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Evaluating the Meichenbaum-based Counselling Program in Reducing Cyber Disease Anxiety and Increasing Self-efficacy among University Students

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ABSTRACT

Objective: The study aims to identify the prevalence of cyberchondria and low self-efficacy among university students. Additionally, it aims to design a psychological counseling program based on Meichenbaum's theory to reduce cyberchondria and increase self-efficacy among students. Furthermore, it seeks to verify the sustainability of the counseling program after two months of its implementation. **Methodology**: A sample of 341 students, aged 19 to 25 years old, was used. These students were equally divided into an experimental group and a control group. Both groups were assessed using the disease anxiety and self-efficacy scales (pre-post). Only the experimental group received the counseling program. **Results:** The study revealed significant differences in the mean scores of the experimental group in the post-test, indicating a decrease in disease anxiety scores and an increase in self-efficacy scores. Moreover, the study found significant differences in the disease anxiety and self-efficacy scales between the experimental and control groups in the post-test, with the experimental group demonstrating better outcomes. Notably, no statistically significant differences were found in the mean scores of the experimental group in disease anxiety and self-efficacy between the post-test and follow-up tests.

Introduction

The university stage is one of the most important stages that affect the lives of students, and its impact extends to the society in which they live. In this stage, the student seeks to fulfill their different needs, including the need for psychological security and peace of mind. This will push them to engage in positive behaviors, to avoid anything that threatens their health and psychological well-being. This is normal, but we find that some people may exaggerate their interest in achieving health security. They resort to websites to search for organic and psychological diseases and their symptoms, which leads to their becoming afraid and tense about the possibility of contracting a

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chronic illness. This affects their psychological, physical, and social health. This is known as illness anxiety disorder. This disorder had been previously known as hypochondriasis until the publication of the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5). In the DSM-5, hypochondriasis was merged with pain disorder and somatic symptom disorder to create a new category called somatic symptom disorder. A new category called illness anxiety disorder was also created. Illness anxiety disorder is characterized by a persistent fear of having a serious illness despite the absence of any physical symptoms.

Cyber illness anxiety disorder (CIAD) is characterized by the excessive use of the internet to search for information about diseases and their symptoms. This can lead to anxiety, as the person may misinterpret common symptoms of minor illnesses or normal physiological phenomena as being signs of a serious, life-threatening illness (Abramowitz et al., 2007; Ibrahim, 2020). One of the definitions of cyber illness anxiety disorder (CIAD) is that it is characterized by excessive and repetitive searching for health-related information on the internet, driven by distress or anxiety about health. Studies (Abramowitz et al., 2007; American Psychiatric Association, 2013) have shown that people turn to the internet for health and psychological support and seek reassurance. They can search different websites,

The Diagnostic and Statistical Manual of Mental Disorders (DSM-5) has defined the criteria that can be used to diagnose illness anxiety disorder (IAD), which are:

1. Preoccupation with having a serious illness.
2. Physical symptoms are not present, or if present, are mild in intensity.
3. High level of anxiety about health.
4. The individual engages in excessive health-related behaviors.
5. The symptoms last for at least 6 months.
6. The preoccupation associated with illness anxiety disorder is not secondary to another mental disorder, such as panic disorder, generalized anxiety disorder, or obsessive-compulsive disorder (American Psychiatric Association, 2013).

The prevalence of illness anxiety disorder (IAD) is estimated to be between 5% and 7% in the general population. It is more common in people who have had a serious illness in the past, with a prevalence of up to 17%. This is supported by a study by Ezmeirlly and Farahat (2019), which aimed to estimate the prevalence of IAD among Saudi medical students. The study found that 17% of students had IAD. A study by Meng et al. (2019), which was conducted on 6,317 students in China, found that the prevalence of illness anxiety symptoms was 28%. In the same context, a study by Xiong et al. (2020) was conducted on 223 nurses during the COVID-19 pandemic. The study found that the prevalence of anxiety was 40.8% and the prevalence of depression was 26.4%. The study also found that there was a negative correlation between anxiety and self-efficacy. The study recommended improving the self-efficacy of nurses in dealing with infectious diseases.

The researcher believes that self-efficacy plays a major role in reducing anxiety levels. Individuals with high self-efficacy have confidence in themselves, have good psychological adjustment, and are able to cope with the challenges of life. This is supported by the findings of a study by Simonetti et al. (2021), which aimed to identify

the prevalence of anxiety, sleep disorders, and self-efficacy levels among nurses facing COVID-19. The sample consisted of 1,005 nurses. The results revealed high levels of anxiety, sleep disorders, and low self-efficacy among nurses, and a positive relationship between low self-efficacy and anxiety disorders. Self-efficacy plays a major role in achieving mental and physical health, happiness, and psychological stability in individuals. A study by Călinici et al. (2020), which was conducted on 151 students, found a positive correlation between self-efficacy and well-being, and a negative correlation between self-efficacy and depression, anxiety, and stress. A study by Krok and Gerymski (2019), which was conducted on 176 heart patients, found a positive correlation between meaning in life and self-efficacy, and a decrease in the levels of meaning in life and self-efficacy in heart patients. A study by Lee and Fang (2015), which was conducted on 45 patients with psychogenic headache, found that psychogenic headache patients showed low levels of self-efficacy, and self-efficacy was also negatively correlated with anxiety. Therefore, the researcher believes that a person with low self-efficacy who suffers from cyberchondria is controlled by irrational thoughts that push them to think in an extreme and exaggerated way about being infected with a serious illness.

He/she cannot control their emotions, loses confidence in themselves, and focuses on and exaggerates some minor symptoms that may appear in all individuals, such as a cough, fatigue, or a mild stomachache. He/she cannot cope with these pressures, so he/she begins to focus excessively on examining their body, which increases their anxiety about their health. He/she then turns to the internet to search for these symptoms, learn about diseases, and read about the suffering of others from these diseases. Therefore, we find that cognitive behavioral therapy (CBT) focuses on identifying the emotions that cause excessive anxiety about health symptoms and tries to change those emotions by changing automatic thoughts and negative thoughts. It also aims to change behaviors so that individuals stop playing the role of the patient and reduce internet searches. CBT is effective in treating associated disorders (Davey, 2021).

On the other hand, the results of many studies have shown the effectiveness of cognitive behavioral therapy-based counseling interventions, which have achieved success in reducing many mental disorders. For example, a study by Hassan and Jaafar (2022) found that cognitive behavioral therapy was effective in reducing seasonal affective disorder (SAD) in university students. A study by Moqbil, Salem and Metwally (2022) found that cognitive behavioral therapy was effective in improving self-esteem in female students with diabetes. A study by Schaarsberg et al. (2022) found that cognitive behavioral therapy was effective in treating disruptive behavior in 18 adolescents by addressing cognitive distortions, and the positive effects of the intervention persisted at follow-up. A study by Jabr and Hassan (2022) found that cognitive behavioral therapy was effective in reducing marital phobia in a sample of 4 males and females, and the effectiveness of the program persisted after the intervention was completed.

Cognitive behavioral therapy (CBT) has also been shown to be effective in reducing mood swings in people with bipolar disorder and mood disorders (Wright et al., 2021). It has been effective in treating diabetes in a group of adolescents by improving mental health and reducing the severity of depression and anxiety (Rechenberg & Koerner, 2021). Additionally, it has been effective in treating the negative effects of cyberbullying in 127

secondary school students and maintaining the effectiveness of the program in the follow-up measurement (Ibrahim, 2020). CBT has also been successful in improving the mental health of university students by reducing depression, improving self-esteem and interpersonal relationships among students, and maintaining this improvement after the completion of the program. It has also been effective in treating illness anxiety disorder (Scarella et al., 2019) and reducing health anxiety and depression (Owens et al., 2019).

Meichenbaum (2014) asserts that cognitive behavioral therapy (CBT) has achieved great success in teaching individuals coping skills for situations that cause stress and fear. This leads to increased confidence and psychological stability. Meichenbaum's model for treating mental disorders is characterized by the multiplicity of counseling techniques it uses, including:

1. Self-observation: This technique helps individuals become aware of their thoughts, feelings, and behaviors.
2. Thought stopping: This technique helps individuals interrupt negative or irrational thoughts.
3. Self-talk: This technique helps individuals develop more positive and realistic self-talk.
4. Cognitive restructuring: This technique helps individuals identify and challenge negative or irrational beliefs.
5. Self-instructional training: This technique helps individuals develop a set of coping skills to deal with difficult situations.
6. Self-control: This technique helps individuals regulate their thoughts, feelings, and behaviors.
7. Modeling: This technique helps individuals learn new behaviors by observing others.
8. Self-reinforcement: This technique helps individuals reward themselves for positive behaviors.
9. Mental relaxation: This technique helps individuals relax their muscles and mind.
10. Imagination: This technique helps individuals visualize positive outcomes.
11. Stress inoculation: This technique helps individuals develop coping skills to deal with stressful situations.

Meichenbaum (2014) explains that cognitive behavioral therapy focuses on how the patient interprets diseases and how to get rid of them. The therapy includes:

1. Educating the patient about the disease they are suffering from.
2. Reducing the psychological effects through breathing exercises to control stress.
3. Clarifying the aspects of the faulty interpretation of thinking.
4. Cognitive restructuring and organizing the individual's cognitive field.

Meichenbaum's model is based on the premise that behavioral disorders occur as a result of the individual's negative thoughts and faulty self-statements. These thoughts and statements are the cause of maladjustment and disorder. Therefore, cognitive behavioral therapy focuses on cognitive change, convincing the individual that their thought pattern is the cause of the disorder and clarifying the part that needs to be modified. This makes the individual active, which leads to treatment success (Meichenbaum, 2014). Despite the effectiveness of cognitive behavioral therapy (CBT) in

treating many mental disorders, as confirmed by previous studies, no study - to the best of the researcher's knowledge - has attempted to use this therapy to reduce illness anxiety disorder (IAD) and increase self-efficacy. Therefore, this study aims to investigate the effectiveness of using the techniques of Meichenbaum's theory in cognitive behavioral therapy to reduce illness anxiety disorder and increase self-efficacy among university students.

Problem of the Study

The world has witnessed the emergence of many diseases that threaten human survival, such as cancer, AIDS, kidney failure, and heart disease, as well as the spread of dangerous viruses such as avian influenza, hepatitis C virus, and COVID-19 virus. This has led to an increase in fear among community members of contracting these diseases. This fear is considered normal, especially when feeling a physical symptom. However, some people may exaggerate this fear and their anxiety increases in the belief that they are actually infected with one of these dangerous diseases.

