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Academic Buoyancy for Postgraduate Students

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Abstract
The study aimed to identify the academic buoyancy of graduate students and the significance of the differences in academic buoyancy among graduate students according to the variables (gender/specialization/stage). The research sample consisted of graduate students at the University of Baghdad of both genders (males, females) and specialization (Scientific, human) and for the stage (Master's and PhD) for the academic year (2020-2021), with (690) students, and to achieve the objectives of the current research, the researcher adopted the academic buoyancy scale (Saleem, 2018). The research reached the following results:
Postgraduate students have high academic buoyancy (higher than the hypothetical average). And the significance of the differences in academic buoyancy among graduate students according to the variables of gender and specialization is not statistically significant, and for the academic stage it is statistically significant, and it is in favor of the master.
As for the interaction between the variables: gender and specialization, gender and study stage, the interaction between specialization and study stage, and the interaction between gender, specialization and study stage, the differences are not statistically significant. In light of the results, the research reached recommendations and suggestions, including: Recommendations to the Ministry of Higher Education to prepare indicative training programs to train students on the dimensions of academic buoyancy, which the study touched upon such as (planning, perseverance, control, self-efficacy, low anxiety). As for the suggestions, conducting a study is used to find the relationship between Academic buoyancy and future thinking among graduate students.

Chapter One

Research Problem

Academic buoyancy is an approach that links psychological factors (mental health, self-esteem) and educational preoccupation factors (learning joy, learning environment) and factors of relationships with family, students and peers who have a high academic buoyancy ability to face the daily difficulties and challenges in school life. (Marsh&Martin,2013).
As such, the researcher is a graduate student and she is among the sample of the current research, she found that the students have many difficulties, obstacles, crises and pressures, and they may face many psychological, social and academic problems. Then it limits the student's activity and impedes his performance, reduces the quality of his work or hinders his development and progress during the study period, or sometimes leads to atrophy of his desire to complete his studies or may cause him to drop out of the master's or doctoral program.
Postgraduate studies have faced many setbacks in their academic career, such as the difficulty of accessing the university, searching for resources, performing assignments and exams through e-learning, and distance learning as the only alternative with the (Covid 19) pandemic, and as a modern learning on the study sample compared to attendance education, and then when the student cannot overcome on these problems, he will face setbacks and psychological, social and academic pressures during his daily life, which will lead to poor self-confidence, which may negatively affect this situation and becomes more dangerous, especially since the amount of support provided to them by others at this stage is decreasing and their self-reliance increases, and it constitutes a major challenge due to the lack of vitality and effectiveness as in the presence of learning, which calls for attention to the reasons and forces that increase the ability of students to manage their behavior During setbacks and stressful daily academic contexts.
From the foregoing, the problem of the current research is determined in answering the following questions
-Do graduate students have academic buoyancy?
-Does their academic buoyancy differ according to gender (males, females), specialization (scientific, human) and stage (Master, PhD.)?

Research Importance:

The concept of buoyancy is one of the positive variables in personality, and interest has increased in the recent period in studying academic buoyancy as one of the important variables in the personality of an individual that resists the negative effects of stressful events when he tells of failures or personal inadequacies in solving his life problems.
The concept of academic buoyancy has been mentioned within the context of positive psychology as an adaptive response to setbacks and daily academic challenges. (Marsh & Martin, 2008a-2008b) This concept is based on expanding and consolidating positive feelings as a source of psychological adaptation to increase the individual's ability to face daily challenges. Instead of focusing on the risks to which students are exposed, academic buoyancy research focuses on how students can cope with the daily academic difficulties they face.

Martin and Marsh (2019:2) have pointed out that academic buoyancy is the ups and downs of daily academic life and is different from acute or chronic difficulties that are more relevant to academic resilience.
Martin & Marsh, 2006, 268 added that this wheel provides a set of information that brings together a number of theoretical viewpoints. It represents a comprehensive and integrated way to understand the diversity of psychological dimensions and integration that enhances the idea of facing academic challenges, adversities and difficulties facing students in academic study. And then what is called academic buoyancy occurs for them and the transition from a state of failure to success and excellence, and then the educational process as a whole is promoted.
Martin (2007, 414) and (Martin, 2001, 2) indicated that the theoretical model that explains the academic buoyancy variable includes four main dimensions: the adaptive behavioral dimensions, the cognitive adaptive dimensions, the behavioral non-adaptive dimensions, and the non-adaptive dimensions cognitive).

Research Aims:
The current research aims to identify:
1-Academic buoyancy for graduate students.
2-The significance of the differences in academic buoyancy among graduate students according to the variables (gender/specialization/stage).
ResearchLimits:
The current research is limited to postgraduate students at the University of Baghdad of both sexes (males, females), specialization (scientific, human) and for the stage (Masters and Ph.D.) for the academic year (2020-2021).
Define Terms:
Academic Buoyancy:
It was known by:
1- (Martin & Marsh, 2008) "students' ability to deal with setbacks, failures and academic challenges that are usually associated with daily school life such as test anxiety, competition management, priorities and academic performance, and to overcome the daily problems they face in the academic environment, whether inside or outside the classroom, and dealing with successfully with their setbacks and challenges, which leads them to reach a state of balance and obtain positive results in their education path." (Martin & Marsh, 2008, 2013).

Theoretical Definition:
The researcher adopts the definition of (Martin & Marsh2008, 2013), which was adopted by (Saleem 2018) because she has adopted its scale in the current research.
Procedural Definition:
It is the total score obtained by the respondent on the items of the academic buoyancy scale adopted in the current research.

