



## REGULATION OF EMOTIONS (BEHAVIORAL AND COGNITIVE) AMONG UNIVERSITY STUDENTS AMID THE COVID-19 PANDEMIC

Prof. Bushra Ahmad Alakashee<sup>1</sup>, Prof. Ali Ahmad Al-Barakat<sup>1\*</sup>, Dr. Sami Sulieman Al-Qatawneh<sup>1</sup>, Dr. NajahRajeh Al Salhi<sup>1</sup>, Prof. Samih Mahmoud Al Karasneh<sup>1</sup>, Dr. Rommel Al Ali<sup>2\*</sup>

<sup>1</sup>Department of Education- University of Sharjah, United Arab Emirates

<sup>2</sup>The National Research Center for Giftedness and Creativity, King Faisal University, Saudi Arabia

Corresponding Authors: aalbarakat@sharjah.ac.ae, ralali@kfu.edu.sa

### Abstract

This study examines the level of emotion regulation (behavioral and cognitive) among university students during the COVID-19 pandemic. The objectives of the study are to identify the level of emotion regulation among university students and to determine if there are significant differences in emotion regulation based on gender (males vs. females). The research adopts a descriptive analytical approach and utilizes a measurement tool to assess emotion regulation during the COVID-19 pandemic period among a sample of students from the University of Sharjah. The findings indicate that the research sample of university students demonstrates emotional regulation in terms of both behavioral and cognitive aspects. Additionally, the study reveals that the academic specialization variable has an influence on emotion regulation, with female students majoring in scientific disciplines exhibiting higher levels of emotion regulation compared to their counterparts in humanities disciplines. These findings contribute to our understanding of how university students cope with and regulate their emotions during the unprecedented circumstances of the COVID-19 pandemic.

**Keywords** Emotion Regulation, Behavioral Regulation, Cognitive Regulation, University Students, COVID-19 Pandemic

### Introduction

Psychologists, including figures like James-Lang, Cannon-Bard, Schachter, and others, have dedicated significant effort to the examination of the emotion concept. Their primary focus has

been on delineating the nature of emotions and exploring their underlying triggers. Consequently, they have developed multiple theories, encompassing cognitive and behavioral perspectives, as well as theories emphasizing the influence of environmental factors in precipitating emotional experiences.

Hence, the study of emotions holds substantial significance across all stages of an individual's life and is a fundamental element of one's personality, intimately connected with psychological, intellectual, and physical well-being. It manifests in an individual's behavior, either contributing to normal or disordered conduct, contingent on its intensity, appropriateness to the context, and the individual's capacity to regulate its expression. Effective management of this pivotal aspect, while preserving the mental and physical health of individuals, necessitates the development of strategies for its organization. In some instances, environmental factors and conditions might impede the optimal and efficient application of such strategies (Ali & Saleh, 2023). The rapid transformations experienced in various aspects of life, including education, profession, social dynamics, and psychological well-being, as a result of the emergence of the COVID-19 pandemic in late 2019 until the present, have triggered a multitude of emotions and challenges. These have arisen from the alterations in lifestyles and interpersonal relationships among the general populace, especially university students, who are the focus of this study. This pandemic-induced shift has disrupted their emotional equilibrium and modus operandi for expressing emotions. These expressions can manifest through verbal and behavioral conduct, cognitive and perceptual processes, and in their academic adaptability and integration within the university environment. Despite university students reaching a stage of cognitive development that enables them to address the issues they encounter, emotions remain an intrinsic part of their lives. These emotions influence their behavior, acting as a dynamic and evolving facet that shapes their personality. The manner in which they express these emotions can be profoundly affected by the diverse experiences and circumstances they have endured during the COVID-19 pandemic. These effects may be characterized by varying intensities, fluctuations, contradictions, and the adoption of maladaptive coping mechanisms as they grapple with their challenges (Pedrosa et al., 2020).