The researcher believes that one of the results of technological development in our time is the emergence of the internet and social media, which have made it easier to obtain medical information and communicate with others. However, due to misuse, this has led to the emergence and spread of cyberchondria. This is confirmed by the longitudinal study conducted by te Poel et al. (2016) to investigate the reciprocal relationship between online health information seeking and health anxiety. The sample consisted of 5,322 participants aged 16 to 93 years. The study found that individuals with health anxiety spend more time searching the internet for health information.

Studies like Hamid et al. (2023), Talidong and Toquero (2020), Kim and Su (2020), and Rajkumar (2020) have revealed that the outbreak of the COVID-19 pandemic has led to an increase and spread of mental disorders in general, and illness anxiety disorder (health anxiety) in particular, among all segments of society. People with illness anxiety disorder (health anxiety) experience a variety of symptoms, including severe stress, confusion, nervousness, fear, psychological pressure, panic, instability, psychological exhaustion, and a sense of impending death (Abramowitz et al., 2007; Baumgartner & Hartmann, 2011).

A study by Doherty-Torstrick et al. (2016) conducted on 731 volunteers confirms that individuals with health anxiety experience an increase in the severity of their disorder with and after browsing medical websites on the internet. This research is harmful to their mental and physical health instead of providing them with reassurance and comfort.

The researcher believes that individuals face many challenges in their lives that threaten their psychological and social stability and adjustment. For example, when feeling anxious about getting sick, some individuals have the ability to deal with these situations effectively, while others avoid confronting them and succumb to them. This is called self-efficacy. Therefore, many studies, such as the study of Bakan and Inci (2021), Şahin et al. (2019), Richards (2017), Hendricks (2015), and Iancu et al. (2015), have agreed that individuals with high self-efficacy are distinguished in active thinking and the ability to deal with different situations, good planning, self-confidence, expressing emotions,

understanding the emotions of others and establishing good relationships with others, a high level of achievement and ambition, commitment to goals and striving to achieve them, and taking on challenging tasks and mastering them.

In the opposite direction, many studies have clarified the negative effects of low self-efficacy among individuals, such as the study of Bassi et al. (2021), Bakan and Inci (2021), Priyadharsan and Saravanabawan (2020), and Iancu et al. (2015). These studies revealed that individuals with low self-efficacy fail to cope with stressful situations and feel hopeless, as they are affected by the negative expectations of others towards them, which reduces their self-confidence and affects their level of psychological adjustment. It can also be a cause of depression, anxiety, and disability, as well as feeling of tension and psychological pressure, low self-esteem, and having pessimistic thoughts about the ability to succeed. The researcher thinks that self-efficacy is influenced by the thoughts, abilities, and possibilities that the individual holds about himself and others. Therefore, it plays an important role in raising self-confidence and psychological resilience, controlling feelings of fear of the unknown, anxiety in general, and illness anxiety in particular.

Meichenbaum's model assumes that the things that individuals say to themselves play an important role in shaping their behaviors. It emphasizes that most psychological problems are caused by faulty cognitive processes. When an individual is exposed to a stimulus, they give it an interpretation, and their response is based on that interpretation (Meichenbaum, 2017). Therefore, the current study seeks to change the cognitive structure of students with cyberchondria disorder, which is reflected in their behaviors and emotions, based on Meichenbaum's theory, which is considered one of the cognitive-behavioral treatments appropriate for bringing about positive change with its strategies of self-learning, self-talk, self-monitoring, self-reinforcement, and acquiring adaptive skills.

Therefore, the problem of the study is defined in measuring the impact of a cognitive-behavioral program based on Meichenbaum's theory to reduce cyberchondria disorder and increase self-efficacy among university students. In light of the above, the problem of the study can be formulated in an attempt to answer the following main question: What is the effectiveness of an advisory program based on Meichenbaum's theory to reduce cyberchondria anxiety and increase self-efficacy among university students.

Study Questions

What is the prevalence rate of cyberchondria anxiety disorder and the level of self-efficacy among university students?

Are there statistically significant differences between the mean ranks of the experimental group's scores on the cyberchondria anxiety and self-efficacy scales between the pre- and post-measurements?

Are there statistically significant differences between the mean ranks of the scores of the experimental group and the control group on the cyberchondria anxiety and self-efficacy scales in the post-measurement?

Are there statistically significant differences between the mean ranks of the scores of the experimental group on the cyberchondria anxiety and self-efficacy scales in the post and follow-up measurements (after two months) of the program?

Study Objectives

The current study aims to achieve the following objectives:

1. To identify the prevalence rate of cyberchondria anxiety disorder and the level of self-efficacy among university students.
2. To reveal the effectiveness of an advisory program based on the techniques of Meichenbaum's theory to reduce cyberchondria anxiety and increase self-efficacy among university students.
3. Design a scale that suits the Saudi environment that measures cyberchondria anxiety and measures self-efficacy.
4. Investigate the sustainability of the effectiveness of the advisory program in reducing the level of disease anxiety among students after two months of its implementation.

Importance of the Study

Theoretical Importance

Highlighting one of the psychosomatic disorders (illness anxiety disorder) among university students, especially the spread of this disorder after the emergence of the Corona pandemic.

Studying the variable of disease anxiety, which is a disorder that has recently been included in the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) under the section of Somatic Symptom and Related Disorders, the study focuses on university students who are known to be highly prone to mental disorders, especially disease anxiety.

The study emphasizes the role of irrational thoughts in the development of illness anxiety disorder and highlights the positive impact of the program in correcting these thoughts, thereby reducing the severity of the disorder.

Furthermore, the study explores the variable of self-efficacy, which is considered a crucial internal factor influencing individual behavior.

In terms of practical importance, the study aims to contribute to the design of a program based on Meichenbaum's theory of cognitive-behavioral therapy. This program is effective in reducing illness anxiety disorder and increasing self-efficacy. The study also sheds light on the detrimental role low self-efficacy plays in the development of illness anxiety disorder.

Additionally, the study aims to develop a scale to measure cyberchondria anxiety disorder that complies with the standards set forth in the DSM-5 and is suitable for use in the Saudi environment. Similarly, a scale to measure self-efficacy specifically designed for university students will also be developed.

Moving on to the study's limitations, subjective limitations include the fact that the current study only applies a counseling program based on Meichenbaum's theory to reduce illness anxiety disorder and increase self-efficacy among university students. Spatially, the study was conducted at the College of Science and Humanities and the

Applied College in Riyadh. Temporally, the counseling program was implemented during the 2023 academic year.

Lastly, the terms of the study define the counseling program as a series of structured sessions conducted according to a predetermined timeline. These sessions include various exercises and activities based on Meichenbaum's theory of cognitive-behavioral therapy. The goal of the program is to identify and address erroneous thoughts that contribute to negative behaviors and emotions. By replacing these thoughts with more rational ones about oneself and others, the program aims to reduce symptoms of cyberchondria anxiety and improve self-efficacy among university students, ultimately leading to psychological, social, and academic stability.

Meichenbaum's Theory

Donald Meichenbaum, the author of the theory, starts from the hypothesis that the things people say to themselves play a role in determining their behaviors. He believes that changing an individual's behavior must include changing their beliefs, feelings, and thoughts. Thoughts are what drive individuals to act (Meichenbaum, 2017).

Meichenbaum (2014) defines it as a method that aims to convince the individual that their negative thoughts and self-statements are the cause of the disorder and maladjustment, in order to strive to modify the distorted cognitive aspects and replace them with positive and logical thoughts.

The researcher defines it as a cognitive-behavioral theory that seeks to modify negative behaviors in individuals by making changes in the cognitive structure. The negative thoughts that dominate the individual's thinking pattern are processed and corrected and replaced with logical thoughts. Consequently, positive changes occur in behavior and emotions.

Cyberchondria Anxiety Disorder

Bardeen and Fergus (2020) define it as "a psychological disorder characterized by excessive fear and anxiety associated with physical health, seeking healthcare from others, and over-searching the internet for health information." The researcher defines it as the excessive fear that makes the individual browse medical websites, believing that they are suffering from a serious illness based on their negative thoughts, without the presence of clear physical symptoms, and it does not go away with appropriate medical reassurance, which negatively affects their psychological, health, and social life. It is measured operationally by the score that the student obtains on the self-efficacy scale prepared by the researcher and used in the current study.

Self-Efficacy

Bandura (2007) defines it as the individual's belief and perception that they have the potential to organize and implement the work procedures required to achieve specific results and accomplishments. The researcher defines it as the individual's thoughts and beliefs about themselves, their confidence and ability to perform new tasks and responsibilities, establish accurate expectations, and make an effort to confront and overcome the difficulties they encounter, as well as adapt to them. It is operationally

measured by the score that the student obtains on the self-efficacy scale prepared by the researcher and used in the current study.

Hypotheses of the Study

1. The prevalence rate of cyberchondria anxiety disorder among university students is high.
2. There are statistically significant differences between the mean ranks of the scores of the experimental group on the cyberchondria anxiety and self-efficacy scales between the pre- and post-measurements.
3. There are statistically significant differences between the mean ranks of the scores of the experimental group and the control group on the cyberchondria anxiety and self-efficacy scales in the post-measurement.
4. There are no statistically significant differences between the mean ranks of the scores of the experimental group on the cyberchondria anxiety and self-efficacy scales in the post-measurement and follow-up (after two months) of the program implementation.

Method and Procedures of The Study

Research Method

The current study adopts the experimental method with a two-group design: experimental and control, with pre-, post-, and follow-up measurements.

Population and Sample of the Study

The study population includes male students from all departments of the College of Science and Humanities, and the Applied College, for the year 2023, totaling 1034 students. The sample was composed as follows:

1. Sample to verify the psychometric properties of the study tools:

The sample included 341 students from the departments of computer science, law, business administration, and chemistry. Their ages ranged from 18 to 26 years, with an average age of 19.8 and a standard deviation of 1.71, to verify the validity and reliability of both the cyberchondria anxiety scale and the self-efficacy scale.

2. Main sample:

The sample consisted of 24 students, with ages ranging from 19 to 25 years, an average age of 20.4, and a standard deviation of 1.38. They were selected based on the highest scores on the cyberchondria anxiety scale and the lowest scores on the self-efficacy scale. They were divided into two equal groups: 12 students for the experimental group and 12 students for the control group. To ensure the equivalence of individuals in the study sample (experimental/control), the groups were homogenized in terms of study variables (cyberchondria anxiety, self-efficacy), as well as some demographic variables (chronological age, educational level, economic level). This is shown in the following table:

It is clear from the previous table that the differences between the two groups in the

variables are not significant because the value of the Mann-Whitney U test is not statistically significant, indicating the equivalence of the experimental and control groups in the variables.