Chapter Two
Theoretical framework
Academic buoyancy
Psychology has developed along with the development of mankind and in parallel with the formation of new challenges in his modern life, adapting to the challenges faced by the individual in his modern life. Although psychological theories are formed as a result of the complex and reciprocal relationship of personality theorists with their social and cultural conditions in their time, psychological theories are affected at the present time by a new type of science of determining the capabilities and latent qualities of human beings, and psychological theories were affected by a new science related to inherited abilities and characteristics, which has become extensive.

The spread of that science is known as "positive psychology," which aims to study, identify and develop capabilities and virtues in human and human society. The message of positive psychology included an explanation that the field of psychology is in constant change, and that it is no longer limited to the study of diseases, centers of weakness, mental disorders and ways to treat them.
It is the creation and development of positive and beneficial characteristics by studying specific capabilities of the individual and human societies, identifying and developing those capabilities, and from here academic buoyancy came as one of the components of the field of positive psychology (Bakhshaee et al, 2016: 94).
This concept is based on the expansion and consolidation of positive feelings as a source of psychological adaptation to increase the individual's ability to face daily challenges.
Instead of focusing on the risks that students are exposed to, academic buoyancy research focuses on how students can cope with the daily academic difficulties they face.
It is based on the theory (Frederickson &Levenson, 1998) (Frederickson, 2001) in expanding, building and strengthening positive emotions as a source of psychological adaptation to increase one's resilience (Frederickson & Lorenz, 2005). As well as in increasing the ability of individuals to enhance their personal resources. Hence, the focus on the main principles

that support academic buoyancy includes building strengths instead of responding to setback and challenge, and thus the concept of buoyancy matches recent developments in positive psychology that focus on the positive aspects of individuals' lives rather than addressing the negative aspects in their lives.

Academic buoyancy and academic resilience

It is possible to distinguish between the concept of academic buoyancy and academic resilience in terms of type and degree, as shown in Table (1):

Table (1)

The difference between academic buoyancy and academic resilience in terms of (degree, type)

Academic Resilience	**Academic buoyancy**	Distinguish between the two concepts
*related to a minority of students such as dropping out. *Resilience is strongly correlated with more severe negative outcomes such as dropping out of education. *Academic buoyancy is related to dealing with confidence-related threats as a result of poor academic performance.	*relevant to the majority of students and everyday academic challenges such as test stress. *Buoyancy is strongly correlated with low-level negative outcomes such as academic anxiety, and failure avoidance *Buoyancy is related to a lack of self-confidence *Buoyancy is related to not wanting to participate in class *Buoyancy is related to the reactions inside the school *Buoyancy is related to the simple anxiety of a course *It is the ups and downs of daily academic life *related to a minority of students such as dropping out.	Gender
*Academic resilience comes into play when dealing with chronic failure. *Resilience also comes into consideration when dealing with absenteeism and discontent with college	Academic buoyancy is relevant to dealing with a decline in motivation and engagement *Academic resilience comes into play when dealing with chronic failure.	Score

(Martin&Marsh,2009)

Factors affecting academic buoyancy

It is mentioned (Martin & Marsh, 2008: 57, 58) that there are a number of factors that affect academic buoyancy, and these factors are as follows:

1-Psychological factors: they are represented in self-efficacy, control, sense of purpose and motivation.

2-School-related factors: they are classroom participation, educational aspirations, educational aspirations, relationship with teachers, teacher response, effective teacher response, attendance, value placed in school, extracurricular activity, extracurricular activities, and challenging curricula.

Explanatory models for academic buoyancy

First: The Motivation and Engagement Wheel

It is one of the first models that were developed to explain academic buoyancy, in which the wheel divides eleven parts, each of four main dimensions it placed.

This wheel provides a set of information that brings together a number of theoretical viewpoints.

It represents a comprehensive and integrated way to understand the diversity of psychological dimensions and integration that reinforces the idea of facing academic challenges, adversities and difficulties facing students in academic study, and then causes them to have what is called academic buoyancy and moving from a state of failure. To success and excellence and then promote the educational process as a whole. (Martin & Marsh, 2006: 268).

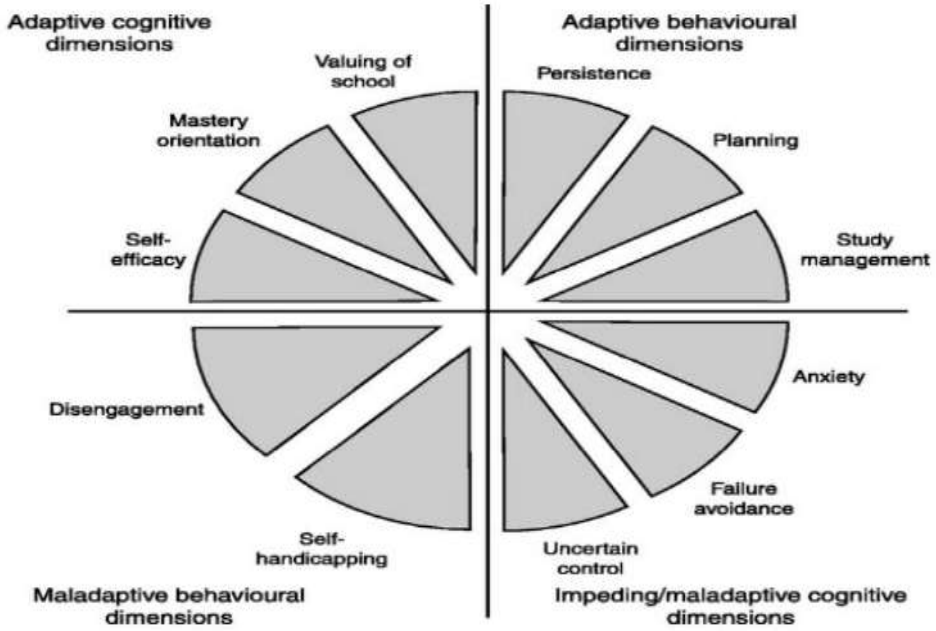

Figure (1)

A model showing the wheel of motivation and preoccupation (Martin, 2012:29)

Martin (2007, 414) and (Martin, 2001, 2) indicated that the theoretical model that explains the academic buoyancy variable includes four main dimensions:

A- Cognitive adaptive dimensions that help in compatibility:

This dimension represents the first quadrant of the wheel, which are those dimensions that include three parts (task value - focus on learning "orientation to mastery" - self-efficacy). An ability to predict their ability to face challenges and academic difficulties in the educational process. (Carrington, 2013:116).

