, Al-Rabadi, and Al-Sa'ayda (2014), explored the role of cognitive motivation among gifted students with the goal of determining the level of cognitive motivation of students in the fifth and sixth grades with learning difficulties. The researchers used a descriptive-analytical approach and a sample of (118) male and female students with learning difficulties who were chosen at random to fulfill the study's goal. The findings revealed that the students' sample study had an average

level of cognitive motivation, with differences in cognitive motivation due to the class variable and the favor of the sixth grade.

Whoulba's study (Wholuba, 2014) studied a sample of 126 students in middle and high schools in Florida, USA, to see if there were any differences in motivation levels between gifted and non-gifted students. The study's findings revealed that gifted students had stronger cognitive motivation than non-gifted students, which explains why gifted middle and high school students are more motivated, and have lower anxiety than their non-gifted peers.

Yahya's study (2010) also aimed to determine the level of cognitive motivation among students at Mosul University's Faculty of Basic Education, as well as the impact of gender variables and study specialization on cognitive motivation, using a random sample of 126 male and female students in the Faculty of Basic Education of the University of Mosul, Iraq. Using the analytical descriptive approach, the study found that students at the College of Basic Education had a high level of cognitive motivation in general, as well as an impact of the academic specialization variable on cognitive motivation favoring students in the scientific specialization.

The current study converges with some previous studies in terms of dealing with one of its variables, psychological stress in gifted students or cognitive motivation, but it differs from previous studies in terms of linking the variables and attempting to reveal the relationship between the level of psychological stress, and its relationship to cognitive motivation among gifted students in King Abdullah II Schools.

Study problem and questions

Psychological stress is one of the phenomena that pose a challenge and a threat to the lives of individuals and groups in the modern era, particularly in light of the changes and developments that the world has witnessed in recent years in various aspects of life, as well as the exposure of gifted and talented students to psychological stress, which is represented by family and academic pressures, personal pressures, and pressures resulting from social relationships that they cannot cope with. These are superior to their potential and are considered dangerous, threatening, and impeding to achieving the goals and satisfying the needs of these students, which makes them fall under a number of psychological pressures that result in many mental disorders and diseases that naturally hinder their compatibility and mental health and constitute an obstacle to their progress towards excellence, academic excellence, and cognitive motivation.

If gifted students differ from other students in a variety of cognitive and emotional characteristics and motivations as a result of their superior cognitive skills and abilities, the study's major issue is: (Does psychological stress affects the cognitive motivations of gifted students?)

The following sub-questions are branched out from the main question:

1- What is the level of psychological stress among gifted fifth and sixth grades students in King Abdullah II Schools for Excellence?
2- What is the level of cognitive motivation among King Abdullah II Schools for Excellence gifted fifth and sixth grades students?
3- Are there statistically significant differences at the level ($\alpha \leq 0.05$) in psychological stress levels among gifted students in King Abdullah II schools based on gender and grade?
4- Are there statistically significant differences at the level ($\alpha \leq 0.05$) in cognitive motivation levels among gifted students in King Abdullah II schools based on gender and grade?

5- Is there a statistically significant influence at the level ($\alpha \leq 0.05$) of psychological stress on the cognitive motivation of gifted students in King Abdullah II schools?

Importance of the study

The significance of the study stems from the significance of the study sample, which is gifted students, as they are one of the most important categories of students in building society, its development, and prosperity, as well as drawing attention to the importance of caring for gifted and talented students among teachers and officials. The significance of this study stems from the fact that gifted and talented students' mental health is vital, especially as they are in the stage of building their personalities and their futures, a transition that has a significant impact on the attainment of their eventual goals. They are the generation that will succeed where others have failed. In all parts of the gifted student's life, mental wellness must be achieved. It also emphasizes the study's importance in attempting to reveal the level of psychological pressures faced by gifted students, as well as the influence of such demands on their cognitive motivation.

Study limitations

The following limitations apply to this study

1. Objective limitations: The goal of objective limitations is to investigate the level of psychological stress experienced by gifted students and how this affects cognitive motivation.
2. Spatial limitations: gifted students at King Abdul II schools in Amman are subject to spatial limitations.
3. Timeframe: This research took place in the academic year 2020/2021.

