

The Evaluation of Anxiety Levels among Students during Academic Exams

¹Prof. Thamer Al Hilfi, ²Prof. Intisar Abdul Ghani

¹MBChB/FICMS /FFPH (Corresponding Author)

Acting Head of Nursing College / Madenat Al Elem University College, alhilfit@mauc.edu.iq

² Head of Nursing Department/ Madenat Al Elem University College, intesar.a.abbas@mauc.edu.iq

How to cite this article:Thamer Al Hilfi, Intisar Abdul Ghani (2024). The Evaluation of Anxiety Levels among Students during Academic Exams. *Library Progress International*, 44(3), 4873-4886.

ABSTRACT

Globally, exam-related anxiety is a widespread issue, affecting approximately 30-40% of students at various academic levels, with some studies indicating higher prevalence rates in regions with more competitive educational environments. According to a report by the World Health Organization (WHO), up to 20% of students worldwide may experience mental health issues, including anxiety and depression, exacerbated by academic stress. The study is conducted at health colleges within selected universities in Baghdad/Iraq, focusing on programs such as nursing, medicine, and public health. These colleges were chosen due to the high academic demands placed on students and the prevalence of national standardized exams within these disciplines. Observations indicate that exam-related anxiety and depression are notable among healthy college students. When compared to global and regional data, these findings reveal that unified national academic exams in the Arab region significantly contribute to mental health issues. High levels of anxiety and depression were found to affect academic performance adversely. These mental health issues impair key cognitive functions such as concentration, memory retention, and problem-solving abilities, making it difficult for students to perform to their potential.

Introduction

In the Arab region, unified national academic exams, such as the General Secondary Education Certificate Examination (Tawjihi) in Jordan, the Baccalaureate exam in Lebanon, and similar national tests in countries like Egypt, Saudi Arabia, and Iraq, are pivotal milestones for students. These exams typically cover a broad curriculum and are crucial in determining university admissions, scholarships, and even career paths. In Iraq, for example, students preparing for national exams can experience immense pressure, often leading to mental health challenges, including exam-related anxiety and depression^{1,2,3}

Globally, exam-related anxiety is a widespread issue, affecting approximately 30-40% of students at various academic levels, with some studies indicating higher prevalence rates in regions with more competitive educational environments. According to a report by the World Health Organization (WHO), up to 20% of students worldwide may experience mental health issues, including anxiety and depression, exacerbated by academic stress.

The unified nature of these national exams, combined with the cultural emphasis on academic success in many Arab countries, amplifies the pressures faced by students. This study aims to assess the levels of anxiety and depression among students during the exam period, examining how these factors impact academic performance and overall mental well-being. By identifying the prevalence of these mental health issues, the research seeks to contribute to developing strategies for improving student mental health support systems, particularly regarding academic stress^{4,5,6}

Anxiety and depression represent a challenge for academic students during participation in academic tests with debate about the prevalence affecting their academic achievements and their health well-being including mental capacity. Our study aims to identify levels of anxiety related to exams and possible depression cases and accompanying symptoms among those involved in exams

The study aimed to examine anxiety levels among the target group, determine how exam scores related to measured anxiety, and assess whether demographic factors influenced this relationship about academic achievement. The study focuses on the impact of test anxiety on students' academic performance and learning. Many studies identified the possible elements including emotional and its possible relation to exams¹. Others concluded the positive relation between teachers and the level of psychological stress which may impact negatively on job satisfaction^{2,3,4}.

The brain may be affected structurally and lead further to mental problems. Epidemiological studies and findings support the positive relationship in that endeavor. Others described the correlation as a complex anxiety phenomenon^{7,8}.

Methodology

To gauge anxiety levels, the State-Trait Anxiety Inventory (Annex). In addition, for depression measurement purposes, we utilize the Patient's Health Questionnaire which features well-structured questions.