Students who demonstrate a high level of awareness and awareness of the value of the educational mission on which they are working and find the study environment important show high levels of academic buoyancy, as well as students who have learning goals that are directed towards learning mastery and focus on learning for the
sake of learning and understanding are more capable of academic buoyancy From their peers, i.e. students who are able to master their academic duties, they have positive expectations of success, and that students' expectations of their academic results

contribute to students' appreciation of the value of work and the duties assigned to them, and then face academic challenges, and then increase their ability to academic buoyancy and increase their level of achievement. (Martin, 2001:5).

B- Behavioral adaptive dimensions that enhance compatibility:

This dimension represents the second quadrant of the wheel and includes three parts (perseverance, planning, and task management), and that students who are more diligent and planners who do not complete their homework and know when, where and how to study are more likely to show characteristics related to their ability to meet academic challenges, and then academic buoyancy occurs for them And moving from a state of failure to a state of success, they show behaviors characterized by persistence, determination and perseverance in the face of difficult tasks and challenges, duties and lessons, and they have the ability to plan and achieve who study and monitor their progress and when, how and where they reach the correct solutions They show high levels of buoyancy. (Martin et al, 2010:487).

C- Non-adaptive cognitive dimensions that hinder compatibility:

It represents the third quadrant of the wheel and includes three parts (anxiety, avoiding failure, and shaking confidence "lack of control") that focuses on emotional and motivational structures and how the learner feels before and during the performance of academic tasks, and that there is a link between control and academic buoyancy and that after anxiety, which is one of the dimensions As a negative predictor of students' inability to meet academic challenges and thus individuals with goals to avoid failure are not able to reach the state of success.

Thus, they are unable to reach academic buoyancy Students experience high levels of anxiety when they think about school work or school assignments. They have low levels of buoyancy, where buoyancy is inversely related to anxiety.

Students who adopt failure avoidance orientations and performance avoidance goals have fewer opportunities to buoyancy. Students with high levels of shakiness of confidence manifest in their inability to control their performance and feel incapable of buoyancy. Doing their homework lowers their academic buoyancy levels, (Rachmayanti&Suharso,2017:125).

D- Non-adaptive behavioral dimensions that hinder adjustment:
It is located in the last quadrant of the wheel, represented by two parts (self-deficit "self-disruption" - withdrawal "avoid participation"), and that students with high academic buoyancy characteristics require them to be able to work effectively in a school environment full of challenges and difficulties, and therefore self-deficit and avoiding participation in schoolwork reduces students' ability to face such academic challenges.
It includes students who disrupt themselves in carrying out academic tasks, such as not completing school assignments, postponing academic tasks, and not preparing for exams, which they consider an excuse for their low performance, as well as students withdrawing from tasks, active participation and absenteeism, they accept failure as the only alternative to them or show the learner's helplessness which is opposite to academic buoyancy. (Martin et al, 2010:473).

Second: The Five Impulse Prediction Indicators Model 5C to explain academic buoyancy:
Motivational determinants (Motivation) 5cs model and their role in academic buoyancy and the term motivation has been used in this model to describe what motivates individuals to move forward as this helps them to finish tasks and the role of motivation in academic buoyancy is understood in light of the general results and the basic components of different theories of motivation, (Amer, 2018 : 218).
We will review the general results and the main components of motivation. Motivation has four general consequences:
1-People's choice of activities. (Why do people choose one activity over another).
2-Individuals' level of activity. (How much or how people can activate this activity).
3-Continuity of individuals during the activity.
4-The performance of individuals on the activity.
These results are related to academic buoyancy. Motivation can predict students' choice of activities that help them cope with academic adversity, and their ability to commit to responding to these setbacks (Pintrich, 2003).
As for the basic components, there are three components: (expectation components, value components, and emotional components).
First / components of expectation: includes students' belief in their ability to do something with their ability to control it, and include self-confidence and control as well as to self-regulatory behaviors such as coordination. (pintrich, 2003).
Second / value components: what is meant by value components is the orientations of the goal or purpose of the task, the importance of the task, beliefs in the value of the task, and the individual's ideas about the ultimate benefit of the task (pintrich, 2003). The importance and usefulness of the task drives the individual to the continuity and commitment to complete the tasks, so the commitment can be considered in line with the framework of the value element.
Third / Affective Components: Affective components involve general feelings and emotional reactions to the task, and these feelings affect the cognitive aspects and performance, and include the individuals' feeling associated with the task performance before and during its performance, and among these components is anxiety (Pintrich, 2003).
This model was proposed and presented by Martin2006)) to explain academic buoyancy. This model consists of five factors that can be considered as predictors of academic buoyancy, and these factors are what he called 5C: Confidence, Coordination, Commitment, Composure Low Anxiety, and Control or Control.
These factors are related to the enjoyment of the school climate as well as to the student's general self-esteem, and then indicators of the student's ability to face adversity and adversity in the classroom, and they have the ability to academic buoyancy. They predict three educational and psychological outcomes, which are enjoyment at school, participation in the classroom, and self-esteem. According to this model, academic buoyancy is linked to many variables. Positive and negative ones:
•Buoyancy is positively and significantly associated with the adaptive cognitive and behavioral dimensions (self-confidence, coordination, commitment).
•It is negatively and significantly related to the non-adaptive cognitive and behavioral dimensions (uncertain control, anxiety). This is included in the 5CS model (Martin, 2008_b).
Regarding the role of the determinants of the 5CS model in buoyancy, we find the following:
1-Self-confidence: maximizing chances of success (Schunk& Miller, 2002) and addressing negative beliefs about oneself (bandura, 2006-1997).
2-Coordination and commitment: Coordination includes developing the skills of setting effective goals that lead to success and provide a basis for self-efficacy. Encouraging students to identify effective goals and how to set these goals is an important way to maintain commitment and continuity in the face of challenges. (locke&latham,2002).
Developing students' self-regulation skills and improving students' ability to
coordinate will help them continue to face the challenge (Zimmerman, 2001).