Procedural study terminology

1. The level of psychological stress: this is the level of family stress, academic stress, personal pressure, and social pressure to which gifted students are exposed, and it is measured by the responses of the sample members to the items related to psychological stress in the study tool specifically designed for this purpose.
2. The level of cognitive motivation: is the level of continuous desire and pursuit of knowledge, curiosity, discovery, the desire to read, ask questions, and obtain as much information and knowledge as possible, and formed in the subjective view of mental abilities, the realization of goals and importance of knowledge, as well as the continuous development of knowledge,all are measured by the responses of sample individuals to the psychological stress items in the study tool specially designed for this purpose.
3. Gifted students are students with exceptional academic and learning abilities and behaviors that distinguish them apart from their peers. In this study, they are students who study at King Abdullah II Schools for Excellence in Amman.

Study approach and procedures

Study approach

This study used a descriptive-analytical approach, where the study variables of psychological stress and cognitive motivation were described by reviewing relevant previous literature, and then analyzing the answers of individuals for a sample of gifted students on the two study scales (the study's two tools), and analyzing their answers in order to achieve the study's objectives and answer its questions.

Study community and sample

All 253 gifted children in the fifth and sixth grades at King Abdullah II schools in

Amman are part of the study community. According to the statistics for the academic year (2020/2021), a random sample of 120 male and female students was chosen. Table (1) Distribution of the study sample by gender and grade.

Table (1). *Distribution of the study sample by gender and grade.*

variable		frequency	percent
Gender	Male	67	55.8%
	Female	53	44.2%
	Total	120	100%
Grade level	Fifth grade	51	42.5%
	Sixth grade	69	57.5%
	Total	120	100%

Study tool

A study tool, represented by a questionnaire, was designed by the researcher to achieve the study's objective of identifying the level of psychological stress and its impact on the level of cognitive motivation of gifted students in King Abdullah II Schools of Excellence, based on previous studies that examined the issue of psychological stress and cognitive motivation among students. The questionnaire was divided into three parts:

Part One: (Gender - grade level).
The second part (psychological stress), which includes four dimensions, is as follows:

1. The first dimension: family pressures (5 items).
2. The second dimension: academic stress (5 items).
3. Personal pressures (5 items).
4. Social pressures (5 items).

The third part (cognitive motivation), includes four dimensions as follows:

1. The first dimension: the pursuit of knowledge (4 items).
2. The second dimension: curiosity (5 items).
3. The third dimension: discovery (5 items).
4. The fourth dimension: asking questions (4 items).

The dimensions of the two study tools were answered using the Likert quintuple scale, and each item was given a score to be processed statistically as follows:
Very high degree = 5 High degree = 4 Moderate degree = 3Low degree = 2 Extremely low degree = 1

Accordingly, the following scale was used to assess the arithmetic averages of psychological stress and cognitive motivation levels:
First: (from 1 to less than 2.67) a low score.
Second: (from 2.67 - less than 4.34) an average score.
Third: (from 4.34 - 5) a high score.

The validity and reliability of the two study tools

1. The validity of the study tool was verified by the following methods:

To verify that the study tool's content is accurate and that it is suitable for achieving the study's goals, the tool was sent to a number of educational psychology experts in its first version, who were asked to comment on it in terms of the extent to which each item relates to the dimension it falls under, as well as language formulation and clarity of items, and to add, modify, or delete what they deemed appropriate. The researcher used the criterion of an agreed

percentage of 86% or more to decide whether to keep, delete, or modify the paragraph, and the arbitrators' proposals were accepted and the necessary changes were made.

2. Validity of internal construction

The validity of the study tool's internal construction (the questionnaire) was confirmed by applying it to a survey sample of ten (10) study members and non-study members and calculating the correlation coefficient between each of the tool's items, the total score of the tool, and the correlation coefficient of the item with the dimension to which they belong, as shown in Table (2).