In light of the aforementioned significance, and considering the focus on a particular age group, namely, young adults, who are university students, it becomes evident that this demographic holds paramount importance. This group represents a pivotal juncture in an individual's life journey, signifying their transition towards the realization of their aspirations and objectives. University students are instrumental in shaping and advancing society as they bear a substantial responsibility, encompassing the majority of the population. Surprisingly, there has been a paucity of studies delving into the mental well-being of students during the unique circumstances imposed by the COVID-19 pandemic, which has exerted a profound influence on their emotional and cognitive behaviors. Consequently, it is imperative to address these research gaps, as the ability to succeed in society, particularly in an era replete with pressures and psychological disorders resulting from the consequences of the COVID virus, hinges upon one's capacity for

effective self-regulation and organization. Inadequate organization can result in increased social isolation, decreased societal efficacy, and the adoption of suboptimal coping mechanisms when confronting the myriad challenges and pressures encountered (Maffei, Merlici & Roca, 2022; Othman, 2008). Therefore, this study aims to unveil the level of cognitive-behavioral emotional regulation among university students. It further seeks to enhance their cognitive and behavioral awareness in managing and finely regulating their emotions, which, in turn, assists them in embracing constructive perspectives, nurturing positive self-concepts, and realizing their objectives. Ultimately, this endeavor serves to safeguard their psychological well-being and shield them from an array of psychological and behavioral issues.

### **Theoretical background and previous studies**

Research into the realm of emotions commenced in the early 1960s through descriptive investigations into the defense mechanisms employed when dealing with stressful situations. The comprehensive concept of emotional regulation encompasses a multitude of emotional and subconscious cognitive, behavioral, and physiological processes. It denotes the techniques employed by individuals to modify the type, intensity, and duration of their emotional expressions (Droller, et al., 2015, p. 771). Various perspectives surround this concept, with James Gross, the proponent of the emotional regulation theory, viewing it as an array of emotional and subconscious strategies that individuals employ to heighten, diminish, or sustain one or more components of the emotional response, which comprises three facets.

The first facet is the experiential component, which encompasses subjective feelings shaped by an individual's life experiences. The second facet is the behavioral component, encapsulating behavioral responses to emotions. The third facet is the physiological component, encompassing physiological reactions like heart rate, blood pressure, and changes in hair and skin rigidity. Gross identifies two primary strategy types. The first, known as Antecedent-Focused Strategies, is implemented as a pre-emptive approach before full interaction with the emotional stimulus. This category encompasses four distinct subtypes adaptable to diverse emotional occurrences. These subtypes include Situation Selection, whereby an individual opts to be in a specific situation from multiple options. Situation Modification, which involves altering emotional levels by modifying the situation. Attention Deployment entails changing one's attention toward the situation, such as closing one's eyes upon witnessing gunfire. The final subtype is Cognitive Change, where an individual reappraises their cognitive assessment of the situation, assigns a cognitive interpretation to the event or situation, deduces the possible emotion derived from that situation, and mitigates its impact. In contrast, the Response-Focused Strategy type is reactive to emotional states, allowing emotions to exist naturally. This strategy encompasses a single subtype termed Response-Focused Strategy, often referred to as Suppression. It is employed after the emotional response has occurred, involving the cessation of emotional expression in a given situation or the concealment of emotional signs. The primary objective of this strategy is typically social conformity, compliance with group directives, or adherence to a particular role (Gross, 2007, p. 9).

The theoretical literature surrounding these emotional regulation strategies underscores their fundamental role in the concept of emotional regulation. It also emphasizes the presence of individual differences, both among different individuals and within the same individual, in their utilization. Some individuals exhibit a greater proficiency in employing these strategies effectively, while others may not possess the same level of adeptness. These discrepancies can be attributed to various factors, one of which pertains to the ease with which a strategy can be employed. This ease is closely tied to the intensity of emotional states and, subsequently, influences their relative utilization. In scenarios marked by heightened emotional intensity, individuals tend to favor distraction as a strategy over reappraisal. Conversely, in situations characterized by lower emotional intensity, the preference shifts towards reappraisal (Webb, et al., 2012, p. 79).

Cannon believes that emotions, regardless of their diversity, share common physiological components. He contends that the experience of emotions necessitates conscious interpretations of the arousal state. In other words, we must engage in cognitive processes to provide an explanation for the arousal we are experiencing. Building on this idea, both James and Lange offer explanations. They propose that emotional stimuli are directed toward the cerebral cortex, leading to self-awareness of the emotional experience. Simultaneously, these stimuli are channeled to the sympathetic nervous system, inducing physical and physiological arousal. This means that your heart begins to beat at the same moment you feel fear, with neither process causing the other – they occur simultaneously. Based on these theoretical perspectives, the researcher suggests that emotional regulation involves employing strategies to modify the expression of emotional experiences, whether they are positive or negative. This regulation process starts with evaluating the situation, then working to modify it, and ultimately expressing a response. Furthermore, this response can be adjusted after its activation (James, Lange, 2020).