Table 1

Homogeneity of The Experimental and Control Groups in The Study Variables and Some Demographic Variables.

Variables	Group	Number	Mean Rank	Sum of Ranks	Value of (u)	Level of Significance
Illness Anxiety	Experimental Group	12	14.92	179.00	43.000	Not Statistically Significant
	Control Group	12	10.08	121.00		
Self-Efficacy	Experimental Group	12	14.71	176.00	45.500	Not Statistically Significant
	Control Group	12	10.29	123.50		
Age	Experimental Group	12	21.26	425.2	64.500	Not Statistically Significant
	Control Group	12	19.78	395.6		
Educational Level	Experimental Group	12	21.00	252.00	69.00	Not Statistically Significant
	Control Group	12	20.00	240.00		
Economic Level	Experimental Group	12	21.50	258.00	58.500	Not Statistically Significant
	Control Group	12	19.50	234.00		

Materials and Methods

Cyberchondria Anxiety Scale (Prepared by the Researcher)

1. Steps in building the scale and its description

After referring to the criteria mentioned in the Diagnostic and Statistical Manual of Mental Disorders (DSM-5), the International Classification of Diseases (ICD-10) developed by the World Health Organization (WHO), the Minnesota Multiphasic Personality Inventory (MMPI), and reviewing the theoretical framework and scales in previous studies of illness anxiety disorder, such as the study of Owens et al. (2019), Ezmeirlly and Farahat (2019), Starcevic (2017), te Poel et al. (2016), and Doherty-Torstrick et al. (2016), the scale was constructed.

In light of this, the scale's phrases were determined in its initial form, consisting of 51 phrases. The phrases were formulated in a simple and concise manner to be clear to the sample members. A five-point scale was placed in front of each phrase, where all the phrases were negatively worded. The scale ranged from always (5) to never (1).

2. Reliability of the Scale

Reliability of the judges: The scale, in its initial form, was presented to ten judges specialized in psychotherapy and mental health to obtain their opinions on its items and make necessary modifications based on their observations. The researcher considered an agreement rate of 80% as the minimum for accepting the items. After the review, three

items were excluded as 30% or more of the judges agreed that they were not suitable for the dimension or appropriate for the scale.

Reliability of factor analysis: Factor analysis was performed on the scale items, which totaled 48 items, using orthogonal rotation with the Varimax-Kaiser normalization method. Factors were selected based on two criteria: the factor's eigenvalue is greater than or equal to one, and the number of items that achieved a saturation value of 0.3 or more on the factor. This analysis resulted in three factors on which the scale items loaded. Four items were excluded as they did not achieve satisfactory saturation on any of the factors.

The following table presents the saturation values, latent roots, and total variance ratio for each dimension after excluding the four items that did not meet the saturation criteria.

Table 2

Extracted Factors, Their Saturations, Latent Roots, and Total Variance Ratio for Each Dimension of The Cyberchondria Anxiety Scale

Number	The First Factor	The Second Factor	The Third Factor	Number	The First Factor	The Second Factor	The Third Factor	Number	The First Factor	The Second Factor	The Third Factor
1	0.319	---	---	16	0.329	---	---	31	---	---	0.327
2	0.339	---	---	17	0.331	---	---	32	---	---	0.395
3	0.372	---	---	18	0.374	---	---	33	---	---	0.436
4	0.528	---	---	19	0.523	---	---	34	---	---	0.455
5	0.546	---	---	20	0.546	---	---	35	---	---	0.604
6	0.621	---	---	21	0.623	---	---	36	---	---	0.369
7	0.545	---	---	22	0.545	---	---	37	---	---	0.390
8	0.527	---	---	23	0.527	---	---	38	---	---	0.341
9	0.658	---	---	24	0.658	---	---	39	---	---	0.387
10	0.642	---	---	25	0.456	---	---	40	---	---	0.479
11	0.813	---	---	26	0.520	---	---	41	---	---	0.562
12	0.806	---	---	27	0.656	---	---	42	---	---	0.577
13	0.746	---	---	28	0.712	---	---	43	---	---	0.493
14	0.783	---	---	29	0.333	---	---	44	---	---	0.393
15	---	---	---	---	---	---	0.719				
The latent root of the first factor = 7.92				The latent root of the second factor = 5.26				The latent root of the third factor = 6.96			
The variance proportion of the first factor = 20.26%				The variance proportion of the second factor = 15.12%				The variance proportion of the third factor = 17.68%			

It is clear from Table 2 that there are three factors saturated by 44 phrases, as follows:

Factor 1: Saturated by 14 phrases and can be referred to as the Behavioral dimension, which refers to the student's inappropriate behaviors in order to avoid contracting the disease and the search for diagnosis and treatment.

Factor 2: Saturated by 15 phrases and can be referred to as the Cognitive dimension, which relates to the individual's negative (irrational) thoughts regarding their fear of becoming ill.

Factor 3: Saturated by 15 phrases and can be referred to as the Emotional dimension, which includes the negative emotions that the individual experiences during their suffering from illness anxiety disorder.

Internal consistency: Pearson's correlation coefficient was calculated between the scores of individuals in the survey sample on each item of the scale and the total score of the scale. The correlation coefficients ranged from 0.371 to 0.873, which is significant at the 0.01 and 0.05 levels. This confirms that the scale has a high degree of internal consistency.

3. Reliability of The Scale: It Was Assessed Using Two Methods
   a. Cronbach's alpha coefficient
   b. Split-half method (Spearman-Brown).

The reliability coefficients were found to be high, indicating that the scale has a high degree of reliability. The following table illustrates this.

Table 3

Values of Reliability Coefficients for the Illness Anxiety Scale (n=341)

Illness Anxiety Scale	Cronbach's alpha coefficient	Split-half method (Spearman-Brown)
Total score	0.92	0.89

It is clear from the aforementioned information that the scale demonstrates a high degree of validity and reliability, making it suitable for implementation in the study.

4. Method of Correction

To assess the level of illness anxiety in students, a statistical equation is utilized:

$$\text{Category length} = \frac{(\text{upper limit} - \text{lower limit})}{\text{number of assumed categories}} = \frac{(5-1)}{3} = 1.33$$

A low score is assigned to values between (1) and (2.33), a moderate score to values between (2.34) and (3.67), and a high score to values between (3.68) and (5). In its final form, the scale consists of 44 items, with a total score ranging from 44 to 220 points. The medium score ranges from 103 to 161 points, allowing for a relative judgment of illness anxiety disorder. A high score indicates an increase in the level of illness anxiety in the individual being assessed, while a low score indicates a decrease.

Self-Efficacy Scale (Developed by the Researcher)

1. Steps in Building the Scale and Its Description:

Reviewing various theoretical frameworks, previous studies, and scales addressing self-efficacy, including works by Bassi et al. (2021), Bakan and Inci (2021), Simonetti et al. (2021), Călinici et al. (2020), Krok and Gerymski (2019), and Lee and Fang (2015).

Based on the previous step, the initial version of the scale was developed, comprising 55 items.

The items were formulated in a concise and straightforward manner to ensure clarity for the participants. Each item was accompanied by a five-point scale, with positive items assigned scores as follows: always (5), often (4), sometimes (3), rarely (2), and never (1). The reverse scoring method was applied to negative items.

2. The Validity of The Scale Was Assessed Through
   a. Face Validity (expert validity)

The initial version of the scale was presented to 10 experts in counseling and clinical psychology to obtain their opinions on the items. Based on their feedback, the items were modified accordingly. Items that did not reach an agreement rate of 80% among the experts and were deemed inappropriate for the study sample were excluded. In total, three items were removed.

   b. Factorial Validity

Factor analysis was conducted on the 52 items of the scale using the Vari-max-Kaiser rotation method. Factors were accepted based on two criteria: the factor's eigenvalue being greater than or equal to one, and the number of items with a factor loading of 0.3 or more. This analysis resulted in four factors onto which the scale items loaded, as demonstrated in the following table:

It is clear from Table 4 that there are four factors onto which the 52 items load, as follows:

Factor 1: This factor is loaded by 14 items and can be referred to as the Behavioral and Academic Competence Dimension. It signifies the student's ability to perform tasks, flexibility in dealing with academic tasks, confidence in performing various activities, adaptability in difficult situations, perseverance in accomplishing assigned tasks, and successful achievement of academic goals to reach a distinguished level of performance and academic achievement.

Factor 2: This factor is loaded by 12 items and can be referred to as the Social Competence Dimension. It represents the student's ability to effectively interact with others, accurately interpret social behaviors and appropriate responses, and form healthy social relationships.

Factor 3: This factor is loaded by 12 items and can be referred to as the Emotional Competence Dimension. It reflects the student's ability to understand and express emotions in a positive manner, appropriately perceive the emotions of others, and differentiate between different emotions.

Factor 4: This factor is loaded by 14 items and can be referred to as the Intellectual Competence Dimension. It signifies the student's ability to think rationally and logically in objective situations, make decisions, solve problems, and avoid negative thinking.

Table 4

Extracted Factors and Their Saturations After Orthogonal Rotation for The Items of The Self-Efficacy Scale

Number	The First Factor	The Second Factor	The Third Factor	The Fourth Factor	Number	The First Factor	The Second Factor	The Third Factor	The Fourth Factor	Number	The First Factor	The Second Factor	The Third Factor	The Fourth Factor
1	0.422	---	---	---	19	---	0.451	---	---	37	---	---	0.731	---
2	0.527	---	---	---	20	---	0.390	---	---	38	---	---	0.490	---
3	0.391	---	---	---	21	---	0.604	---	---	39	---	---	---	0.330
4	0.627	---	---	---	22	---	0.449	---	---	40	---	---	---	0.415
5	0.482	---	---	---	23	---	0.821	---	---	41	---	---	---	0.488
6	0.583	---	---	---	24	---	0.731	---	---	42	---	---	---	0.356
7	0.683	---	---	---	25	---	0.423	---	---	43	---	---	---	0.691
8	0.720	---	---	---	26	---	0.636	---	---	44	---	---	---	0.849
9	0.395	---	---	---	27	---	---	0.569	---	45	---	---	---	0.810
10	0.842	---	---	---	28	---	---	0.452	---	46	---	---	---	0.541
11	0.646	---	---	---	29	---	---	0.515	---	47	---	---	---	0.364
12	0.746	---	---	---	30	---	---	0.406	---	48	---	---	---	0.839
13	0.474	---	---	---	31	---	---	0.576	---	49	---	---	---	0.664
14	0.816	---	---	---	32	---	---	0.661	---	50	---	---	---	0.517
15	---	0.439	---	---	33	---	---	0.742	---	51	---	---	---	0.398
16	---	0.395	---	---	34	---	---	0.824	---					
17	---	0.426	---	---	35	---	---	0.673	---	52	---	---	---	0.623
18	---	0.344	---	---	36	---	---	0.486	---					
The latent root of the second factor =14.42					The latent root of the third factor =5.68					The latent root of the fourth factor =12.16				
The variance proportion of the second factor = 14.42					The variance proportion of the third factor = 16.58					The variance proportion of the fourth factor = 35.78				

c. Internal Consistency

Pearson's correlation coefficient was calculated between individuals' scores on each scale item and the total scale score in the survey sample. The correlation coefficients ranged from 0.382 to 0.871, which is significant at the 0.01 and 0.05 levels. This confirms that the scale exhibits a high degree of internal consistency.