Table (2).: *The correlation coefficient of each item of the study tool with the total score and the dimension it belongs to.*

	Item number	correlation with the total score	correlation with the Dimension
Psychological stress	Family pressure	0.954**	0.987**
	Academic pressure	0.922**	0.984**
	Personal pressure	0.892**	0.967**
	Social pressure	0.888**	0.963**
Cognitive motivation	Pursuit of knowledge	0.873**	0.920**
	Curiosity	0.864**	0.941**
	Discovery	0.640**	0.825**
	Asking questions	0.837**	0.948**

** Statistically significant at the significance level ($\alpha \leq 0.01$).

Table (2) demonstrates that all correlation coefficients between each item of the study tool with the total degree of the tool and with the dimension under which it falls were statistically significant at the level of significance ($\alpha \leq 0.05$), indicating the validity of the tool's internal construction.

Study tool reliability

To verify the reliability of the tool, the test-retest method was relied on (application and re-application of the test), where the study tool (the questionnaire) was distributed to (10) study members and non-study members. The Pearson correlation coefficient was extracted between both times of the questionnaire application as an indicator of the instrument's reliability, and the Cronbach's Alpha coefficient of internal consistency was also extracted as an indicator of reliability at the level of each dimension of the tool, as well as the overall level after the data was collected. The results are shown in Table (3).

Table (3). *Reliability coefficients of the study instrument*

Dimensions	(Test-retest) Pearson's correlation coefficient of return	Cronbach's Alpha
	Psychological stress	
Family pressure	0.97	0.89
Academic pressure	0.98	0.86
Personal pressure	0.72	0.88
Social pressure	0.84	0.83
	Cognitive motivation	
Pursuit of knowledge	0.88	0.89
Curiosity	0.89	0.79
Discovery	0.94	0.82
Asking questions	0.93	0.86
Total	0.87	0.92

Table (3) shows that the study tool's reliability coefficients by applying and re-applying

the test ranged from (0.98-0.72) and that the overall dimension of the tool was (0.87), while the dimensions by Cronbach's Alpha method ranged from (0.89-0.79). In terms of the tool's overall dimensions, it reached (0.92). For the purposes of this study, such values are a good indicator.

Study results and discussion

After confirming the study tool's validity and reliability, the researcher presents a complete presentation of the findings, along with an explanation and discussion of what was found.

First - Discussing the results related to the first question, which states: What is the level of psychological stress among gifted fifth and sixth grades students in King Abdullah II Schools for Excellence?

To address this question, the arithmetic means and standard deviations of the study sample members' responses to the level of psychological stress were calculated, and the findings are displayed in Table (4).

Table (4). *Arithmetic averages and standard deviations of the sample members' responses on the dimensions of psychological stress, in descending order.*

Rank	Number	Dimension	Arithmetic mean	Standard deviation	Degree
3	3	Third dimension: personal pressure	3.22	0.60	Average
2	2	Second dimension: academic pressure	3.15	0.27	Average
1	1	First dimension: family pressure	3.01	0.19	Average
4	5	Fourth dimension: social pressure	2.89	0.62	Average
		Arithmetic mean average for overall dimensions		3.07 0.47	Average

According to the data in the preceding table, the arithmetic averages of psychological stress among gifted students ranged from (2.89 to 3.22), with the third dimension (personal stress) coming in first with the highest arithmetic average of (3.22), and at an average level, followed by the second dimension (academic stress), with an arithmetic average of (3.15), and at an average level, followed by the first dimension (family stress) with an arithmetic average of (3.01) and at an average level, followed by the fourth dimension (social pressures) with an arithmetic average of (2.89), and at an average level.

The arithmetic means of the dimensions of the overall psychological stress, which is (3.07), indicates that gifted students in King Abdullah II Schools for Excellence have an average degree of psychological stress.

This is due to the fact that gifted students are frequently subjected to psychological pressures as a result of their unbridled ambitions and self-desires, as well as expectations of great performance from family members, teachers, and schools. Despite their stress, gifted students have the ability to cope with psychological problems due to their often high intelligence and their ability to sensitize and solve problems before they occur. Gifted students are characterized by the early emergence of differentiated patterns of intellectual processing such as divergent thinking, sensitivity to implications, generalizations, the use of measurement and abstract expressions, an extraordinary ability to comprehensively process information, speed and flexibility in thinking processes, and early ability to postpone the closure, thereby avoiding hasty sentencing or immature ideas. All these qualities are reflected in their daily lives so that they help them deal positively with the sources of these pressures, analyze and evaluate them, and address them objectively instead of surrendering to them.