Numerous studies have investigated the impact of the COVID-19 pandemic on emotional regulation. For instance, a study by Issa (2021) explored the psychological consequences of social distancing during the COVID-19 pandemic. The study involved a sample of 500 male and female students enrolled in the first and fourth years of the College of Education. To fulfill the study's objectives, various assessment tools were employed, including those to measure the psychological consequences of social distancing, academic procrastination, and the meta-mood scale. Notably, one of the key findings of the study revealed a statistically significant correlation between the average scores of the participants on these assessment tools. The results indicated that these participants were among the groups most affected by the COVID-19 pandemic in terms of their self-confidence, self-efficacy, and their ability to manage and regulate their emotions (Issa, 2021).

The research conducted by Issa and Al-Khouli (2021) sought to assess the influence of the COVID-19 pandemic on academic burnout levels among university students. The study also considered the role of psychological resilience and achievement goal orientations in this context. The findings of the study revealed a notable increase in academic burnout levels among the

sampled students during the pandemic. Furthermore, the research uncovered statistically significant distinctions in academic burnout between students with high and low psychological resilience, with those possessing lower psychological resilience experiencing higher levels of burnout.

In the study conducted by Taalab (2020), the primary objective was to assess the level of academic hope among female students at Qassim University colleges in the context of the COVID-19 pandemic. The study also aimed to establish the most suitable structural model for understanding the connections between various variables, such as self-compassion and positive/negative strategies for cognitive regulation of emotions. The research findings indicated statistically significant distinctions among the sampled students in terms of their average scores related to self-will, collective will, personal strategies, and technology when dealing with the pandemic, compared to the benchmark (50%).

Abdel Aziz (2021) conducted a study with the goal of validating the structural model that delineates the relationships between boredom, social fears, psychological distress, and sleep disorders as psychological issues associated with the new COVID-19 pandemic among female university students. The study results underscored boredom's capacity to predict and directly influence sleep disturbances. Furthermore, the research revealed that social fears have an impact on sleep disturbances.

Alaa El-Din and colleagues conducted a study in 2021 to assess the psychological impact of the COVID-19 pandemic and the state of mental health among a sample of Jordanian university students. They employed the modified Arabic version of the Impact of Event Scale and the DAS Depression, Anxiety, and Stress Scale to gauge psychological impact and mental health status, respectively. The research outcomes demonstrated statistically significant differences in the mean scores for mental health status among the participants.

In a separate study conducted by Hantul in 2021, the primary objective was to ascertain the level of social anxiety related to the COVID-19 pandemic among a group of 70 students from the College of Education at Jazan University. The study also aimed to explore the relationship between social anxiety, psychological resilience, and emotional well-being. Additionally, the study sought to determine whether the level of social anxiety could be predicted based on the levels of psychological resilience and emotional tolerance. The researcher employed various scales to measure the variables examined in the study, and the findings revealed that the majority of university students experienced a high degree of social anxiety associated with the COVID-19 pandemic. Furthermore, a correlation was established between the level of social anxiety, psychological resilience, and emotional resilience.

The study conducted by Khalak in 2021 aimed to identify and determine the prevalence of significant psychological problems arising from the COVID-19 pandemic among a sample of students from the College of Education at Sultan Qaboos University. The findings indicated that

these psychological issues, including emotional problems, behavioral and physical problems, fear of infection, social isolation, and lack of motivation, were moderately prevalent among the participants.

In another study carried out by Al-Redi in 2020, the objective was to identify the psychological problems resulting from the COVID-19 pandemic among students at Qassim University. The research also sought to discern variations in psychological problems based on gender, age, and academic specialization. The results revealed that the psychological problems arising from the pandemic at Qassim University, such as psychological loneliness, depression, psychological distress, obsessive-compulsive disorder, and social fears, were of a relatively weak degree. Furthermore, there were statistically significant differences in the overall scores of psychological problems with respect to gender, favoring females, and academic specialization, favoring natural sciences. However, no differences in psychological problems were observed based on the age variable.

The study conducted by Musleh in 2020 aimed to assess the extent of the impact of the COVID-19 pandemic on the behaviors of university students in the West Bank, encompassing social, emotional, health, technological, and economic behaviors. The research also aimed to uncover variations in the pandemic's impact on Palestinian university students' behaviors based on several variables, including gender, monthly family income, academic average, educational level, and place of residence. The results revealed that the impact of the COVID-19 pandemic on various behaviors of university students was notably high. Specifically, the order of impact on these behaviors was as follows: social and emotional behaviors at 25.9%, health behaviors at 25.8%, technological behaviors at 23.6%, and economic behaviors at 24.5%. Importantly, no statistically significant differences were found at the 0.05 level in the pandemic's impact on the behaviors of Palestinian university students based on gender, monthly family income, academic average, educational level, or place of residence. Furthermore, it was observed that 58% of the university students surveyed anticipated that these altered behaviors would revert to normal upon the conclusion of the pandemic.