3-Control: Control is a pivotal factor in navigating adversity and includes the students' ability to control future academic outcomes, and this intersects with two main dimensions of the attribution theory.

•I/Internal Attribution: Students attribute an academic setback to something like (not studying enough). They are more likely to try to change the cause (ie through the difficult things next time) to avoid repeating the result.

•The second / external attribution: students attribute an external setback that cannot be controlled, such as (weak performance in the study). Students may feel that there is nothing they can do to change the result the next time.

Therefore, we find that control helps the student to take specific and enthusiastic actions regarding upcoming academic events (weiner, 2010).

As the control plays an important role in determining the results of buoyancy, such as achievement. The sense of control is pivotal in determining whether the setback will translate into positive results in the future or not (collie et at ., 2015).

Second: The role of anxiety in academic buoyancy. Anxiety may reflect fear of failure, and students' responses to this highlight low academic buoyancy. And how highly anxious individuals evaluate competition and challenge, as it was found that superior individuals in this dimension expect to play a lesser role in the upcoming competition and frequently fear making mistakes, and expect more negative evaluation after failure than individuals who were low on anxiety. It played a role in decreasing the academic buoyancy of students. (passer, 1983) (Amer, 2018: 219-220-221).

The researcher has adopted the theoretical premises and the explanatory models of academic buoyancy (the wheel model of motivation and engagement, and the five motive prediction model (5c Martin & Marsh 2009-2008) for academic buoyancy.

Chapter Three

First: Research Methodology:

The research method can be defined as "the method and method that the researcher relies on to accomplish his research and achieve his goal, or objectives, which he intended to define in advance" (Kandalji, 2019, p. 10) (at the time of conducting the research), describing it as an explanatory description based on the available facts.

Thus, the researcher used the descriptive research method in her research by following the method of correlational studies.

Second: Society of Research:

By the research community, we mean the total group with the elements that the researcher seeks to generalize the results related to the problem (Odeh, et al., 1992: 159).

The current research community is represented by postgraduate students at the University of Baghdad for the master's and doctoral stages for the academic years (2020/2021), males and females in scientific and humanitarian specializations, and their number is (13216) male and female students, as the number of males is (5934) students, while the number of females is (7282) female students, and the number of students according to the scientific specialization reached (7575) male and female students, while the number of students according to the humanitarian specialization reached (5642) male and female students. 3649) male and female doctoral students, and Table (2) shows this.

Table (2)
Research community numbers and characteristics

Total	Female	Male	Gender Stage	Specialization
5480	3186	2294	MA.	Science
2095	1072	1023	Ph.D.	
4087	2370	1717	MA.	Humanities
1554	654	900	Ph.D.	
13216	7282	5934	Total	

Third: The research sample:

The meaning of the sample is part of the society in which the study is being conducted for any social or educational phenomenon or problem, and it is the source of the information that we want to know or the reasons that we are trying to identify (Doctor, 1999: 227) and that the sample of the current research are master's graduate students (research stage) and Ph.D. (preparatory stage and research stage), as the size of the basic research sample was (690) male and female students in the universities of Baghdad, who were randomly selected from the research community, with (286) males, and (404) females from master's students (522) and from students Doctorate

Fourth: Tools of Research:

The method or method by which it is measured (adjective, phenomenon, subject), and (Mehrens, 1975) defines the measurement tool as an organized tool for measuring the phenomenon that is the subject of measurement and expressing it in a digital language (Abu Jadwa, 2013: 398).

In order to achieve the objectives of the research, it is required:

1-Adopting a scale (Saleem, 2018) to measure academic buoyancy.

Academic buoyancy scale:

The researcher reviewed the relevant literature and previous studies, and adopted the 2018 Saleem Academic Buoyancy Scale, Damanhour University, after taking his approval to adopt the scale for the following reasons:

1-It is one of the scales that fit with the current research sample, which is represented by graduate students, as this scale was prepared for university students.

2-It is one of the newly prepared standards, and the scientific steps in statistical treatments were followed by the researcher (Salim 2018).

1-Description of the scale

The Saleem Academic Buoyancy Scale (2018) consists of (25) items, in front of each item there are five alternatives to answer.