This result was consistent with the findings of Paul's (2018) study, which found an average level of psychological stress in gifted students but differed from the findings of AlSafar (2018) and AlRuwaili (2015), which found a low level of psychological stress in gifted students.

Second - Discussing the results of the second question, which states: What is the level of cognitive motivation among King Abdullah II Schools for Excellence gifted fifth and sixth grades students?

The arithmetic means and standard deviations of the study sample members' answers to the level of cognitive motivation were calculated to answer this question, and the results are shown in Table (5).

Table(5):*Arithmetic means and standard deviations of sample members' responses on the dimensions of cognitive motivation, arranged in descending order.*

Rank	Number	Dimension	Arithmetic mean	Standard deviation		Degree
3	3	First dimension:pursuit of knowledge	3.91	0.66		High
2	2	Second dimension:curiosity	3.88	0.54		High
1	1	First dimension:ask questions	3.85	0.35		High
4	5	Third dimension:discovery	3.77	0.60		High
		Arithmetic mean average for overall dimensions		3.58	0.45	High

According to the data in the preceding table, the arithmetic averages of cognitive motivation for gifted students ranged from (3.77 to 3.91), with the first dimension (the pursuit of knowledge) ranking first with the highest arithmetic average of (3.91), and at a high level, followed by the second dimension (curiosity), with an arithmetic average of (3.88), and also at a high level, followed by the fourth dimension (asking questions) with an arithmetic average of (3.85) and at a high level, followed by the third dimension (discovery and patronage) with an arithmetic average of (3.77), and at a high level.

The arithmetic means of the overall dimensions of cognitive motivation, which is (3.85), indicates that gifted students in King Abdullah II Schools for Excellence have a high level of cognitive motivation.

This result can be explained by the fact that gifted students possess a set of cognitive and behavioral characteristics that enable them to outperform their peers in one or more areas that society values, particularly mental excellence, social intelligence, innovative thinking, academic achievement, various skills, and special abilities.

This result was consistent with the findings of Wholuba's study (Wholuba, 2014), which found that gifted students had a high level of cognitive motivation.

Third - Discussing the findings of the third question, which states: Are there statistically significant differences at the level ($\alpha \leq 0.05$) in psychological stress levels among gifted students in King Abdullah II schools based on gender and grade?

To answer this question, the arithmetic averages and standard deviations of the answers of the sample members of gifted students about the level of psychological stress were calculated based on the gender and grade variables, and the results are shown in Table (6).

Table (6). *Arithmetic averages and standard deviations of sample members' estimates of their level of psychological stress based on gender and grade.*

	Variable	Arithmetic average	Standard deviation
Gender	Male	3.08	0.40
	Female	3.06	0.49
Grade	Fifth grade	3.05	0.35
	Sixth grade	3.10	0.40

The previous table shows that there are significant differences in the arithmetic averages that indicate the level of psychological stress among the sample members of gifted students based on the variables of gender and grade. A t-test was used to determine whether the differences in the mean estimates of the sample members were statistically significant, and the results were as follows.

Table (7). *t-test for differences in sample members' estimates of their level of psychological stress due to the gender variable.*

(t) value	Freedom degree	Average difference	Level of significance
0.766	119	0.02	0.446

The data in the preceding table show no statistically significant differences at the level ($\alpha \leq 0.05$) in the sample's estimate of gifted students' psychological stress level based on the gender variable, where the level of significance was (0.446) is higher than statistically acceptable, indicating that the level of psychological stress may be nearly identical and uneven, implying that males and females have the same average level of psychological stress.

Table (8). *t-test for differences in sample members' estimates of their level of psychological stress due to the grade variable.*

(t) value	Freedom degree	Average difference	Level of significance
0.882	119	0.05	0.325

The data in the preceding table show no statistically significant differences at the level ($\alpha \leq 0.05$) in the sample's estimate of gifted students' psychological stress level based on the grade variable, where the level of significance was (0.325) is higher than statistically acceptable, indicating that the level of psychological stress may be nearly identical and uneven, implying that fifth and sixth grades students' have the same average level of psychological stress.