The study conducted by Atta in 2021 aimed to conduct a path analysis to uncover causal relationships between psychological stress, achievement motivation, and cognitive-emotional regulation in the context of distance learning during the COVID-19 pandemic among university students. The objective was to establish a model that elucidates the causal connections between these variables through path analysis. The initial sample used to assess the study's tools' psychometric properties included 627 male and female students, while the core sample consisted of 775 male and female university students. The study's findings revealed a statistically significant direct impact of psychological stress during the COVID-19 pandemic on positive emotional regulation within achievement motivation. Moreover, it identified a statistically significant indirect impact of both negative and positive emotional regulation on engagement in learning via achievement motivation.

From the aforementioned studies, it becomes evident that, despite their diverse focus on various variables related to the COVID-19 pandemic period, they collectively demonstrate its influence on university students. This influence encompasses aspects such as their psychological well-being, experiences of psychological stress, emotional turbulence, and difficulties in regulating emotions. These impacts, in one form or another, have manifested in their academic accomplishments and overall performance.

### **Study problem**

Students' responses to stress across various educational levels and their inability to effectively manage their emotions can influence the likelihood of engaging in potentially negative behaviors driven by negative emotions. In these situations, students employ various methods to cope with their anger, including suppression, direct aggression, or passive aggression, prioritizing their own needs without considering those of others. This expression of anger is often directed towards figures of authority, such as professors or university regulations. This cycle of anger can persist until the student gains better control over their emotions. Once they achieve emotional regulation, their expressions of emotion tend to manifest as positive behaviors, bolstered by self-affirmation and a greater capacity to manage their anger while considering both their personal needs and the emotions of others. As such, this study seeks to address the following two inquiries:

1. What is the extent of emotion regulation (both behavioral and cognitive) in university students amidst the COVID-19 pandemic?
2. Are there statistically significant variances in emotion regulation (both behavioral and cognitive) among university students during the COVID-19 pandemic based on their field of specialization (science or humanities)?

### **Study Objectives**

This research seeks to achieve the following objectives:

- Identifying the level of emotion regulation (both behavioral and cognitive) among university students in the context of the COVID-19 pandemic.
- Identifying the significance of differences in the level of emotion regulation (both behavioral and cognitive) among university students during the COVID-19 pandemic, taking into account gender as a variable (males versus females).

### **The Significance of the study**

The study holds substantial significance on both practical and theoretical fronts. On the applied side, it illuminates a crucial segment of society, university-level students, who stand at a pivotal stage in their transition to the broader social sphere. Their choices, both in their career paths and personal lives, significantly impact society at large. The study's results offer valuable suggestions for mentors and educators to assist these students in effectively managing their emotions and

addressing challenges in a manner that upholds emotional and cognitive well-being, preventing harm to their psychological health.

From a theoretical perspective, the study contributes to the enrichment of the Arab knowledge repository by introducing novel insights. The findings can inform the development of strategies for enhancing behavioral and cognitive emotional regulation among university students. Moreover, it paves the way for future research endeavors, encouraging scholars to delve deeper into this critical dimension of the pandemic, which directly affects the mental well-being of university students and warrants further investigation and exploration.

### **Limitations of the study**

The study's limitations are delineated by its focus on assessing emotion regulation (both behavioral and cognitive) exclusively among students enrolled in university prerequisites within the Department of Education at the University of Sharjah. This research was conducted during the COVID-19 pandemic, specifically for the academic year 2020-2021.

### **Study terms**

Emotional regulation (behavioral and cognitive) is characterized by an individual's capacity to reevaluate situations inducing psychological stress, reframing them with positive interpretations. This adaptive mechanism aims to mitigate the tension stemming from stressful circumstances and minimize their influence. It is procedurally defined through the student's score in the Emotional Regulation Questionnaire, designed for the evaluation of both behavioral and cognitive aspects of emotional regulation.

The term "Covid-19 pandemic" pertains to a global epidemic that has significantly impacted diverse facets of societies, encompassing physical and mental health, along with social and educational domains.