This study will utilize a cross-sectional design to assess exam-related anxiety and possible depression among students from selected health colleges. The aim is to gather data at a specific point in time, identifying the prevalence and severity of anxiety and depression symptoms during the exam period. The study is conducted at health colleges within selected universities in Baghdad/Iraq, focusing on programs such as nursing, medicine, and public health. These colleges were chosen due to the high academic demands placed on students and the prevalence of national standardized exams within these disciplines.

Methodological approach

Between March 2023 and April 2024, a descriptive study was conducted to ascertain the anxiety levels of university students who underwent ministerial evaluation exams. A non-probability purposive sample of (510) students from Madinat Al-Ilm University College, Al-Farahidi College, Heritage College, Al-Farabi College, University of Baghdad, Al-Kindi University of Medical Sciences, Al Israa University Ashur and University was chosen to assess the anxiety levels before exams. Moreover, to gauge anxiety levels and depression measurement, we used the West-Side Anxiety Scale and the Patient's Health Questionnaire. The information was gathered through a combination of questionnaire format and student interviews.

- **Inclusion criteria:**

- Undergraduate students from health-related programs.
- Students who have recently taken, or are preparing to take, national standardized exams.
- Willingness to participate and provide informed consent.

- **Exclusion criteria:**

- Students are not currently involved in exams.
- Students with pre-existing, diagnosed psychiatric conditions unrelated to academic stress.

A target sample size of 400 students is selected across multiple universities, with proportional representation from different health colleges.

Tools for data use

1. **Accompanying Symptoms:**
Questions will gather data on physical and cognitive symptoms experienced during the exam period, such as difficulty sleeping, concentration problems, and fatigue.
2. **Demographic Data:**
Information about participants' ages, genders, academic years, and specific health programs will be collected to enable subgroup analysis.

Data Collection Procedure:

Data is collected during the peak exam period to capture the most accurate representation of anxiety and depression levels. All participants will provide informed consent, with assurances of anonymity and confidentiality. Mental health resources will be made available to participants who may experience distress during the survey, with referrals provided as necessary. The sampling methodology will allow us to focus on a population that is highly relevant to the study objectives and to identify the mental health challenges that students in health colleges face during high-stakes exams. This purposive sampling methodology will allow us to focus on a

population that is highly relevant to the study objectives and to identify the mental health challenges that students in health colleges face during high-stakes exams.

Results

Table (1) Frequency distribution of the study group

item	male	female	total
Number of the study group	290	220	510
percent	57%	43%	

Table
(2)

Analyzing anxiety levels of male and female students during evaluation exam score

1.	State Anxiety Scale items	sex	0 Not at all	1 little	2 Somewhat	3 Very Much so
2.	I feel calm	Male	69	97	69	37
		female	55	86	49	21
3.	I feel secure	Male	73	85	83	46
		female	73	71	60	21
4.	I am tense	Male	66	94	73	52
		female	27	65	72	70
5.	I feel strained	Male	62	102	77	48
		female	34	70	65	48
6.	I feel at ease	Male	83	85	74	46
		female	67	79	65	16
7.	I feel upset	Male	79	83	79	45
		female	60	53	58	45
8.	I am presently worrying over possible misfortunes	Male	63	90	74	57
		female	43	73	69	64

9.	I feel satisfied	Male	71	87	74	51
----	------------------	------	----	----	----	----

		female	67	77	55	20
10.	I feel frightened	Male	90	83	59	40
		female	64	61	46	46
11.	I feel comfortable	Male	75	69	75	40
		female	84	65	44	34
12.	I feel self-confident	Male	67	71	68	72
		female	54	83	51	41
13.	I feel nervous	Male	66	98	65	58
		female	38	61	51	67
14.	I am jittery	Male	72	93	77	40
		female	46	75	48	45
15.	I feel indecisive	Male	54	103	79	49
		female	46	80	55	32
16.	I am relaxed	Male	77	63	77	59
		female	72	66	49	29
17.	I feel content	Male	61	102	62	63
		female	66	75	45	38