3. Stability of The Scale: it Was Assessed Through Two Methods
   a. Cronbach's alpha coefficient was calculated.
   b. The split-half method (Spearman-Brown) was utilized.

The stability coefficients were found to be high, indicating that the scale possesses a high degree of stability. The following table illustrates these coefficients:

Table 5

Values of Stability Coefficients for The Self-Efficacy Scale (N=341)

Dimensions of the Scale	Number of Items	Cronbach's Alpha Coefficient	Split-half Method (Spearman-Brown)
Behavioral and academic competence	14	0.846	0.828
Social competence	12	0.745	0.741
Emotional competence	12	0.716	0.682
Intellectual competence	14	0.822	0.814
The scale as a whole	52	0.891	0.887

It is evident from the above information that the scale demonstrates a high degree of validity and reliability, making it suitable for use in the study.

4. Method of Correction

The final form of the scale comprises 52 items, with a total score range of 52-260 points. The average score ranges from 122-191 points, which can be comparatively assessed in terms of self-efficacy. A higher score indicates a higher level of self-efficacy for the examinee, while a lower score indicates a lower level.

5. The Guidance Program (Prepared by the Researcher)

Theoretical Framework of the Program: The program is based on Meichenbaum's theory, which combines cognitive and behavioral theories. This theory aims to equip participants with the adaptive skills necessary to enhance their self-efficacy in dealing with daily life stressors. It is considered a developmental model that utilizes various cognitive and behavioral techniques to enhance psychological and social adjustment.

General Objective of the Program: To reduce the level of illness anxiety disorder and increase the level of self-efficacy among a group of university students by modifying irrational thoughts in participants who suffer from illness anxiety disorder and low self-efficacy.

Operational Objectives of the Program: Participants in the experimental group will learn the following:

a. The negative consequences of illness anxiety disorder.
b. The relationship between irrational beliefs and their role in the development of illness anxiety disorder.
c. The distinction between rational and irrational thoughts.
d. How to confront irrational thoughts.
e. How to develop positive self-talk.
f. How to effectively cope with stressful situations.
g. How to adopt and maintain a healthy lifestyle.

6. The Foundations and Principles of the Guidance Program Based on Meichenbaum's

Theory

a. Unconditional acceptance of the client and building a counseling relationship with them.
b. Identifying the individual's self-talk.
c. Training the client to recognize negative thoughts and understand their impact on emotions and behaviors.
d. Cognitive restructuring by replacing negative thoughts with positive thoughts.
e. Generating new positive behaviors that contradict old behaviors.
f. Emphasizing the client's full responsibility for their behavior and not accepting excuses.

Training the client to judge and evaluate behavior.

7. Importance of the Program

The passage appears to be grammatically correct. However, I can provide some suggestions for improvement:

The Cognitive-behavioral therapy (CBT) based on Meichenbaum's theory is one of the most successful psychological treatments supported by scientific research. It has demonstrated effectiveness in treating various mental disorders, including anxiety, depression, phobias, mood disorders, personality disorders, eating disorders, and other mental health disorders. This confirms the therapy's effective role in addressing irrational thoughts, challenging them, and replacing them with rational thoughts that promote mental health and healthy psychological and social adaptation. With this in mind, the guidance program was implemented for students suffering from illness, anxiety disorder and low self-efficacy, aiming to help them achieve a high level of mental health and self-efficacy.

8. Preparation of the Guidance Program

Drawing on the theoretical foundations and previous studies that have applied cognitive-behavioral therapy programs in general or programs based on Meichenbaum's theory, the guidance program includes the following:

a. A therapeutic program to reduce cyclical mood disorder in university students, as studied by Hassan and Jaafar (2022).
b. A therapeutic program to enhance ego strength in diabetic female students, as studied by Moqbil et al., (2022).
c. A therapeutic program for addressing disruptive behavior in high school students, as studied by Schaarsberg et al. (2022).
d. A therapeutic program to alleviate marriage phobia, as studied by Jabr and Hassan (2022).
e. A therapeutic program to manage mood swings in individuals with bipolar disorder and mood disorder, as studied by Wright et al. (2021).
f. A therapeutic program to improve mental health, reduce depression, and enhance self-esteem and interpersonal relationships among students, as studied by Lee and Lee (2020).
g. A therapeutic program for illness anxiety disorder, as studied by Scarella et al. (2019).
h. A therapeutic program to alleviate health anxiety and depression, as studied by Owens et al. (2019)

9. Evaluation of the Guidance Program:

After developing the program sessions in the proposed form, they were presented to seven specialists in the field of psychology and mental health to provide suggestions regarding the theoretical foundations and operational objectives. The sessions received an agreement rate ranging from 80% to 100%. The researcher set a minimum agreement rate of 80% to include the sessions in the program.

10. Target group of the program:

The program was implemented with a sample of 12 students diagnosed with high illness anxiety disorder and low self-efficacy, as indicated by their scores on the illness anxiety and self-efficacy scales used in this study.

11. Number of sessions: 14 sessions (two sessions per week).

12. Session time: Each session lasts between 45 to 50 minutes.

Program sessions and techniques used:

The following table summarizes the content of the guidance program sessions and the techniques utilized.

Table 6

Content of Guidance Program Sessions and Techniques Used

Session Number and Title	Session Objectives	Techniques Used
1- Introduction and acquaintance	● Getting to know the members of the experimental group, and building a relationship based on familiarity. ● Clarifying the program objectives and agreeing on the main procedures of the sessions. ● The importance of commitment to attendance and discussing their expectations about participating in the program.	● Short lecture ● Discussion ● Demand satisfaction ● Reinforcement
2- Illness anxiety disorder	● To define the concept of illness anxiety, search for health-related information on websites, and identify its negative effects on mental, social, and academic health. ● To present examples of cases suffering from illness anxiety disorder.	● Explanation and clarification ● Discussion and Socratic questions ● Role-playing ● Reinforcement and feedback ● Homework
3- Self-efficacy	● To define the concept of self-efficacy, its types, sources, the negative effects of low self-efficacy, and how to develop and improve self-efficacy. ● To present examples of cases with low self-efficacy and compare them to cases with positive self-efficacy.	● 1. Explanation and clarification ● 2. Discussion and Socratic questioning ● 3. Role-playing ● 4. Reinforcement and feedback
4- Self-talk and its impact on health	● To define the concept of self-talk, and to identify the negative effects of negative self-talk on mental and physical health. ● To identify the self-talk of each participant before, during, and after browsing medical websites on the internet, and to discuss the healthiness of this.	● Discussion and Socratic questioning ● Emotional venting ● Role-playing ● Reinforcement and feedback

5- Impact of self-talk patterns.	• To learn how to modify self-talk patterns (about health or self-efficacy), the impact of this on mental and physical health, encourage them to modify their negative internal dialogue to positive dialogue, and deepen the conviction of rational thoughts among students.	• Discussion and dialogue. • Emotional venting. • Thought stopping. • Reinforcement and feedback. • Self-talk.
6- Irrational thoughts and their negative effects.	• - To understand the nature of irrational thoughts (about physical health and self-efficacy), and their negative impact on mental and behavioral disorders in general. • To train on how to deal with negative thoughts through positive self-talk.	• Explanation and clarification. • Discussion and dialogue. • Role-playing. • Reinforcement and feedback. • Self-talk.
7. Cognitive structure and positive thinking.	• Forming the cognitive structure through training in the logical analysis of thoughts (related to health or self-efficacy), and developing the ability to think positively, to refute negative thoughts and practice positive behavior.	• Discussion and dialogue. • Practice and skill training. • Role-playing and reflected role-playing. • Modeling. • Refuting irrational thoughts. • Reinforcement and feedback. • Homework.
8. Stress inoculation.	• Training in the art of respiratory relaxation and muscle relaxation. • Training in the art of effective visualization to confront negative thoughts and promote positive thoughts.	• Explanation and clarification. • Role-playing. • Reinforcement and feedback. • Homework.
9. Self-control and self-esteem.	• Understanding the concept of self-regulation, its benefits, and training on its practice. • Training on cognitive reappraisal (modifying the individual's cognitive structure) and giving self-instructions. • Training on the skill of self-esteem reward, and how to provide self-reinforcement after achieving the required goals.	• Self-regulation. • Discussion and dialogue. • Challenging irrational thoughts. • Self-observation. • Self-reinforcement.
10. Developing self-efficacy and coping with stress.	• Ways to develop self-efficacy in its three dimensions, coping with stress and everyday frustrations, identifying irrational thoughts that weaken it and replacing them with more rational and logical thoughts.	• Explanation and clarification. • Rational discussion and dialogue. • Role-playing. • Reinforcement and feedback. • Thought stopping. • Challenging negative thoughts. • Homework.