### **Research Methodology and Procedures**

To accomplish the study's objectives and address its research questions, a descriptive analytical approach was employed. A specific tool designed for assessing emotion regulation (both behavioral and cognitive) during the COVID-19 pandemic was administered to a sample of University of Sharjah students. Subsequently, statistical data obtained from the study was meticulously analyzed, and its outcomes were interpreted with respect to the study's objectives and research questions.

#### **1. Study Population and Sample**

The study population encompassed the University of Sharjah's applicants for the academic year 2022-2023. A randomized selection process was used to identify an exploratory sample, which

included (50) female university students from various colleges. Additionally, a study sample, termed the "application sample," comprised (100) female students from different colleges.

## 2. Study Tool

The primary research tool employed was a questionnaire designed for field research. This method is widely recognized in educational research for gathering empirical data reflecting real-world conditions and practices. The questionnaire was meticulously crafted after an extensive review of scientific literature, research studies, and publications. An exploratory questionnaire was administered to a sample of female university students to gauge the emotional regulation (behavioral-cognitive) percentages among students during the COVID-19 pandemic.

The initial questionnaire underwent a comprehensive review by a panel of experts and specialized evaluators. Their valuable feedback influenced modifications, additions, and omissions to ensure the questionnaire's validity, including the definitions of its two dimensions. Furthermore, the reviewers assessed the extent to which the dimensions effectively covered the trait under study. Table 1 delineates the relative significance of each dimension based on the experts' insights and feedback.

**Table 1.** The relative significance of each dimension

The dimension	Relative importance
Distraction-Seeking (Ignoring)	23%
Withdrawal Dimension	19%
Active Processing Dimension	27%
Request for Social Support Dimension	31%
Overall Total	100%

Subsequently, the questionnaire underwent testing with a sample of female university students to assess the clarity of the questionnaire statements and their comprehensibility. The final questionnaire was organized into the following dimensions:

- The First Dimension: Distraction-Seeking (Ignoring), comprising 5 items.
- The Second Dimension: Withdrawal, consisting of 6 items.
- The Third Dimension: Active Processing, encompassing 6 items.
- The Fourth Dimension: Request for Social Support, with 4 items.

## Instrument Validity and Reliability

The current scale exhibited two types of validity:

- **Face Validity:** To establish face validity, the instrument was presented to a panel of experts in the fields of education and psychology for evaluation. Their expert judgments contributed to the verification of face validity. The questionnaire employed a five-point rating system for response options, ranging from "Never" to "Always," each assigned a weight of 5, 4, 3, 2, and 1, respectively. Respondents could attain a maximum score of 101, a minimum score of 21, with assumed mean of 63.
- **Construct Validity:** The construct validity of the instrument was ascertained through correlation analysis, which included the following:
  - a) **Item Correlation with Total Score:** In order to assess the internal consistency of the items, the researcher employed the Pearson correlation method to compute the correlation coefficient between the score of each individual item and the overall score of the instrument. The correlation coefficients observed ranged from 0.71 to 0.92.
  - b) Various indicators were scrutinized to ascertain the construct validity of the measurement instrument, incorporating Macdonald's Omega and Composite Reliability. Furthermore, the study evaluated both convergent and discriminant validity.

The reliability of scales is often evaluated using Macdonalds Omega and composite reliability (CR). The results shown in Table 2 indicate that Macdonalds Omega ranges from 0.74, to 0.89 while CR ranges from 0.75 to 0.90. These values align with the recommended range (>0.7) suggesting a level of consistency for the scales. Furthermore, the average variance extracted (AVE) values range from 0.691 to 0.812 surpassing the threshold of 50%. Additionally when comparing the root of AVE with the intercorrelations between latent variables or factors we observe that it exceeds the loading factor value as per this criterion. These findings demonstrate that both reliability and validity are present, in these scales (AlAli & Saleh, 2022).

**Table 2.** presents the indicators and coefficients employed for the evaluation of construct validity.

Instrument	Dimensions	Items	Macdonalds Omega	CR	AVE	$\sqrt{AVE}$
knowledge management	Distraction-Seeking	5	.81	.82	0.693	0.832
	Withdrawal	6	.86	.87	0.772	0.879
	Active Processing	6	.76	.78	0.816	0.903
	Request for Social Support	4	.90	.91	0.791	0.889

- c) Item Score Relationship with Domain Score: The researcher also determined the domain correlation coefficients with the overall score and recorded all relevant data.