18.	I am worried	Male	39	47	76	118
		female	34	48	68	74
19.	I feel confused	Male	63	93	84	54
		female	43	63	50	65
20.	I feel steady	Male	48	105	85	43
		female	54	67	26	44
21.	I feel pleasant	Male	97	78	73	42
		female	96	60	42	25
22.	I feel nervous and restless	Male	76	91	64	48
		female	43	58	54	61
23.	I feel satisfied with myself	Male	66	87	75	55
		female	45	70	66	44
24.	I wish I could be as happy as others seem to be	Male	74	73	63	70
		female	55	54	40	56
25	I feel like a failure	Male	116	78	76	39
		female	97	49	36	25
26	I feel rested	Male	74	103	60	44
		female	84	66	46	31
27	I am "calm, cool, and collected"	Male	63	76	72	65

		female	70	63	49	35
28	I feel that difficulties are piling up so that I cannot overcome them	Male	76	106	52	50
		female	53	64	39	46
29.	I worry too much over something that doesn't matter	Male	66	99	67	46
		female	43	70	50	49
30.	I am happy	Male	81	84	70	40
		female	82	60	54	22
31.	I have disturbing thoughts	Male	56	86	73	67
		female	39	67	58	46
32.	I lack self-confidence	Male	94	83	61	40
		female	85	64	40	20
33.	I feel secure	Male	81	93	65	35
		female	69	76	41	25
34.	I make decisions easily	Male	70	91	66	47
		female	60	74	44	42
35.	I feel inadequate	Male	67	96	62	45
		female	72	73	63	29
36	I am content	Male	59	100	76	42
37.	Some unimportant thought runs through my mind and bothers me	Male	49	75	86	81

		female	33	58	56	61
38.	I take disappointments so keenly that I can't put them out of my mind	Male	66	83	70	63
		female	61	67	54	41
39.	I am a steady person	Male	46	79	76	69
		female	38	58	62	49

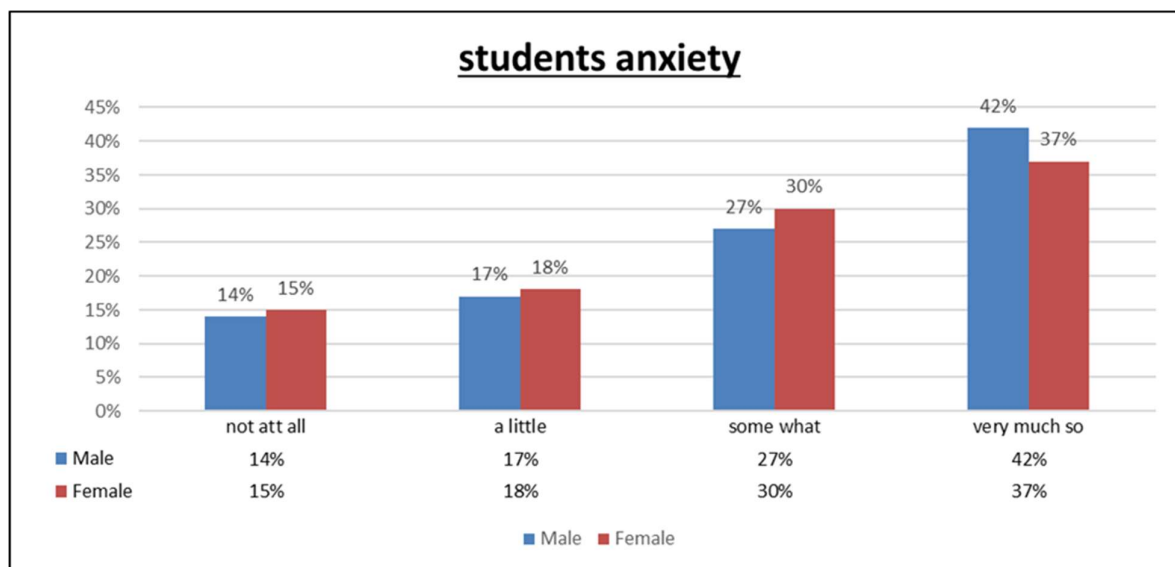


Figure: The anxiety level of male and female students during evaluation exams varies according to their overall score.