11. Developing academic competence.	• Training students on how to cope with stressful situations related to academic competence, such as organizing study time, completing assignments, preparing for exams, actively participating in class, and forming a good relationship with professors. • Learning about the concept of time management, and how to organize time.	• Dialogue and discussion. • Emotional venting. • Self-reinforcement. • Modeling. • Self-observation. • Time management schedule. • Homework.
12. Developing social competence.	• Training students on how to deal with stressful situations related to social competence, such as forming and maintaining friendships. • Participating in family activities and responsibilities, gaining self-confidence when talking to others, and participating in community activities.	• Explanation and clarification. • Discussion and dialogue. • Role-playing. • Reinforcement and feedback. • Self-talk.
13. Developing emotional competence.	• Training students on how to cope with stressful situations related to emotional competence, such as overcoming negative emotions, stress, facing sources of fear, regulating emotions, how to create happiness for themselves, and expressing their emotions positively with others.	• Explanation and clarification. • Discussion and conversation. • Role-playing. • Reinforcement and feedback. • Self-talk.
14. Coping with the stresses of life.	• Training on how to cope with the stresses of life, the skill of facing and solving problems, and monitoring more negative thoughts that cause illness anxiety disorder, or low self-esteem.	• Explanation and clarification. • Discussion and conversation. • Role-playing. • Positive reinforcement and feedback. • Self-talk.
15. Monitoring and evaluating thoughts and behaviors.	• Training on how to: • Identify and evaluate thoughts. • Express emotions • Identify negative behaviors. • Analyze and refute irrational beliefs. • Replace irrational beliefs with logical beliefs that promote mental well-being. • Link mental, emotional, and behavioral disorders to irrational beliefs. • Assign homework on how to identify and confront irrational thoughts	• Explanation and clarification. • Rational discussion and dialogue. • Homework. • Role-playing. • Positive reinforcement and feedback. • Refuting irrational beliefs. • Emotional imagery.
16. Crisis coping mechanisms.	• Learning how to cope with crises and tendencies, training on how to manage them, and encouraging them to apply the steps of problem-solving skills.	• Lecture and discussion. • Reinforcement and feedback. • Humor.
17. Concluding, summative.	• Review and summarize the most important topics discussed in previous sessions, end the sessions with a simple celebration, apply the follow-up measurement, and set an agreed- on date for the follow-up measurement.	• Lecture and discussion. • Positive reinforcement and feedback.

13. Evaluation of the Counseling Program

To assess the program's goals and effectiveness, the following methods were employed.

a. Reviewing the responses of the experimental group members on session evaluation forms.
b. Post-test: After completing the program, the levels of illness, anxiety and self-efficacy were measured for both the control and experimental groups.
c. Follow-up assessment: Two months after the post-test, the illness anxiety and self-efficacy scales were administered to the experimental group.

Additionally, statistical methods were utilized:

a. Mean and standard deviation: Used to describe the age characteristics of the study sample.
b. Wilcoxon signed-rank test: Employed to examine the differences between pre-test and post-test measurements within each group.
c. Mann-Whitney U test: Utilized to evaluate the significance of the differences between the mean scores of the experimental and control groups in the pre-test and post-test measurements.

Results of the First Hypothesis Test

This hypothesis states that the prevalence of cyberchondria and low self-efficacy is higher among university students.

To determine the level of cyberchondria among university students, the mean, standard deviation, and percentage of the cyberchondria scale were calculated. The following table shows this.

Results

Table 7

The Mean and Standard Deviation of The Cyberchondria Anxiety Scale in its Different Dimensions on A Sample of (341 Students)

The Students' Scores on the Scale	Number	Mean	Standard Deviation	Percentage
Low-anxiety students:	72	84.10	9.851	21.1
Medium-anxiety students:	167	150	6.466	49
High-anxiety students:	102	189.56	8.953	29.9

Table 7 shows that 29.9% of university students have high disease anxiety, while 21.1% have low disease anxiety. To determine the prevalence of each dimension of disease anxiety separately among students with high scores, the mean and standard deviation were calculated for each dimension of the disease anxiety scale.

Table 8

The Most Common Dimensions of Cyberchondria Anxiety Among Students in The Sample (102 Students)

Dimensions of Illness Anxiety	Mean	Standard Deviation	Percentage
Cognitive	64.75	5.822	92.5
Emotional	62.46	5.236	83.28
Behavioral	60.34	5.194	80.45

The table above shows that the percentage of increase in illness anxiety in each dimension among university students was highest in the cognitive dimension with an average of (64.75) and a percentage of (92.5%). The emotional dimension came in second place with an average of (62.46) and a percentage of (83.28%). The behavioral dimension came in last place with an average of (60.34) and a percentage of (80.45%).

To determine the level of self-efficacy among university students, the mean, standard deviation, and percentage of the self-efficacy scale were calculated. The table below shows this.

Table 9

The Mean and Standard Deviation of the Self-Efficacy Scale in its Different Dimensions, on a Sample of (341 students)

The Students' Scores on the Scale	Number	Mean	Standard Deviation	Percentage
Low-anxiety students:	116	100.80	13.367	34.0
Medium-anxiety students:	174	147.38	20.140	51.3
High-anxiety students:	51	224.48	4.077	14.7

It is clear from Table 9 that the percentage of students with a low self-efficacy score reached (34%), while the percentage of students with high scores reached (14.7%). To determine the most dimensions of self-efficacy that are lower among students with low scores, then calculate the mean and standard deviation for each dimension of the self-efficacy scale.

Table 10

The Most Common Dimension of Low Self-Efficacy Among Students in A Sample of (116 Students)

Dimensions of Illness anxiety	Mean	Standard Deviation	Percentage
Behavioral and academic competence	23.55	5.992	33.64
Emotional competence	24.43	4.302	40.72
Social competence	26	4.296	43.33

From the table above, it is clear that the percentage of low self-efficacy among university students was the least in behavioral and academic competence with a mean of (23.55) and a percentage of (33.64%). Emotional competence came in second place with a mean of (24.43) and a percentage of (40.72%), followed by social competence with a mean of (26) and a percentage of (43.33%). The dimension of intellectual competence came in last place with a mean of (30.82), and a percentage of (44.03%).

The Results of Testing the Second Hypothesis

This hypothesis states that: (There are statistically significant differences between the mean ranks of the scores of the experimental group on the scales of cyberchondriacal illness anxiety and self-efficacy between the pre- and post-measurements).

Table 11

Shows the Differences in The Mean Ranks of The Experimental Group Between the Pre- and Post-Measurements on The Illness Anxiety Scale

Dimensions of The Illness Anxiety Scale	Measurement	Mean Rank of Negative Ranks	Mean Rank of Positive Ranks	Z Value	Level of Significance	Direction of Significance
Behavioral dimension	Pretest / Posttest n-12	n = 12	6.50	-3.0601	0.002	Favors the pretest
Cognitive dimension	Pretest / Posttest n-12	n = 12	6.50	-3.062	0.002	Favors the pretest
Emotional dimension	Pretest / Posttest n-12	n = 12	6.50	-3.066	0.002	Favors the pretest
Total score	Pretest / Posttest n-12	n = 12	6.50	-3.061	0.002	Favors the pretest

The non-parametric statistical method represented by the Wilcoxon test was used for correlated samples (not independent) to indicate the significance of the differences in the mean ranks of the experimental group members between the two measurements as shown in Tables 11 and Table 12 below:

It is clear from Table 9 that the percentage of students with a low self-efficacy score reached (34%), while the percentage of students with high scores reached (14.7%). To identify the most dimensions of self-efficacy among students with low scores, then calculate the mean and standard deviation for each dimension of the self-efficacy scale.

Table 12

Shows the Differences in The Mean Ranks of The Experimental Group Between the Pre- and Post-Measurements on The Self-Efficacy Scale

Dimensions of the Self-Efficacy Scale	Measurement	Mean Rank of Negative Ranks	Mean Rank of Positive Ranks	Z Value	Level of Significance	Direction of Significance
Behavioral and academic competence	Pretest / Posttest n-12	0.00	6.50	-3.059	0.002	Favors the pretest
Social competence	Pretest / Posttest n-12	0.00	6.50	-3.062	0.002	Favors the pretest
Emotional competence	Pretest / Posttest n-12	0.00	6.50	-3.064	0.002	Favors the pretest
Intellectual competence	Pretest / Posttest n-12	0.00	6.50	-3.062	0.002	Favors the pretest

The table above shows that the value is statistically significant at the significance levels (0.05) and (0.01), indicating a difference in the mean ranks of the members of the experimental group on the self-efficacy scale. To determine the size of the effect of the independent variable in causing the difference in the dependent variables (scores on the illness anxiety and self-efficacy scales), Cohen's equation was used, which provides a

descriptive measure of the correlation between the samples under study. The size of the effect indicates the ratio of the difference between the means of the two measurements (pre- and post-) in standard units.

The Table 13 shows:

The value of d calculated in the post-measurement of the illness anxiety scale, with its different dimensions, is (1.75). This indicates that the effect size of the independent variable, which is the effect of using the guidance program, was (175%).

The value of d calculated in the post-measurement of the self-efficacy scale, with its different dimensions, is (1.39). This indicates that the effect size of the independent variable, which is the effect of using the guidance program, was (139%).

Table 13

Shows the Mean, Standard Deviation, D Value, and Effect Size for The Pre- and Post-Measurements of The Study Scales

Dimension	Measurement	N	Mean	Standard Deviation	d Value	Effect Size
Illness anxiety scale (total)	Pretest	12	41.07	10.568	1.75	Large
Illness anxiety scale (total)	Posttest	12	29.86	7.962		
Self-efficacy scale (total)	Pretest	12	34.59	19.434	1.39	Large
Self-efficacy scale (total)	Posttest	12	49.91	11.734		

Results of the Third Hypothesis Test

This hypothesis states that: "There are statistically significant differences between the mean ranks of the scores of the experimental group and the control group on the cyber-illness anxiety and self-efficacy scales in the post-measurement. The Mann-Whitney-U test for independent samples was used, and Table 14 shows the results related to this.

Table 14

Shows the Differences in The Mean Ranks of The Experimental and Control Groups in The Post-Measurement on The Cyber-Illness Anxiety Scale

Components of the Illness Anxiety scale	Measurement	Mean	Rank Sum	U value	Significance Level	Direction of the Differences
Behavioral dimension	Control group: n = 12	6.50	78.00	0.000	0.000	In favor of the control group
	Control group: n = 12	18.50	222.00			
Cognitive dimension	Control group: n = 12	6.50	78.00	0.000	0.000	In favor of the control group
	Control group: n = 12	18.50	222.00			
Emotional dimension	Control group: n = 12	6.50	78.00	0.000	0.000	In favor of the control group
	Control group: n = 12	18.50	222.00			
Total score	Control group: n = 12	6.50	78.00	0.000	0.000	In favor of the control group
	Control group: n = 12	18.50	222.00			

The table above shows that there are statistically significant differences at the significance levels of (0.05) and (0.01) between the members of the experimental and control groups in the follow-up measurement for all dimensions of the illness anxiety

scale in favor of the control group, due to the decrease in the scores of the experimental group in the follow-up measurement. This indicates the effectiveness of the guidance program.