The instrument's reliability was assessed also using two methods:

1. Test-Retest Reliability: The researcher initially administered the test, and after a fifteen-day interval, the same test was re-administered to a randomly selected group of ten female students. The Pearson correlation coefficient was employed to determine the correlation between the scores obtained in the two administrations, resulting in a coefficient of 0.82. This level of correlation demonstrates the stability of the instrument.
2. Internal Consistency Coefficient (Cronbach's Alpha): Calculating reliability through this method yielded a coefficient of 0.80. These reliability values are indicative of the consistency in how individuals responded to the study instrument.

Several statistical methods were utilized, including:

1. The Pearson correlation equation to assess stability.
2. Fisher's equation to gauge response intensity and determine the relative weight percentage for each item in the questionnaire (Fisher, 1965, p. 228).

### Study Findings and Discussion

Addressing the First Question:

The first question aims to assess the level of emotion regulation, both behavioral and cognitive, among university students during the COVID-19 pandemic.

Upon statistically analyzing the data from the research sample consisting of (100) female students, the arithmetic means and standard deviations for both the sub-dimensions and the total score on the Emotion Regulation Questionnaire (comprising behavioral and cognitive aspects) were computed. The results revealed that the sample's average score on the questionnaire was (95.22), while the assumed mean for the scale was (63) score. Utilizing a one-sample t-test to assess the disparities between these two means, a calculated t-value of (5.955) emerged, exceeding the tabular value of (1.96) degrees at a significance level of (0.05) with a degree of freedom of (99). Since the arithmetic mean significantly surpasses the assumed mean, this suggests that the research sample exhibits emotional regulation in both behavioral and cognitive dimensions. See Table 3 for details.

**Table 3.** T-Test Results for Significance of Differences Between Sample Mean and Assumed Scale Mean

sample	Arithmetic mean	Assumed mean	standard deviation	T value	Tabular value	DF	Significance level
100	95,22	63	8,765	5,955	1,96	99	0,05

From Table 3, it is evident that the arithmetic mean (95.22) is significantly higher than the assumed mean (63). This indicates that emotion regulation among university students is notably high compared to the assumed average. This outcome can be attributed to the stability of the education system in the United Arab Emirates during the Covid-19 pandemic. The system effectively continued academic operations through virtual education. Moreover, the sense of community at the University of Sharjah played a vital role in promoting awareness and providing psychological support amidst the pandemic. These factors collectively contribute to the emotional control and regulation (both behavioral and cognitive) observed in the study sample. The high level of emotion regulation among university students can be attributed to several factors, supported by academic research. Young adulthood and cognitive development often result in improved emotional regulation skills (Gross, 2015). University students tend to develop effective coping strategies to handle academic stress (Carver et al., 1989), while social support networks available on campuses assist them in managing stress (Cohen & Wills, 1985). The diverse academic environment encourages emotional regulation development (Pekrun et al., 2011), and students frequently exhibit psychological resilience (Southwick et al., 2014). Furthermore, the transition to university life, a significant life change, fosters the growth of emotional regulation skills (Nurmi, 1992). These factors collectively contribute to the high level of emotional regulation observed among university students. This result aligns with the findings of a previous study conducted by Salim in 2020.

2- Addressing the second question, which investigates whether there are statistically significant distinctions in emotion regulation (both behavioral and cognitive) among university students during the COVID-19 pandemic based on the specialization variable (scientific or humanitarian).

The study sample, comprising 50 students from scientific specializations and 50 from humanitarian specializations, had the arithmetic means and standard deviations of their scores for the sub-dimensions and the total score on the tool calculated. Following the statistical data analysis, the results revealed that the average score on the emotion regulation scale for the scientific specialization was 94.26, while it was 90.18 for the humanitarian specialization. The standard deviation for the scientific specialization was 8.361, and for the humanitarian specialization, it was 8.766. To assess the disparities between these means, a two-independent-samples T-test was conducted. The calculated T-value was 2.381, surpassing the tabulated T-value of 1.96 with a degree of freedom of 99. This signifies that there are statistically significant distinctions. Table 4 illustrates these findings.