2-The validity of the paragraphs (logical analysis of the paragraphs of the scale);

The validity of the test is one of the conditions of effective measurement tools in

measuring the phenomenon subject of measurement, and the validity of the test is intended (to measure what it was developed for), that is, the extent of the test's validity to measure a specific goal or aspect (Abu Jadwa, 2013,: 399) and the apparent validity was extracted And conducting a statistical analysis of the scale items and finding the discriminatory power of the items, for the purpose of verifying the validity of the scale items in measuring what they were set for, as shown:

3-Apparent honesty:

It is a prerequisite for effective measurement tools in measuring the phenomenon subject of measurement. Accordingly, the researcher presented the scale in its initial form, consisting of (25) to a number of experts in educational psychology,

Total	Specialization		Stage		
	Science	Humanities			
315	112	203	Female	Gender	MA.
207	102	105	Male		
522	214	308	Total		
89	32	57	Female	Gender	Ph.D.
79	41	38	Male		
168	73	95	Total		
404	144	260	Female	Gender	Total
286	143	143	Male		
690	287	403	Total		

measurement and evaluation, in order to obtain their opinion on the validity of the scale and the possibility of relying on its paragraphs in measuring the academic buoyancy of the research sample, and the researcher adopted an agreement percentage (80%), and after this procedure, she approved all the paragraphs because she obtained an agreement percentage (100%) and Table (4) shows this, and the opinions and suggestions of the arbitrators were taken with regard to amending some paragraphs.

Table (4)

The percentage of arbitrators' opinions on the validity of the paragraphs of the academic buoyancy scale

Total Paragraphs	Percentages	Agreeing	Paragraphs
25	%100	11	, 20 ,19 ,18 ,17 ,16 ,15 ,14 ,13 ,12 ,11, 10 ,9 ,8 , 7 ,6 ,5 ,4 ,3 ,2 ,1 25 , 24 , 23 , 22, 21

11	Total

Academic Buoyancy Scale Correction:
Giving the individual a degree or rating and explaining it, which is an important step, as it is considered an introduction to the achievement of a practical decision, or a scientific explanation about a group of individuals subject to measurement (Al-Ansari, 2000: 245). The quintiles range from strongly agree and take (5) degrees and strongly disagree and take (1) a degree and the degrees on the scale range between (25-125) and vice versa in the negative paragraphs as in Table (5):

Table(5)
Likert's five-factor method and its correction for academic buoyancy scale

Disagree	Somewhat agree	Agree	Moderately agree	Strongly agree
1	2	3	4	5

Statistical analysis of the scale items:
Statistical analysis of the items is one of the important steps for building the scale, as it makes it more honest and stable (Al-Abadi, 2020, p. 148).
Test analysis is "the process of examining or testing individuals' responses to each of the test items" (Al-Khatib and Al-Khatib, 2010: 49). And to identify the effectiveness of the test items, and the extent of their contribution to obtaining the psychometric properties (honesty and stability), which are consistent with the characteristics of a good test. , 2016 : 77). Most of the psychometric literature indicates that the appropriate sample size for the statistical analysis process for the paragraphs is preferably no less than (400) individuals and is selected from the original population (Hassouni, 2018: 59). The items were statistically analyzed on a sample of (400) male and female students.
A- Discrimination (discrimination items):
Calculating the discriminatory power defines "the extent to which the paragraph is able to distinguish between the respondents who got a high score in answering the scale and their peers who got a low score on the same scale" (Al-Abadi, 2020: 64).
In order to calculate the distinction of paragraphs in this way, the researcher followed the following steps:-
•The researcher applied the scale to the statistical analysis sample, which numbered (400) male and female students.
•The researcher corrected each answer by giving each paragraph a specific score according to Likert.
•The scores of each respondent were collected in the paragraphs of the scale to extract the total score for each member of the sample.
•The scores were arranged in descending order from the highest degree (after extracting the total scores, not the individuals of the sample).
•The size of each group (higher and lower) is (108) representing (27%) of the analysis sample (400).
•The t-test for two independent samples was used to extract the discriminatory power of the paragraphs of the academic buoyancy scale, which is represented by the T-values of the difference between the averages of each item for the upper and lower group compared to the tabulation (1.96).
•The T-values of the paragraphs were statistically significant at the significance level (0.05) and the degree of freedom (214) compared to the tabular (1.96) as shown in Table (6).

Table (6)
The discriminatory power of the academic buoyancy scale items using the two extreme groups method

Level of Sig.	T-Value	lower group		upper group		ت
		Standard mean	arithmetic mean	Standard mean	arithmetic mean	
Statistically Sig.	5.622	.712	4.25	.475	4.71	1
Statistically Sig.	2.798	.959	3.84	.783	4.18	2
Statistically Sig.	5.079	1.009	3.50	.770	4.12	3
Statistically Sig.	3.901	.842	3.60	.723	4.02	4
Statistically Sig.	4.886	.942	3.49	.777	4.06	5
Statistically Sig.	3.395	.912	3.83	.765	4.22	6
Statistically Sig.	2.621	.833	3.84	.720	4.12	7
Statistically Sig.	4.929	.844	4.13	.528	4.60	8
Statistically Sig.	5.373	.909	3.66	.699	4.25	9
Statistically Sig.	5.880	1.078	2.66	1.028	3.50	10
Statistically Sig.	4.201	1.145	2.19	1.280	2.88	11

Statistically Sig.	4.712	1.088	3.74	.723	4.33	12
Statistically Sig.	5.820	1.054	3.81	.588	4.48	13
Statistically Sig.	3.537	.946	4.28	.641	4.67	14
Statistically Sig.	2.986	.941	4.26	.783	4.61	15
Statistically Sig.	5.242	1.174	3.20	1.028	3.99	16
Statistically Sig.	8.672	1.017	3.74	.470	4.68	17
Statistically Sig.	8.447	.975	3.94	.470	4.82	18
Statistically Sig.	10.234	1.227	3.27	.635	4.63	19
Statistically Sig.	9.658	1.109	2.39	1.240	3.94	20
Statistically Sig.	8.789	1.234	2.19	1.349	3.74	21
Statistically Sig.	9.846	1.104	2.19	1.320	3.81	22
Statistically Sig.	7.837	1.156	2.14	1.239	3.42	23
Statistically Sig.	6.055	.901	4.03	.679	4.69	24
Statistically Sig.	6.075	1.000	3.49	.971	4.31	25

A- The method of internal consistency of paragraphs (the relationship of the degree of the paragraph with the total degree) Internal Consistency Method

B-The coefficients of the item's correlation with the total score of the scale are an indicator of the homogeneity of the items in measuring what they were set for measurement, and therefore the item that is negatively correlated with the total score of the test must be excluded because it often measures a function that differs from that measured by the rest of the test items (Younis and Jassim, 2020 : 181).