Table 15

Shows The Differences in The Mean Ranks of The Experimental and Control Groups in The Follow-Up Measurement on The Self-Efficacy Anxiety Scale

Components of the Illness Anxiety Scale	Measurement	Mean	Rank Sum	U Value	Significance Level	Direction of the Differences
Behavioral and academic competence	Control group: n = 12	18.50	222.00	0.000	0.000	In favor of the control group
	Control group: n = 12	6.50	78.00			
Social competence	Control group: n = 12	18.50	222.00	0.000	0.000	In favor of the control group
	Control group: n = 12	6.50	78.00			
Emotional competence	Control group: n = 12	18.50	222.00	0.000	0.000	In favor of the control group
	Control group: n = 12	6.50	78.00			
Intellectual competence	Control group: n = 12	18.50	222.00	0.000	0.000	In favor of the control group
	Control group: n = 12	6.50	78.00			
Overall grade	Control group: n = 12	18.50	222.00	0.000	0.000	In favor of the control group
	Control group: n = 12	6.50	78.00			

The table above shows that there are statistically significant differences at the significance levels of (0.05) and (0.01) between the members of the experimental and control groups in the follow-up measurement for all dimensions of the self-efficacy anxiety scale, in favor of the experimental group. This indicates the effectiveness of the guidance program.

Results of the Fourth Hypothesis Test

The hypothesis states that: (There are no statistically significant differences between the mean ranks of the scores of the experimental group on the cyber illness anxiety and self-efficacy scales in the follow-up and follow-up measurements (after two months) of the program implementation). The Wilcoxon signed-rank test was used to test the significance of the differences in the mean ranks of the members of the control group between the two measurements, as shown in the table below:

Table 16

Shows the Differences in Mean Ranks of The Control Group Between the Pre-Test and Post-Test Measurements on The Illness Anxiety Scale

Components of the Illness Anxiety Scale	Measure	Negative Rank Mean	Positive Rank Mean	Z-value	Significance Level	Direction of Difference
Behavioral	Pre/Post n=12	0.00	1.00	-1.000	0.317	No statistically significant differences
Cognitive	Pre/Post n=12	0.00	1.00	-1.000	0.317	No statistically significant differences
Emotional	Pre/Post n=12	0.00	1.00	-1.000	0.317	No statistically significant differences
Total	Pre/Post n=12	0.00	1.50	-1.342	0.180	No statistically significant differences

The table above shows that there were no statistically significant differences between the pre-test and post-test measurements of the control group on the illness anxiety scale.

Table 17

Shows the Mean Ranks of The Experimental Group Between the Post-Test and Follow-Up Measurements on The Self-Efficacy Scale

Components of the illness anxiety scale	Measurement	Negative Rank Mean	Positive Rank Mean	Z value	Significance level	Direction of the differences
Behavioral and academic competence	Control group: n = 12	0.00	2.00	-0.447	0.000	In favor of the control group
Social competence	Control group: n = 12	0.00	2.00	-0.447	0.000	In favor of the control group
Emotional competence	Control group: n = 12	0.00	1.00	– 1.000	0.000	In favor of the control group
Intellectual competence	Control group: n = 12	0.00	1.00	**– 1.000**	0.000	In favor of the control group
Overall grade	Control group: n = 12	2.00	3.25	**– 1.511**	0.000	In favor of the control group

Discussion and Interpretation

In the following discussion, we will analyze the results of the current study and evaluate their consistency or inconsistency with the study's hypotheses and previous research findings. Additionally, we will establish connections between these results and the theoretical frameworks that underpin the study's concepts.

Firstly, let's examine the results of the first hypothesis. The findings demonstrate that the level of illness anxiety among university students is high, with a prevalence rate of 29.9%. Furthermore, it was observed that the cognitive dimension exhibited the highest level of illness anxiety, accounting for 92.5% of the total. The emotional dimension ranked second, representing 83.28% of the total, while the behavioral dimension ranked lowest at 80.45%.

This sequence of illness anxiety dimensions is indicative of a natural pattern, suggesting an integrated relationship between them. The cognitive dimension is closely linked to students' thoughts and thinking patterns, particularly their irrational beliefs regarding health and illness. Pessimistic views, exaggeration, and overreaction to minor events are key factors contributing to the development of illness anxiety disorder. Subsequently, these irrational thoughts trigger emotional distress, including feelings of anxiety, tension, and insecurity. In response, individuals often adopt certain behaviors to seek reassurance and comfort, such as visiting doctors or searching for health-related information online or on social media platforms. Therefore, effective treatment for illness anxiety necessitates psychologists' understanding of individuals' cognitive processes, emotional states, and behavioral patterns in relation to stressful events.

The results of the current study, which indicate a high level of illness anxiety among university students, are consistent with previous research findings. For instance, Kurlansik and Maffei's study (2016) reported a 17% prevalence rate of illness anxiety. Similarly, Ezmeirlly and Farahat's study (2019) found that 17% of Saudi medical students

experienced illness anxiety disorder. Additionally, Xiong et al. (2020) discovered a 40.8% prevalence rate of illness anxiety among nurses, while Meng's study (2019) indicated a 28% prevalence of hypochondriacal symptoms among university students in China. These findings collectively support the notion that illness anxiety is a common issue among university students, with the current study's results providing further evidence.

This is further reinforced by te Poel et al.'s study (2016), which revealed that individuals with illness anxiety disorder spend more time searching for health information online. The researcher attributes the high prevalence of illness anxiety among university students to several factors. Firstly, the increasing number of diseases and viruses in recent years has contributed to heightened anxiety. Secondly, the widespread availability of electronic devices and the extensive time spent browsing various websites and applications have increased exposure to health-related information. Additionally, the ease of communication and the ability to learn from others' experiences with different diseases have also played a role. The researcher highlights that these factors can intensify illness anxiety by increasing exposure to health information.

Furthermore, the elevated prevalence of illness anxiety can be attributed to the negative impacts of the COVID-19 pandemic. The extensive media coverage, including alarming reports of cases and deaths, along with the implementation of preventive measures such as home quarantine, curfews, and school closures, have contributed to a sense of anxiety, stress, and panic among individuals of all nationalities. This aligns with previous studies by Hamid et al. (2023), Talidong and Toquero (2020), Kim and Su (2020), and Rajkumar (2020), which have documented an increase in the prevalence of mental disorders, including illness anxiety disorder, during the COVID-19 pandemic.

The researcher asserts that the way students think, their beliefs, and how they interpret health-related information from various sources, as well as their exposure to cases of serious diseases, play a significant role in the development of illness anxiety disorder.

In other words, what is published on various websites about diseases is not the cause of illness anxiety disorder. Rather, it is the way individuals interpret what they are exposed to, based on their irrational thinking. This includes exaggerating the interpretation of events, situations, and simple physical sensations, considering them as evidence of a serious illness, and persisting in this belief despite doctors' reassurances of their safety from diseases.

The results of the first hypothesis indicated a low level of self-efficacy across different dimensions among students, reaching only 34%. The dimension with the lowest level was behavioral and academic competence, at a rate of 33.64%. This was followed by emotional competence at a rate of 40.72%, social competence at a rate of 43.33%, and intellectual competence ranking last at 44.03%.

This sequence of decreasing self-efficacy dimensions aligns with the age group of the sample used in the study, namely university students. The most significant decrease was observed in the behavioral and academic competence dimension. This is because university students face various types and intensities of stress in their personal and academic lives, including pressures from family, colleagues, and the demands of university studies. As a result, there is a weakening of behavioral and academic competence. This weakness is accompanied by a decrease in emotional competence, as

individuals experience frustration, tension, and dissatisfaction with themselves. Consequently, they may withdraw from social situations and exhibit a lack of social competence. These factors reinforce negative thoughts about oneself and others, which is reflected in the intellectual competence dimension.

Many studies have demonstrated the negative effects of low self-efficacy in individuals, including the studies by Bassi et al. (2021), Bakan and Inci (2021), Priyadharsan and Saravanabawan (2020), and Iancu et al. (2015). These studies have found that individuals with low self-efficacy struggle to cope with stressful situations and experience feelings of hopelessness. They are also more susceptible to negative expectations from others, which can diminish their self-confidence and impact their psychological well-being. Additionally, low self-efficacy can lead to depression, anxiety, helplessness, feelings of stress and psychological pressure, low self-esteem, and pessimistic thoughts about one's ability to succeed.

The researcheillness, ves that low self-efficacy is a negative indicator of the onset of illness anxiety, and vice versa. High self-efficacy, on the other hand, enables individuals to maintain positive thinking, effectively deal with problems, and regulate their emotions in various anxiety-related situations, including illness anxiety.

This indicates a relationship between high levels of illness anxiety and low self-efficacy. The presence of illness anxiety can hinder an individual's ability to fulfill their social, work, and academic roles and take on responsibilities, ultimately leading to low self-efficacy.

The findings of this study are consistent with previous research. For example, Simonetti's study (2021) found a negative relationship between low self-efficacy and anxiety disorders. Călinici et al.'s study (2020) also discovered a positive correlation between self-efficacy and well-being, as well as a negative correlation between self-efficacy and depression, anxiety, and stress. Likewise, Lee and Fang's study (2015) identified a connection between low self-efficacy and increased anxiety. Furthermore, Bajcar and Babiak's study (2021) revealed that low self-esteem contributes to the development of health anxiety, obsessive-compulsive symptoms, and cyberchondria.

As argued by Maddux and Volkmann (2010), failure to manage negative emotions in anxiety-provoking situations can lead to self-doubt and low self-efficacy.

The researcher explains that high illness anxiety among students is attributed to cognitive distortions, which cause them to interpret normal symptoms as signs of a serious illness. This, in turn, can lead to excessive internet searching for information that supports their belief that they are ill.

Self-efficacy has a significant impact on patterns of thinking and behavior, depending on the nature of these beliefs, whether they are positive or negative. It determines how individuals cope with challenges and obstacles in their lives and can act as either enablers or barriers to problem-solving, motivation, and the ability to adapt to circumstances, ultimately affecting psychological and social well-being. Additionally, let's discuss the results of the second and third hypotheses: The results indicated statistically significant differences between the mean ranks of the experimental group's scores on the cyberchondria anxiety and self-efficacy scales between the pre- and post-tests, with the post-test showing a favorable outcome.

Furthermore, there were statistically significant differences between the mean ranks of the experimental group and the control group's scores on the cyberchondria anxiety and self-efficacy scales in the post-test, with the experimental group being favored.

This study aimed to examine the effect of a group counseling program based on Meichenbaum's theory, which is one of the cognitive behavioral therapy methods, on reducing cyberchondria anxiety and its impact on increasing self-efficacy among university students. Based on the verification of the responses from the experimental group students who participated in the therapeutic program, compared to the students in the control group who were not exposed to any program services or activities that could have a positive impact on them in developing positive behaviors and treating various psychological disorders. The average level of illness anxiety decreased among the members of the experimental group, while the average level of self-efficacy increased on the cyberchondria anxiety and self-efficacy scales used in this study after approximately two months of program implementation.