**Table 4.** Results of the Two-Independent-Samples T-Test to Identify Statistically Significant Differences Based on the Specialization Variable

Specialization	No.	Arithmetic mean	standard deviation	T value	Tabular value	Significance level
Science	50	94,26	8,361	2,381	1,96	0,05
Humanities	50	90,18	8.766			

This signifies that there are statistically significant variations favoring the scientific major, indicating that female students in the scientific major exhibit superior emotional regulation skills compared to their counterparts in the humanities major. This is evident when comparing the average score of female students in the scientific major, which is 94.26 with a standard deviation of 8.381, and the average score of female students in the humanities major, which is 90.18 with a standard deviation of 8.766. These results indicate that emotional regulation among female students in the scientific major is more developed than among those in the humanities major. This outcome can be rationalized by considering that female students in the scientific specialization have a greater capacity to manage their emotions in stressful situations and experience lower levels of anxiety compared to their peers in the humanities specialization, as Allawi's study suggests that nervousness is often linked to emotional arousal (Allawi, 1981, p. 148). In scientific majors, the curriculum and educational environment typically involve structured, problem-solving activities and rigorous coursework, fostering discipline, organization, and resilience, which are crucial for emotional regulation. Conversely, humanities majors often entail more subjective and open-ended assignments, offering less structural support. Students in scientific fields tend to develop coping strategies like time management and task breakdown, which extend to effective emotional regulation, aiding in stress and anxiety management. The analytical nature of scientific disciplines enhances mental resilience, equipping students to navigate emotional challenges. The perception of direct career relevance motivates scientific students to excel academically, positively influencing emotional regulation. Additionally, scientific programs often provide robust support networks, including tutoring and counseling services, reducing academic-related stress. Some students in scientific fields may possess personality traits like conscientiousness and detail orientation, supporting effective emotional regulation and resilience in the face of challenges. The observed difference is likely influenced by the varying approaches of scientific and humanities disciplines, which impact thought processes and responses to various factors, as reflected in the organization of the study sample's responses. This result is consistent with findings in a study conducted by Marai in 2019.

## **Conclusions**

In summary, the following conclusions can be drawn:

1. The study's sample of university students demonstrates emotional regulation, encompassing both behavioral and cognitive aspects.
2. The students' field of specialization has a discernible impact on their emotional regulation, with female students in scientific majors exhibiting higher levels of emotional regulation than their counterparts in the humanities majors.

## **Recommendations**

The study proposes the following recommendations:

1. Implement cognitive restructuring programs for female students specializing in humanities to bolster their self-perception of being capable of managing and surmounting future challenges and pressures.
2. Establish tailored counseling initiatives that underscore the utilization of problem-focused coping strategies within psychological clinics, educational institutions, universities, and workplace environments. This is crucial to shield individuals from potential psychological disorders and physical health issues stemming from sudden and novel events.
3. Promote awareness of psychological resilience and the significance of emotional regulation among university students.

### **Future Directions**

The study puts forward the following suggestions:

1. Undertake a correlational investigation to explore the associations between emotion regulation (both behavioral and cognitive) and additional variables, including locus of control, self-concept, extroversion, and introversion.
2. Examine the interrelationship between emotion regulation (both behavioral and cognitive) and parental upbringing styles within the context of university students.

### **Conflict of Interest Statement**

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as potential conflicts of interest.

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### **Data Availability Statement**

The raw data supporting the conclusions of this article will be provided by the authors on request, without undue reservation.

### **Informed Consent Statement**

Informed consent was obtained from all the subjects of the study.

### **Authors' Contributions**

All authors contributed to the article and approved the final submitted version.