Fourth - Discussing the findings of the fourth question, which states: Are there statistically significant differences at the level ($\alpha \leq 0.05$) in cognitive motivation levels among gifted students in King Abdullah II schools based on gender and grade?

To answer this question, the arithmetic averages and standard deviations of the answers of the sample members of gifted students about the level of cognitive motivation were calculated based on the gender and grade variables, and the results are shown in Table (9).

Table (9). *Arithmetic averages and standard deviations of sample members' estimates of their level of cognitive motivation based on gender and grade.*

	Variable	Arithmetic average	Standard deviation
Gender	Male	3.89	0.55
	Female	3.81	0.52
Grade	Fifth grade	3.82	0.44
	Sixth grade	3.88	0.43

The previous table shows that there are significant differences in the arithmetic averages that indicate the level of cognitive motivation among the sample members of gifted

students based on the variables of gender and grade. A t-test was used to determine whether the differences in the mean estimates of the sample members were statistically significant, and the results were as follows:

Table (10). *t-test for differences in sample members' estimates of their level of cognitive motivation due to the gender variable.*

(t) value	Freedom degree	Average difference	Level of significance
4.12	119	0.08	0.001

The data in the preceding table show that there are statistically significant differences at the level (α ≤0.05) in the sample's estimate of gifted students' cognitive motivation level based on the gender variable, where the level of significance was (0.001) which is less than the statistically acceptable level. The differences tend in favor of males, as the average cognitive motivation for males was (3.89), while the average cognitive motivation for females was (3.81), implying that males have a higher level of cognitive motivation than females.

Table (11). *t-test for differences in sample members' estimates of their level of cognitive motivation due to the grade variable.*

(t) value	Freedom degree	Average difference	Level of significance
3.89	119	0.06	0.002

The data in the preceding table show that there are statistically significant differences at the level (α ≤0.05) in the sample's estimate of gifted students' cognitive motivation level based on the grade variable, where the level of significance was (0.002) which is less than the statistically acceptable level. The differences tend in favor of sixth-grade students, as the average cognitive motivation for them was (3.858), while the average cognitive motivation for fifth grad students was (3.82), implying that sixth-grade students have a higher level of cognitive motivation than fifth-grade students.

Fifth - Discussing the findings of the fifth question, which states: Is there a statistically significant influence at the level (α ≤0.05) of psychological stress on the cognitive motivation of gifted students in King Abdullah II schools?

A linear regression test was used to answer this question, and the results are shown in Table (12).

Table (12). *Results of the test of the effect of psychological stress on the cognitive motivation of gifted students*

Dependent variable	Correlation coefficient R	Coefficient of determination R2	F value	Level of significance*	Coefficient (β)	Standard error
Cognitive motivation	-0.857	0.734	84.326	0.000	0.857	0.025

* The effect is statistically significant at the level (α ≤ 0.05).

Table (12) shows a value of (r = 0.857), indicating a negative and strong correlation value of (0.857) between the level of psychological stress and the level of cognitive motivation among gifted students in the fifth and sixth grades at King Abdullah II Schools for Excellence in Amman.

It also turns out that the coefficient of determination is (r2 = 0.734), which means that changes in the level of psychological stress explained 73.4% of the variation in the level of cognitive motivation among gifted students, with the remaining 26.6% explained by other

factors that the study did not address. The value of (F) reached (84.326) at the level of confidence (sig = 0.000), and this confirms the significance of the regression model at the level of significance (P≤0.05).

The data in the preceding table also show the value of (β = 0.857), which means that a change in one unit in the level of psychological stress results in a change in the dependent variable of (85.7%) (cognitive motivation).

According to the results of the above analysis, there is a statistically significant effect of psychological stress on the cognitive motivation of gifted students in King Abdullah II schools (α ≤ 0.05).

Recommendations

1. Conducting similar studies on various psychological disorders such as anxiety and depression among gifted students and their impact on cognitive motivation or motivation for learning and achievement.
2. Preparing and implementing periodic training workshops for students on how to deal with psychological stress in order to increase their level of cognitive motivation.
3. Working on developing and designing preventive and corrective strategies to reduce the psychological stress that gifted students face as a result of their cognitive motivation.

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