These results align with the overall findings of previous studies, which have demonstrated the effectiveness of counseling interventions based on cognitive behavioral therapy. For instance, Hassan and Jaafar's study (2022) highlighted the success in reducing cyclothymia among university students, while Moqbil et al.'s (2022) study showed improvement in ego strength among female students with diabetes. Wright et al.'s study (2021) also indicated alleviation of mood swings in individuals with bipolar disorder. Furthermore, Scarella et al.'s study (2019) focused on treating illness anxiety disorder, and Owens et al.'s study (2019) explored the alleviation of health anxiety and depression, both of which support the results of this current study.

The reason for the change in the experimental group is the suitability of the techniques used in the counseling program based on Meichenbaum's theory, which is one of the cognitive behavioral therapy methods. Meichenbaum's theory focuses on individuals' self-talk and its role in determining their behavior. Therefore, the counseling program aims to change the students' self-talk, either directly or indirectly, resulting in adaptive behavior and emotions that enable them to cope with problems in a more positive way. The theory is characterized by its suitability for individuals in the study sample.

The results of this study can be explained by the therapeutic strategies, training, and activities included in the counseling program based on Meichenbaum's theory. These strategies helped the students in the experimental group identify their irrational thoughts that contributed to their psychological disorders. The counseling program also utilized various methods, such as group discussion, self-dialogue, modeling, relearning, storytelling, humor, reinforcement, homework, and training on realistic confrontation and problem-solving styles of behavior. These techniques helped students acquire realistic cognitive and behavioral skills to meet their needs. The program also trained them in self-monitoring negative thoughts in general, including thoughts related to diseases, and taught them how to challenge and replace these negative thoughts with positive ones. The self-regulation techniques also helped students avoid excessive internet browsing on disease-related websites. As a result, students felt more satisfied with themselves and others, and experienced an increased sense of self-worth and appreciation.

Therefore, the improvement in reducing disease anxiety and increasing self-efficacy among students in the experimental group can be attributed to the positive impact of the counseling program. Understanding the role and interpretation of emotions and their impact on individuals' cognitive structure and behavior enhances self-confidence and enables positive control.

This is consistent with what Davey (2021) mentioned regarding cognitive-behavioral therapy, which focuses on identifying emotions that cause excessive anxiety about health symptoms and aims to change these emotions by altering automatic and negative thoughts, thus leading to changes in behavior. This therapy also helps individuals stop assuming the role of a patient and reduce excessive internet research while addressing accompanying disorders.

Self-talk is a powerful tool that can be used to regulate emotions and thoughts. When individuals engage in realistic and affirmative self-talk, they can reduce feelings of anxiety and negative thoughts and emotions. This, in turn, allows them to respond positively to stressful stimuli in their psychological, cognitive, and physiological environment, as well as their social environment.

At the very least, modifying an individual's perception of reality can reduce feelings of stress, psychological pressure, rejection, and emotions associated with daily situations. It can also help individuals eliminate irresponsible behavior by re-evaluating it, learning and developing realistic responsible behaviors, and committing to them to achieve goals and satisfy needs. This, in turn, improves their level of self-efficacy.

The students in the experimental group adopted a philosophy that made them feel satisfied, improved their mood, increased their control over negative reactions, and helped them raise their level of self-efficacy in facing anxiety in general, and medical anxiety in particular.

The program included methods and techniques for crisis management and assisting students in taking full responsibility for their actions. It emphasized the importance of holding oneself accountable without relying on past experiences, external factors, or blaming others for one's behavior. The program aimed to enhance students' awareness of their current behavior and foster self-observation. By becoming more conscious of their desires and behaviors and gaining control over them, students were able to make more effective choices and improve their understanding of responsibility. This, in turn, facilitated positive changes, helped students confront their reality, and enabled them to solve problems. Ultimately, this led to increased psychological compatibility with oneself and others.

Meichenbaum (2012, 2014) supports this by stating that cognitive-behavioral therapy has achieved great success in teaching individuals coping skills for situations that cause stress and fear. This leads to increased confidence and psychological stability. The therapy focuses on how the patient interprets diseases and how to overcome them. The therapy includes:

a. Educating the patient about the disease they are suffering from.
b. Reducing psychological effects through breathing exercises to control stress.
c. Clarifying aspects of faulty thinking.
d. Cognitive restructuring and organizing of the individual's cognitive field.

Moving on to the discussion of the fourth hypothesis:

The results indicate that there were no statistically significant differences between the mean ranks of the experimental group members on the dimensions and total scores of the cybersickness anxiety and self-efficacy scales in the follow-up measurement. This means that after two months of program implementation (follow-up period), the decrease in cybersickness anxiety and the increase in self-efficacy levels are still almost continuous among the experimental group members, and the improvement did not reach the level of significance.

The researcher attributes this result to the continued effect of training in bringing about positive change in the lives of the experimental group members, as the skills acquired during the program remained even after its completion. The program sessions, discussions, and interactions between participants aimed to correct faulty thinking, address exaggeration of disease expectations, and enhance self-efficacy. Understanding the role and interpretation of emotions and their impact on the individual's cognitive structure and behavior helps enhance self-confidence and control it positively.

This supports Davey's (2021) mention of identifying emotions that cause excessive anxiety about health symptoms and attempting to change those emotions by altering automatic and negative thoughts, subsequently changing behaviors to move away from the role of a patient. It also reduces reliance on internet research and treats accompanying disorders.

Moreover, the results of several studies have shown the continued effectiveness of counseling interventions based on Meichenbaum's cognitive behavioral therapy techniques. Such interventions have successfully reduced various psychological disorders. For instance, a study by Schaarsberg et al. (2022) addressed cognitive distortions in 18 adolescents with disruptive behavior, and the positive effects persisted during the follow-up measurement. Jabr and Hassan (2022) demonstrated a reduction in marriage phobia among a sample of 4 males and females, with the program's effectiveness continuing after implementation. Wright et al. (2021) found a reduction in mood swings for individuals with bipolar disorder and mood disorder. Rechenberg and Koerner (2021) treated diabetes in a group of adolescents, improving mental health and reducing the severity of depression and anxiety. Ibrahim (2020), treated the negative effects of cyberbullying in 127 high school students, and the program's effectiveness persisted during the follow-up measurement. Additionally, a study by Rechenberg and Koerner (2021) improved the mental health of university students by reducing depression, enhancing self-esteem, and improving personal relationships among students, with the improvement lasting after program completion.

The researcher also attributes the persistence of the positive effect and the continuation of the preventive and therapeutic experiences among the students of the experimental group to the following factors:

a. The appropriate time period for the sessions, which lasted 14 sessions, with each session lasting between 45 and 50 minutes.
b. The use of a gradual approach in preparing the sessions, implementing their content and exercises, and selecting strategies that align with the procedural objectives of each session. These factors contributed to the continuous positive and radical modification of the students' beliefs in the experimental group, leading to the treatment or mitigation of the severity of negative emotions and behaviors. This was achieved by

identifying false beliefs, associating them with negative emotions, and acknowledging the disorders they suffer from. Subsequently, these beliefs were refuted, corrected, and replaced with logical alternatives to rectify thoughts. This shift resulted in a transformation from unpleasant emotions to positive emotions. Consequently, it paved the way for students to have a broader perspective, enabling them to choose rational alternatives and reject irrational ones, ultimately leading to the attainment of more realistic goals and achieving psychological satisfaction and harmony.

c. The students' awareness of their desires, behaviors, and how to control them, as well as their ability to choose the most effective ones, improved their sense of self-efficacy. This enhanced their ability to make positive changes, confront their reality, and address their health anxiety. As a result, they became more psychologically aligned with themselves and others.

Conclusions and Recommendations

Use psychological programs that have been proven to be effective in reducing illness anxiety disorder among students of all levels of education.

Activate the role of psychological counseling centers in universities, and hold courses and lectures that focus on promoting mental health among university students.

Use classroom and extracurricular activities to develop students' self-efficacy. The current study and previous studies have revealed that self-efficacy is not a fixed personality trait, but rather a process that can be developed and modified through the individual's interaction with the social environment.

Develop counseling programs that would raise the level of self-efficacy of low-performing students, which is expected to raise their academic level and achieve psychological and social satisfaction for them.

Hold workshops for teachers to explain the importance of self-efficacy for students and how to promote and develop it positively, and through changing wrong thoughts and beliefs. Therefore, modifying and supporting self-efficacy has become an important pillar of psychological and social treatments.

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Conceptualization, A.A.M; methodology, A.A.M; software, A.A.M.; validation, A.A.M; formal analysis, A.A.M; investigation, A.A.M.; resources, A.A.M.; data curation, A.A.M.; writing—original draft preparation, A.A.M.; writing—review and editing, A.A.M.; visualization, A.A.M; supervision, A.A.M.; project administration, A.A.M.; funding acquisition, A.A.M All authors have read and agreed to the published version of the manuscript.

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Conflicts of Interest

The authors declare no conflict of interest.

References

Abramowitz, J. S., Olatunji, B. O., & Deacon, B. J. (2007). Health Anxiety, Hypochondriasis, and the Anxiety Disorders. *Behavior Therapy, 38*(1), 86-94. https://doi.org/10.1016/j.beth.2006.05.001

American Psychiatric Association. (2013). *Diagnostic and Statistical Manual of Mental Disorders (DSM-5-TR)* (5th ed.). Washington, DC: American Psychiatric Association. https://www.psychiatry.org/psychiatrists/practice/dsm

Bajcar, B., & Babiak, J. (2021). Self-esteem and cyberchondria: The mediation effects of health anxiety and obsessive–compulsive symptoms in a community sample. *Current Psychology, 40*(6), 2820-2831. https://doi.org/10.1007/s12144-019-00216-x

Bakan, G., & Inci, F. H. (2021). Predictor of self-efficacy in individuals with chronic disease: Stress-coping strategies. *Journal of Clinical Nursing, 30*(5-6), 874-881. https://doi.org/10.1111/jocn.15633

Bandura, A. (2007). Much ado over a faulty conception of perceived self–efficacy grounded in faulty experimentation. *Journal of Social and Clinical Psychology, 26*(6), 641-658. https://doi.org/10.1521/jscp.2007.26.6.641

Bardeen, J. R., & Fergus, T. A. (2020). Multidimensional inventory of hypochondriacal traits: an examination of a bifactor model and measurement invariance between those with and without a self-reported medical condition. *Assessment, 27*(1), 206-215. https://doi.org/10.1177/1073191117725173

Bassi, G., Mancinelli, E., Di Riso, D., & Salcuni, S. (2021). Parental stress, anxiety and depression symptoms associated with self-efficacy in paediatric type 1 diabetes: a literature review. *International Journal of Environmental Research and Public Health, 18*(1), 152. https://doi.org/10.3390/ijerph18010152

Baumgartner, S. E., & Hartmann, T. (2011). The Role of Health Anxiety in Online Health Information Search. *Cyberpsychology, Behavior, and Social Networking, 14*(10), 613-618. https://doi.org/10.1089/cyber.2010.0425

Călinici, M., Unk, I., & Călinici, T. (2020). Impact Of Regulatory Emotional Self-Efficacy On Depression, Anxiety, Stress And Well-Being. In V. Chis (Ed.), *Education, Reflection, Development – ERD 2019, vol 85. European Proceedings of Social and Behavioural Sciences* (pp. 432-443). European Publisher. https://doi.org/10.15405/epsbs.2020.06.43

Davey, G. C. (2021). *Psychopathology: Research, assessment and treatment in clinical psychology*. John Wiley & Sons.