C-The amount of the correlation (using Pearson correlation coefficient) was extracted between each paragraph and the total score of the academic buoyancy scale using the same sample of analysis, and all the paragraphs achieved a statistically significant correlation since the calculated T-value is greater than the tabular (0.098) at the significance level (0.05) and the degree of freedom (398) and Table (7) illustrates this.

Table (7)

Correlation coefficients between the total score and the item scores of the academic buoyancy scale

Correl.Coeffi	Parag.No	Correl.Coeffi	Parag.No	Correl.Coeffi	Parag.No	Correl.Coeffi	Parag.No	Correl.Coeffi	Parag.No
.453	21	.273	16	.257	11	.284	6	.307	1
.484	22	.420	17	.304	12	.190	7	.209	2
.414	23	.421	18	.365	13	.310	8	.345	3
.274	24	.484	19	.323	14	.323	9	.264	4
.299	25	.445	20	.215	15	.373	10	.301	5

Reliability:

Cronbach's Alpha equation:

Cronbach's alpha correlation coefficient was used to extract the internal consistency of the scale, and the result was after applying the scale to the stability sample of (400) male and female students (0.85). The coefficient of determination was (0.71) and the relationship is strong.

Describe the scale in its final form:

The academic buoyancy scale in its final form consists of (25) appendix paragraphs () and five alternatives are placed in front of each paragraph. The paragraphs indicating academic buoyancy took the order of the weights of the alternatives from (5-1), as (5)

degrees were given to the alternative (it applies to me to a very large degree).), to a large degree (4), to a moderate degree (3), to a small degree (2), and it rarely applies to me (1) and the highest degree was (125) and the lowest degree (25) and the hypothetical average (75).

The following table shows a description of the positive and negative items of the scale as shown in Table (8).

Table(8)
Description of the scale items

negative paragraphs	positive paragraphs
(23-22-21-20-19-17-16-11-10)	(-25-24-18-15-14-13-12-9-8-7-6-5-4-3-2-1)

Statistical indicators and the normal distribution of the academic buoyancy scale

There are several statistical indicators in which psychological measures are characterized, which are represented in the nature of the moderation distribution, as these quantitative indicators give a general idea of the results of the statistical analysis and the diversity of statistical outputs, since the concepts are moderately distributed and to verify that the scores of the members of the statistical analysis sample are distributed moderately, the researcher calculated Statistical indicators of the sample's scores on the scale to identify the extent to which the scores are close or far from the equilibrium distribution, as shown in graph (2) and table (9).

Table (9)

Statistical specifications for academic buoyancy

academic buoyancy	Description
400	N
95.24	Mean
95.00	Median
99	Mode
7.825	Std. Deviation
61.238	Variance
-.070	Skewness
.122	Std. Error of Skewness
.316	Kurtosis
.243	Std. Error of Kurtosis
46	Range
70	Minimum
116	Maximum

The normal distribution of the sample on the academic buoyancy scale after using the statistical bag for the social sciences for the purpose of knowing how the sample is distributed on the academic buoyancy scale, it was found that the sample is distributed naturally on the scale, and Figure (2) illustrates this.

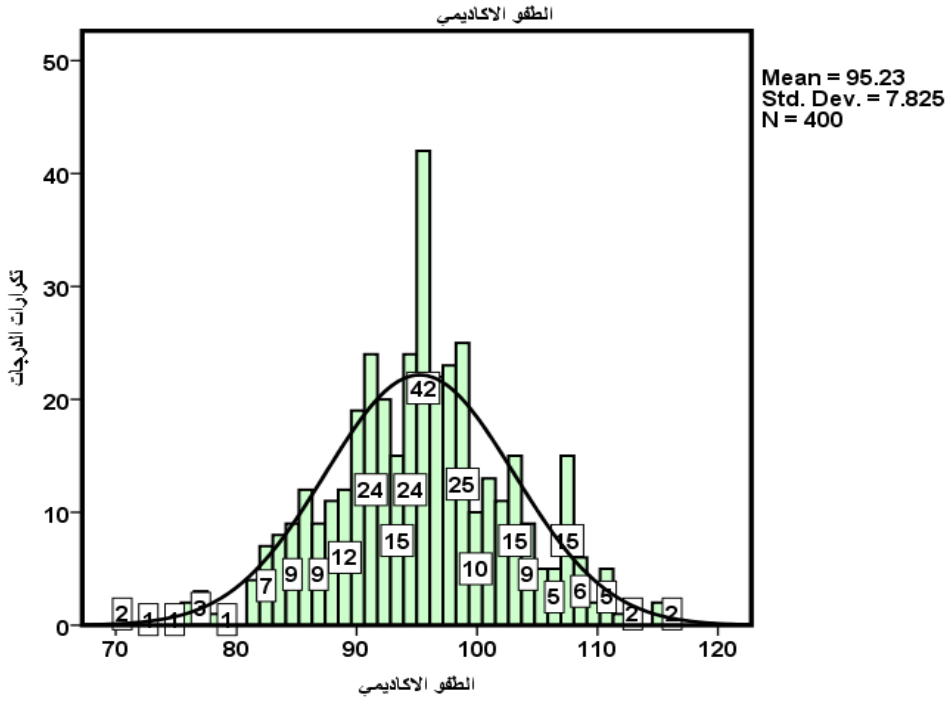

Fig. (2)

A graph of academic buoyancy degrees showing their frequency and the equilibrium curve, when observing Figure (2), it becomes clear that the statistical indicators of the academic buoyancy scale agree with the statistical indicators of the

moderation distribution, which indicates that the sample represents the studied community, and the possibility of generalizing the research results to the community.