## References

- Abdel Aziz, Rasha (2021). The mediating role of boredom in the relationship between social fears, psychological distress, and sleep disorders as psychological problems related to the Corona pandemic among female university students. *Egyptian Journal of Psychological Studies*, 31(112), 235-280.
- Aladdin, J., Al-Sharifin, A., Ahmad, A., Al-Shoubaki, N., &Aboud, M. (2021): The psychological impact and mental health status during the Coronavirus pandemic among a sample of Jordanian university students. *Jordanian Journal of Educational Sciences*, 17(3), 455-473.
- Ali, R. M. A., & Saleh, S. (2023). The efficiency of the distance learning system and contributions of behavioural practices to motivation and passion for research in metacognition in its prediction. *International Journal of Learning and Change*, 15(6), 623-654.
- AlAli, R. & Saleh, S. (2022). Towards Constructing and Developing a Self-Efficacy Scale for Distance Learning and Verifying the Psychometric Properties. *Sustainability*, 14, 13212. <https://doi.org/10.3390/su142013212>
- Al-Rabdi, Sufyan (2020). Psychological problems resulting from the emerging coronavirus (Covid-19) pandemic among Qassim University students. *Journal of Educational Sciences, Cairo University*, 4 (4), 253-287.
- Droulers, O., Lacoste-Badie, S., &Malek, F. (2015). Age-related differences in emotion regulation within the context of sad and happy tv programs. *Psychology & Marketing*, 32(8), 795-807.
- Gross, J. J., & Thompson, R. A., (2007). *Emotion regulation: Conceptual foundations*. In J. J. Gross (Ed.), *Handbook of emotion regulation* (pp. 3–24). New York, NY: Guilford Press.
- Hantoul, Ahmed (2021). Social anxiety related to the new Corona virus pandemic, and its relationship to both psychological immunity and emotional balance among a sample of Jazan University students. *Journal of Arab Studies in Education and Psychology*, 131, 333-354.
- Issa, Iman (2021). The psychological consequences of social distancing and its relationship to academic procrastination and beyond mood in light of the Covid-19 pandemic. *Journal of the Faculty of Education - Ain Shams University*, 45(1), 287-345.
- Issa, Majed& Al-Kholy, Manal (2021). Academic burnout among university students during the COVID-19 pandemic in light of psychological resilience and achievement goal orientations. *Journal of Education Al-Azhar University*, 189(5), 100-173.
- Khalaf, M. Al Saei, T. (2021). Psychological problems resulting from the new Corona virus and their relationship to the pressures of electronic learning and assessment among a sample of

students from the College of Education, Sultan Qaboos University. *Journal of Educational and Psychological Studies*, 15(2), 256-276.

Maftai, A., Merlici, I. A., & Roca, I. C. (2022). Implications of the COVID-19 pandemic on children and adolescents: Cognitive and emotional representations. *Children*, 9(3), 359.

Musleh, Tamara and Hegazy, Two Tours (2021). The impact of the Corona pandemic on the social, emotional, health, technological, and economic behaviors of university students in the West Bank Governorate. *Lark Journal of Philosophy, Linguistics and Social Sciences*, 4(43), 435-462.

Othman, Othman (2008). *The degree of anxiety among West Bank University students in Palestine and its relationship to some variables*. Published master's thesis, Palestinian Guidance Center, Palestine

Rafallah, A.& Atta, S. (2021). Analyzing the path of causal relationships between psychological stress, cognitive-emotional regulation, achievement motivation, and engagement in distance learning among university students in light of the Corona pandemic. *Journal of Scientific Research in Education - Ain Shams University*, 22(2), 188-264.

Taalab, Sabrin (2020). Academic hope in light of the coronavirus pandemic (covid-19) among female students of Qassim university colleges and its relationship to demographic variables and future anxiety, self-compassion, cognitive emotions regulation. *Journal of the Faculty of Education, Ain Shams University*, 44 (3), 182-188. 10.21608/JFEPS.2021.140234

Webb, T. L., Miles, E., & Sheeran, P. (2012). Dealing with feeling: a meta-analysis of the effectiveness of strategies derived from the process model of emotion regulation. *Psychological bulletin*, 138(4), 775-808.

Gross, J. J. (2015). Emotion regulation: Current status and future prospects. *Psychological Inquiry*, 26(1), 1-26.

Carver, C. S., Scheier, M. F., & Weintraub, J. K. (1989). Assessing coping strategies: A theoretically based approach. *Journal of Personality and Social Psychology*, 56(2), 267-283.

Cohen, S., & Wills, T. A. (1985). Stress, social support, and the buffering hypothesis. *Psychological Bulletin*, 98(2), 310-357.

Pedrosa, A. L., Bitencourt, L., Fróes, A. C. F., Cazumbá, M. L. B., Campos, R. G. B., de Brito, S. B. C. S., & Simões e Silva, A. C. (2020). Emotional, behavioral, and psychological impact of the COVID-19 pandemic. *Frontiers in psychology*, 11, 566212.

Pekrun, R., Goetz, T., Frenzel, A. C., Barchfeld, P., & Perry, R. P. (2011). Measuring emotions in students' learning and performance: The Achievement Emotions Questionnaire (AEQ). *Contemporary Educational Psychology*, 36(1), 36-48.

Southwick, S. M., Bonanno, G. A., Masten, A. S., Panter-Brick, C., & Yehuda, R. (2014). Resilience definitions, theory, and challenges: Interdisciplinary perspectives. *European Journal of Psychotraumatology*, 5(1), 25338.

Nurmi, J. E. (1992). Age, sex, social class, and quality of family interaction as determinants of adolescents' future orientation: A developmental task interpretation. *Adolescence*, 27(106), 983-1001.