Doherty-Torstrick, E. R., Walton, K. E., & Fallon, B. A. (2016). Cyberchondria: parsing health anxiety from online behavior. *Psychosomatics, 57*(4), 390-400. https://doi.org/10.1016/j.psym.2016.02.002

Ezmeirlly, H. A., & Farahat, F. M. (2019). Illness anxiety disorder and perception of disease and distress among medical students in western Saudi Arabia. *Saudi Medical Journal, 40*(11), 1144-1149. https://doi.org/10.15537/smj.2019.11.24654

Hamid, M. S., Abo Hamza, E., Rivera, R. M., Carballea, D., & Mohamed, N. I. A. (2023). Addiction to medical websites post COVID-19 pandemic: a predictor of illness anxiety disorder among Arabian youth. *Discover Psychology, 3*(1), 9. https://doi.org/10.1007/s44202-023-00067-5

Hassan, M., & Jaafar, N. (2022). Effectiveness of cognitive-behavioral therapy in reducing cyclothymic disorder in students of the Faculty of Education in Fayoum. *Journal of the Faculty of Education, Assiut University, 38*(2), 274-318. https://doi.org/10.12816/mfes.2022.223416

Hendricks, K. S. (2015). The Sources of Self-Efficacy: Educational Research and Implications for Music. *Update: Applications of Research in Music Education, 35*(1), 32-38. https://doi.org/10.1177/8755123315576535

Iancu, I., Bodner, E., & Ben-Zion, I. Z. (2015). Self esteem, dependency, self-efficacy and self-criticism in social anxiety disorder. *Comprehensive Psychiatry, 58*, 165-171. https://doi.org/10.1016/j.comppsych.2014.11.018

Ibrahim, R. A. A. A. (2020). Effectiveness of a cognitive-behavioral counseling program in using strategies to confront cyberbullying among high school students. *Egyptian Journal of Psychological Studies, 106*(3), 483-512. https://doi.org/10.21608/ejcj.2020.97723

Kim, S.-W., & Su, K.-P. (2020). Using psychoneuroimmunity against COVID-19. *Brain, Behavior, and Immunity, 87*, 4-5. https://doi.org/10.1016/j.bbi.2020.03.025

Krok, D., & Gerymski, R. (2019). Self-efficacy as a mediator of the relationship between meaning in life and subjective well-being in cardiac patients. *Current Issues in Personality Psychology, 7*(3), 242-251. https://doi.org/10.5114/cipp.2019.89168

Kurlansik, S. L., & Maffei, M. S. (2016). Somatic Symptom Disorder. *American Family Physician, 93*(1), 49-54A. https://www.aafp.org/pubs/afp/issues/2016/0101/p49.html

Lee, M., & Fang, S. (2015). Self-efficacy, Impulse Control, Anxiety in patients with Tension Headache. *Journal of Pediatric Psychology, 29*(3), 147-254.

Lee, S., & Lee, E. (2020). Effects of cognitive behavioral group program for mental health promotion of university students. *International Journal of Environmental Research and Public Health, 17*(10), 3500. https://doi.org/10.3390/ijerph17103500

Maddux, J., & Volkmann, J. (2010). Self-Efficacy. In R. H. Hoyle (Ed.), *Handbook of Personality and Selfregulation* (pp. 315-331). Wiley-Blackwell Malden, MA. http://noba.to/bmv4hd6p

Meichenbaum, D. (2012). *Roadmap to Resilience: A Guide for Military, Trauma Victims and Their Families*. Crown House Publishing Ltd. https://www.crownhouse.co.uk/roadmap-to-resilience

Meichenbaum, D. (2014). Ways to bolster resilience in traumatized clients: Implications for psychotherapists. *Journal of Constructivist Psychology, 27*(4), 329-336. https://doi.org/10.1080/10720537.2013.833064

Meichenbaum, D. (2017). *The Evolution of Cognitive Behavior Therapy: A Personal and Professional Journey With Don Meichenbaum*. Routledge/Taylor & Francis Group. https://doi.org/10.4324/9781315748931

Meng, J., Gao, C., Tang, C., Wang, H., & Tao, Z. (2019). Prevalence of hypochondriac symptoms among health science students in China: A systematic review and meta-analysis. *PloS One, 14*(9), e0222663. https://doi.org/10.1371/journal.pone.0222663

Moqbil, M ., Salem, M & Metwally, L (2022). The effectiveness of a counseling program to improve ego strength among female secondary school students with diabetes, *Mansoura University, Journal of the Faculty of Education*, 118, 1197-1225. https://maed.journals.ekb.eg/article_263517_28337c6381921e69d7351b34400f1aaa.pdf

Jabr, G and Hassan, A (2022). The effectiveness of positive guidance based on exposure therapy in reducing gammophobia among a sample of people with the disorder, *Journal of Childhood and Education*, 14 (52) 536 – 583. https://fthj.journals.ekb.eg/article_268518_f09d2c8b733495647021b2ac414a8374.pdf

Owens, V. A. M., Hadjistavropoulos, H. D., Schneider, L. H., Gullickson, K. M., Karin, E., Titov, N., & Dear, B. F. (2019). Transdiagnostic, internet-delivered cognitive behavior therapy for depression and anxiety: Exploring impact on health anxiety. *Internet Interventions, 15*, 60-66. https://doi.org/10.1016/j.invent.2019.01.001

Priyadharsan, S., & Saravanabawan, A. (2020). Applications of Sources of Self Efficacy: Synopsis of Article Review. *International Journal of Advanced Research, 8*(11), 455-465. https://doi.org/10.21474/IJAR01/12027

Rajkumar, R. P. (2020). COVID-19 and mental health: A review of the existing literature. *Asian Journal of Psychiatry, 52*, 102066. https://doi.org/10.1016/j.ajp.2020.102066

Rechenberg, K., & Koerner, R. (2021). Cognitive behavioral therapy in adolescents with type 1 diabetes: an integrative review. *Journal of Pediatric Nursing, 60*, 190-197. https://doi.org/10.1016/j.pedn.2021.06.019

Richards, S. A. (2017). *Assessing Self-Efficacy Levels of Future African American and White American Female Leaders* [Doctoral dissertation, The Chicago School of Professional Psychology]. http://elibrary.pcu.edu.ph:9000/digi/TD04/2018/TD0420180000063.pdf

Şahin, F., Karadağ, H., & Tuncer, B. (2019). Big five personality traits, entrepreneurial self-efficacy and entrepreneurial intention. *International Journal of Entrepreneurial Behavior & Research, 25*(6), 1188-1211. https://doi.org/10.1108/IJEBR-07-2018-0466

Scarella, T. M., Boland, R. J., & Barsky, A. J. (2019). Illness anxiety disorder: psychopathology, epidemiology, clinical characteristics, and treatment. *Psychosomatic Medicine, 81*(5), 398-407. https://doi.org/10.1097/PSY.0000000000000691

Schaarsberg, R. E. K., Popma, A., Lindauer, R. J., & van Dam, L. (2022). The Effects of a Virtual Reality–Based Training Program for Adolescents With Disruptive Behavior Problems on Cognitive Distortions and Treatment Motivation: Protocol for a Multiple Baseline Single-Case Experimental Design. *JMIR Research Protocols, 11*(5), e33555. https://doi.org/10.2196/39833

Simonetti, V., Durante, A., Ambrosca, R., Arcadi, P., Graziano, G., Pucciarelli, G., Simeone, S., Vellone, E., Alvaro, R., & Cicolini, G. (2021). Anxiety, sleep disorders and self-efficacy among nurses during COVID-19 pandemic: A large cross-sectional study. *Journal of Clinical Nursing, 30*(9-10), 1360-1371. https://doi.org/10.1111/jocn.15685

Starcevic, V. (2017). Cyberchondria: challenges of problematic online searches for health-related information. *Psychotherapy and Psychosomatics, 86*(3), 129-133. https://doi.org/10.1159/000465525

Talidong, K. J. B., & Toquero, C. M. D. (2020). Philippine teachers' practices to deal with anxiety amid COVID-19. *Journal of Loss and Trauma, 25*(6-7), 573-579. https://doi.org/10.1080/15325024.2020.1759225

te Poel, F., Baumgartner, S. E., Hartmann, T., & Tanis, M. (2016). The curious case of cyberchondria: A longitudinal study on the reciprocal relationship between health anxiety and online health information seeking. *Journal of Anxiety Disorders, 43*, 32-40. https://doi.org/10.1016/j.janxdis.2016.07.009

Wright, K., Dodd, A. L., Warren, F. C., Medina-Lara, A., Dunn, B., Harvey, J., Javaid, M., Jones, S. H., Owens, C., Taylor, R. S., Duncan, D., Newbold, A., Norman, S., Warner, F., & Lynch, T. R. (2021). Psychological therapy for mood instability within bipolar spectrum disorder: a randomised, controlled feasibility trial of a dialectical behaviour therapy-informed approach (the ThrIVe-B programme). *International Journal of Bipolar Disorders, 9*(1), 20. https://doi.org/10.1186/s40345-021-00226-4

Xiong, H., Yi, S., & Lin, Y. (2020). The psychological status and self-efficacy of nurses during COVID-19 outbreak: a cross-sectional survey. *INQUIRY: The Journal of Health Care Organization, Provision, and Financing, 57*, 0046958020957114. https://doi.org/10.1177/0046958020957114