Discussion

1. Prevalence of Anxiety and Depression:

Observations indicate that exam-related anxiety and depression are notable among healthy college students. When compared to global and regional data, these findings reveal that unified national academic exams in the Arab region significantly contribute to mental health issues. The pressure of these high-stakes exams elevates anxiety and depression levels, surpassing those in regions with more flexible academic systems. Differences based on demographics, such as gender, academic year, and specific health programs, show that females often report higher anxiety and depression levels, while first-year students tend to be more susceptible due to the transition into a higher education environment.

2. Impact on Academic Performance:

There is a clear correlation between anxiety and depression levels and academic performance. Higher anxiety and depression are linked to poorer academic outcomes, reduced cognitive function, and concentration difficulties during exams. Students suffering from these mental health challenges often score lower on exams and struggle with retaining information. This highlights the need for academic institutions to consider mental well-being as a critical factor in academic success^{9,10}

3. Symptoms and Severity:

Students report a range of physical and cognitive symptoms during exam periods, including sleep disturbances, fatigue, and concentration issues. These symptoms vary in severity, from mild to severe, and align with findings from other regional and global studies. While mild cases might experience occasional sleep issues or mild anxiety, severe cases may suffer from persistent insomnia, chronic fatigue, and debilitating anxiety, significantly impacting their daily lives and academic performance.

3. Cultural and Social Influences:

Cultural expectations and societal pressures play a pivotal role in influencing students' mental health. In the Arab region, family expectations to perform exceptionally well and the fear of failure intensify pressure, exacerbating anxiety and depression. The societal value placed on academic success creates an environment where students feel immense external pressures, leading to heightened mental health challenges during exam periods.

5. Gender and Mental Health:

Gender differences in anxiety and depression levels reveal that female students generally report higher levels of both conditions. This disparity is influenced by societal roles and expectations, where females may face additional pressures related to academic and personal responsibilities. When compared with studies from other regions, these findings show a mix of culturally specific and globally consistent patterns, indicating that while gender roles impact mental health universally, cultural nuances can intensify these effects in specific regions.

6. Coping Mechanisms and Resilience:

Students employ various coping mechanisms to manage exam-related stress and anxiety. Effective strategies include establishing structured study habits, seeking social support from peers and family, and utilizing professional mental health services. Differences in coping strategies across disciplines, academic years, and demographics suggest that certain methods, like organized study schedules or timely access to mental health services, are more effective in mitigating stress. Senior students, particularly those in demanding disciplines, tend to develop more refined coping mechanisms over time.

7. Implications for Mental Health Interventions:

The study's findings emphasize the need for robust mental health services and support within educational institutions. Implementing mental health programs, counseling services, and awareness campaigns can significantly aid students in managing exam-related stress and anxiety. Institutions should prioritize creating environments that foster mental well-being, offering resources and support systems that address the specific needs of their student populations, ultimately contributing to better academic and personal outcomes ^{11,12,13}

Conclusion

College exams have long been a source of significant anxiety and depression among students, presenting unique challenges that educational institutions must address. Our study identifies the complex interplay of factors, including academic performance, maternal education, gender, and prior test experience, that contribute to exam-related mental health issues. Notably, female students whose mothers possess advanced degrees seem particularly vulnerable, underscoring the urgent need for targeted mental health interventions

1. High Prevalence of Anxiety and Depression

The study highlighted a substantial prevalence of anxiety and depression among college students during exam periods. Both mild to moderate symptoms were common, with a critical subset experiencing severe symptoms. This underscores the urgent need for mental health services that can effectively cater to these diverse levels of need.