The final application

Due to the exceptional circumstances that students were exposed to as a result of the Corona pandemic, the application for the research tool was on the sample electronically if the application began on (March 18, 2021) and ended on (March 26, 2021).

Statistical means

The researcher used the statistical package (SPSS) to analyze the data, whether in building the scale or the final data, and used the following statistical methods:

1-The t-test of two independent samples to test the significance of the differences between the upper and lower groups to analyze the items of the academic buoyancy scale.

2-Pearson Correlation Coefficient to find the relationship between the score of each paragraph and the total score of the scales (Nunnally,1978,p280).

Chapter Four

Presentation, interpretation and discussion of the results

The procedures for the results of the current search included the following steps:

First / the search results and their interpretation:

The following is a presentation of the results of the research that we reached in the light of the primary data and its statistical processing, in order to achieve the objectives of this research, as follows:

The first objective: to identify the academic buoyancy of postgraduate students

To find out the degree of academic buoyancy among graduate students, the arithmetic mean and standard deviation of the total scores of the sample members on the scale were calculated. The t-test was used for one sample and the sample mean (94.30) was compared with a standard deviation (7.796) with the hypothetical mean (75) and the next calculated value was (65.038), which is greater than the tabular (1.96) at the level (0.05) and the degree of freedom (689) as shown in Table (10).

Table (10)

The results of measuring the academic buoyancy decision in the sample

Statistical sig.	Table value	T value	Hypothesis mean	Standard deviation	Mean	sample size
Statistical sig.	1.96	65.038	75	7.796	94.30	690

The result indicates that postgraduate students have high academic buoyancy (higher than the hypothetical average), and this can be explained by the fact that postgraduate students are at a high level. They float academically and are called to comprehend different learning situations and make creative decisions about them, as they face academic problems and setbacks.

Overcoming them as they can adapt to new situations

This is because buoyancy is positively and significantly associated with the adaptive cognitive and behavioral dimensions (self-confidence, coordination, commitment),and the adaptive cognitive dimensions that help with compatibility. This dimension represents the first quadrant of the wheel of motivation and engagement, which includes three parts (task value - focus on learning, “mastery orientation” - self-efficacy).

The result of Carrington’s research concluded that students with high academic self-efficacy who Those who have mastery goals orientations are more predictive of their ability to face challenges and academic difficulties during the educational process, and this is what the results showed. They show a high level of awareness and awareness of the value of the educational mission on which they are working, and they find the study environment important.

They show high levels of academic buoyancy, as well as students who have learning goals that are directed towards learning mastery and focus on learning for the sake of learning and understanding are more capable of academic buoyancy than their peers, i.e. Students who are able to master their homework have positive expectations for success, and students’ expectations of their academic results contribute to students’ appreciation of the value of the work and duties assigned to them, and thus facing academic challenges, thus increasing their academic buoyancy and increasing their level of achievement.

The second objective: to identify the significance of the differences in the academic buoyancy degrees of the sample according to the variables (gender/specialization/stage).

To identify the significance of the differences in the academic buoyancy degrees of the sample according to the variables (gender/specialization/stage) a triple variance analysis was used. Arithmetic averages and standard deviations were found according to the variables (gender/specialization/stage) as in Table (11). Figure (3-4) and then use the analysis of triple variance as in Table (12).

Table (11)
Statistical specifications for academic buoyancy degrees according to gender, specialization and educational stage.

No.	standard deviation	average	stage	specialization	Social Gender
203	7.420	94.76	MA.	Humanities	Female
57	7.883	91.39	Ph.D.		
260	7.638	94.02	Total		
112	7.771	95.72	MA.	Science	
32	6.045	92.03	Ph.D.		
144	7.561	94.90	Total		
315	7.548	95.10	MA.	Total	
89	7.246	91.62	Ph.D.		
404	7.613	94.34	Total		
105	7.305	94.85	MA.	Humanities	Male
38	8.522	93.24	Ph.D.		
143	7.649	94.42	Total		
102	8.401	95.27	MA.	Science	
41	8.027	91.15	Ph.D.		
143	8.477	94.09	Total		
207	7.848	95.06	MA.	Total	
79	8.282	92.15	Ph.D.		
286	8.061	94.26	Total		
308	7.369	94.79	MA.	Humanities	Total
95	8.151	92.13	Ph.D.		
403	7.635	94.16	Total		
214	8.061	95.51	MA.	Science	
73	7.192	91.53	Ph.D.		
287	8.027	94.50	Total		
522	7.661	95.09	MA.	Total	
168	7.732	91.87	Ph.D.		
690	7.796	94.30	Total		

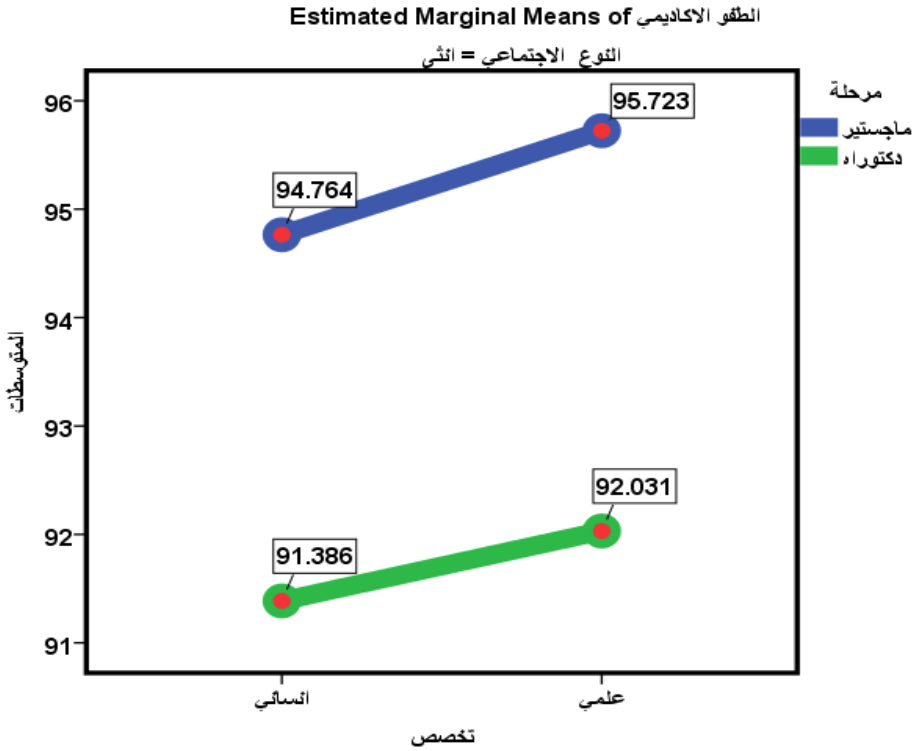

Fig.(3)

A graph showing the average degrees of academic buoyancy according to specialization / academic level and gender – female

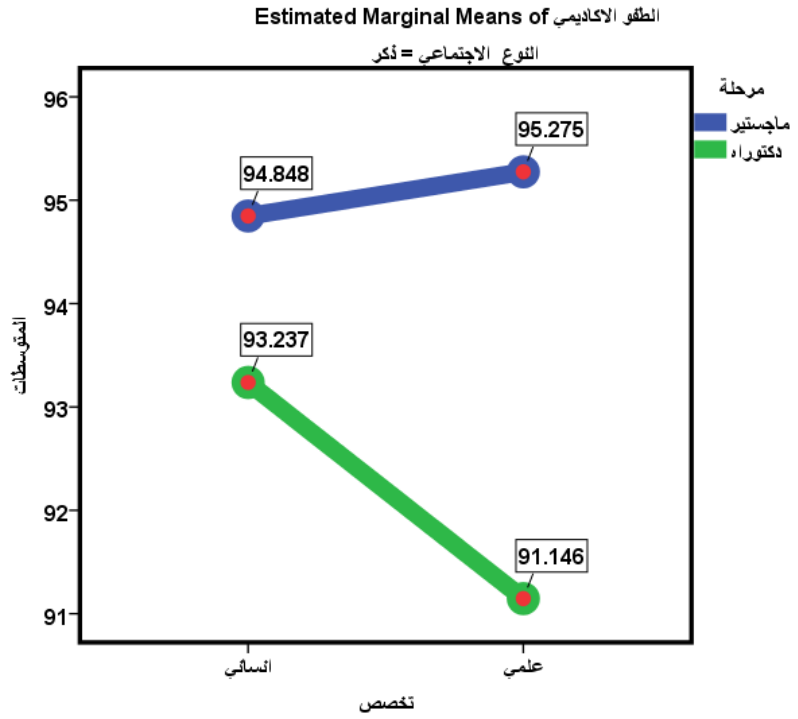

Fig.(4)

A graph showing the average degrees of academic buoyancy according to specialization / academic level and gender - male

Table (12)

It shows the results of the significance of the differences in the academic buoyancy degrees of the sample according to the variables (gender/specialization/stage).

Sig.	F-value	Mean of squares	Degree of freedom	Sum of squares	Source of variance
Non-Sig.	.046	2.725	1	2.725	gender
Non-Sig.	.000	.026	1	.026	specialization
Sig.	20.884	1236.468	1	1236.468	stage
Non-Sig.	1.360	80.519	1	80.519	gender*special.
Non-Sig.	.225	13.344	1	13.344	gender*stage
Non-Sig.	1.021	60.437	1	60.437	special. *stage
Non-Sig.	.618	36.578	1	36.578	gender*special.
		59.207	682	40379.413	Fault
			689	41877.694	Total

From observing the values presented in Table (12), we conclude the following:

1- **Gender and specialization:** - The differences are not statistically significant, as the categorical values for them (0.046 and 0.000), respectively, were less than the tabular (3.84) at the level (0.05) and the degree of freedom (1/682).

2- Study stage: The differences are statistically significant, the t-value (20.884) at the level of (0.05) and the degree of freedom (682), which is in favor of the master, as their average is (95.152) compared to the average of the doctorate (91,950).

1- The researcher sees an explanation for this result in general that the more academic buoyancy increases, the more skills they have to face academic problems, among which are challenges and competition. They can pass and overcome them, and they can finish the school assignments ahead of schedule.

2- Also, individuals with high levels of academic buoyancy are able to positively use and effectively employ positive emotions in stressful situations and traumatic events, which help them to face pressures and recover quickly from the negative effects of these pressures.

Second: Recommendations:

Based on the results of the current research, the researcher recommends the following:

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1- Preparing indicative training programs to train students on the dimensions of academic buoyancy, which the study touched upon, such as (planning,

perseverance, control, self-efficacy, low anxiety), which increases their ability to face the academic challenges that they encounter in their lives.

2 - Since graduate students have academic buoyancy, they must be integrated with primary studies students by holding training workshops to benefit from their diverse abilities and experiences.

Third: Suggestions:

In order to complement the results of the current research, the researcher presents the following proposals to those involved in the study:

1- Conducting a study to find the relationship between academic buoyancy and future thinking among graduate students.

2- Conducting a study to find the relationship between the six personality factors and academic buoyancy among graduate students.

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