2. Negative Impact on Academic Performance

High levels of anxiety and depression were found to affect academic performance adversely. These mental health issues impair key cognitive functions such as concentration, memory retention, and problem-solving abilities, making it difficult for students to perform to their potential.

3. Identification of Key Symptoms

Various physical and cognitive symptoms associated with exam-related anxiety were identified. Symptoms like sleep disorders, fatigue, and difficulties in concentration not only hamper academic performance but also affect overall well-being. Recognizing these symptoms can be the first step in providing timely interventions.

4. Variation Across Demographics

The study uncovered significant variations in anxiety and depression across different demographics. Female students reported higher levels of anxiety and depression compared to their male counterparts. Moreover, senior students, facing career-defining exams, exhibited elevated levels of anxiety compared to juniors. These variations emphasize the need for demographic-specific mental health strategies.

5. Cultural Insights into Mental Health

The study also explored how cultural and social factors influence mental health among students in the Arab region. Family expectations and societal pressures have a more pronounced impact in this context, differentiating the findings from those in other parts of the world. This highlights the necessity for culturally sensitive mental health programs.

6. Recommendations for Institutional Support

The findings underscore the crucial role of educational institutions in providing robust mental health support systems. Universities and health colleges should offer counseling services, stress management programs, and peer support networks. Additionally, creating student-friendly interventions aimed at reducing academic stress can significantly promote psychological well-being.

7. Basis for Future Research

The study serves as a foundation for future research on mental health interventions tailored specifically to academic exam settings in the Arab region. It also offers a framework for comparing regional and global mental health trends among students, paving the way for more effective, localized interventions.

In conclusion, educational institutions must recognize and address the multi-layered nature of exam-induced anxiety and depression among students. By implementing targeted mental health services and support systems, schools can help mitigate the adverse effects of these issues, paving the way for improved academic performance and overall well-being.

This clearance is granted by both the MAUC and the participants.

The origin of the findings is self-collected

There is no conflict of interest.

References

1. https://www.researchgate.net/publication/369295697_Exploring_the_Root_Causes_of_Examination_Anxiety_Effective_Solutions_and_Recommendations
2. <https://www.sciencedirect.com/science/article/pii/S0742051X14000237>
3. <https://www.sciencedirect.com/science/article/abs/pii/S0742051X15001031>
4. <https://dergipark.org.tr/en/pub/kebd/issue/67219/1049095>
5. https://www.who.int/news-room/questions-and-answers/item/stress/?gad_source=1&gclid=CjwKCAjwvIWzBhAlEiwAHHWgvV4plp-8wORKqY3qiL4-r_HTZGdVw-pQfLvuOpeFsh_CMnut75BORoC_dsQAvD_BwE

6. <https://pubmed.ncbi.nlm.nih.gov/30201713/>
7. <https://d-nb.info/1232618632/34>
8. https://www.researchgate.net/publication/292606747_Consequences_of_Job_Stress_for_the_Mental_Health_of_Teachers
9. <http://article.sapub.org/10.5923.j.ijpbs.20150501.04.html>
10. <https://pubmed.ncbi.nlm.nih.gov/27104548/>
11. <https://psychcentral.com/blog/you-cant-unhit-a-child-anxiety-and-corporal-punishment#1>
12. https://www.researchgate.net/publication/305888212_Gender_Differences_in_Test_Anxiety_and_Their_Impact_on_Higher_Education_Students'_Academic_Achievement
13. <https://bpasjournals.com/library-science/index.php/journal/article/view/944/568>
14. Spielberger, C. D., & Sydeman, S. J. (1994). State-Trait Anxiety Inventory and State-Trait Anger Expression Inventory. In M. E. Maruish (Ed.), The use of psychological tests for treatment planning and outcome assessment (pp. 292-321). Hillsdale, NJ: LEA
State-Trait Anxiety Inventory (Form Y) ¹⁴

Name Andre Dean	Date Oct 6, 2022			
Read each statement and select the appropriate response to indicate how you feel right now, that is, at this very moment. There are no right or wrong answers. Do not spend too much time on any one statement but give the answer which seems to describe your present feelings best.				
State Anxiety Scale Items	Rating			
	0 Not at all	1 A little	2 Some-what	3 Very much so
1. I feel calm	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> ✓	<input type="checkbox"/>
2. I feel secure	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> ✓	<input type="checkbox"/>
3. I am tense	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> ✓	<input type="checkbox"/>
4. I feel strained	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> ✓	<input type="checkbox"/>
5. I feel at ease	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> ✓	<input type="checkbox"/>

6. I feel upset	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> ✓	<input type="checkbox"/>
7. I am presently worrying over possible misfortunes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> ✓	<input type="checkbox"/>
8. I feel satisfied	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> ✓	<input type="checkbox"/>
9. I feel frightened	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> ✓	<input type="checkbox"/>
10. I feel comfortable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> ✓	<input type="checkbox"/>

11. I feel self-confident	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> ✓	<input type="checkbox"/>
12. I feel nervous	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> ✓	<input type="checkbox"/>
13. I am jittery	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> ✓	<input type="checkbox"/>
14. I feel indecisive	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> ✓	<input type="checkbox"/>
15. I am relaxed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> ✓	<input type="checkbox"/>
16. I feel content	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> ✓	<input type="checkbox"/>
17. I am worried	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> ✓	<input type="checkbox"/>
18. I feel confused	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> ✓	<input type="checkbox"/>

19. I feel steady	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> ✓	<input type="checkbox"/>
20. I feel pleasant	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> ✓	<input type="checkbox"/>
Trait Anxiety Scale Items	Rating			
	0 Almost never	1 Some- times	2 Often	3 Almost always
21. I feel pleasant	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> ✓	<input type="checkbox"/>
22. I feel nervous and restless	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> ✓	<input type="checkbox"/>
23. I feel satisfied with myself	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> ✓	<input type="checkbox"/>
24. I wish I could be as happy as others seem to be	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> ✓	<input type="checkbox"/>
25. I feel like a failure	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> ✓	<input type="checkbox"/>
26. I feel rested	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> ✓	<input type="checkbox"/>
27. I am "calm, cool, and collected"	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> ✓	<input type="checkbox"/>
28. I feel that difficulties are piling up so that I cannot overcome them	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> ✓	<input type="checkbox"/>
29. I worry too much over something that really doesn't matter	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> ✓	<input type="checkbox"/>

30. I am happy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> ✓	<input type="checkbox"/>
31. I have disturbing thoughts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> ✓	<input type="checkbox"/>
32. I lack self-confidence	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> ✓	<input type="checkbox"/>
33. I feel secure	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> ✓	<input type="checkbox"/>
34. I make decisions easily	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> ✓	<input type="checkbox"/>
35. I feel inadequate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> ✓	<input type="checkbox"/>
36. I am content	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> ✓	<input type="checkbox"/>
37. Some unimportant thought runs through my mind and bothers me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> ✓	<input type="checkbox"/>
38. I take disappointments so keenly that I can't put them out of my mind	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> ✓	<input type="checkbox"/>
39. I am a steady person	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> ✓	<input type="checkbox"/>
40. I get in a state of tension or turmoil as I think about my recent concerns and interests	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> ✓	<input type="checkbox"/>
State Anxiety Scale total score:				40
Trait Anxiety Scale total score:				40
Scoring				

The State-Trait Anxiety Inventory Form Y consists of two separate state and trait anxiety scores. Each score is calculated differently. Add the total number of responses for items 1- 20 to calculate the state anxiety score. Add the total number of responses for items 21-40 to calculate the trait anxiety score.

Additional notes

Refer for further evaluation and diagnosis