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Emotional Schema Therapy for Social Phobia in Medical Students

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Quantitative Study

Abstract

Background: Metacognitive beliefs are associated with various psychological pathologies in social anxiety disorder, thus necessitating psychological therapies in individuals with social anxiety symptoms. The current study was conducted to investigate the efficacy of group training in emotional schema therapy on metacognitive beliefs.

Methods: The present study was a quasi-experimental study with a pretest-posttest design and a control group. The statistical population comprised all students with social phobia who attended the University of Surabaya and Airlangga University between 2020 and 2021. Through a multistage cluster sampling strategy, 80 students were chosen at random from a statistical population of 143 individuals. For this purpose, the Social Phobia Inventory (SPIN) and 5-DSM were administered. Analysis of covariance in SPSS software was used to evaluate the intervention's effectiveness.

Results: The mean posttest score differed significantly between the intervention and control groups ($F = 8.46$; $P < 0.05$). Moreover, positive beliefs changed the most (25.7%), while the need to control thoughts changed the least (15.21%).

Conclusion: Emotional schema therapy has effectively reduced symptoms of social phobia and improved medical students' social communication abilities.

Keywords: Metacognition; Phobia; Social anxiety disorder; Schema therapy; Emotion-focused therapy

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Introduction

Humans are social beings with a constant need for social, emotional, and material communication; however, this connection is not easily accessible to all individuals. Anxiety is a common experience that affects social, personal, and educational domains and ranges from low to high in severity (Samantaray, Kar, & Mishra, 2022). However, a moderate level of anxiety can be advantageous because it heightens a person's awareness of danger and the importance of taking action (Amiri-Moghadam, 2019). In contrast, a phobia is not only a weakened response, but also a source of failure and widespread despair (Brook & Schmidt, 2008). Phobias limit a person's options, reduce adaptability, and cause various anxiety disorders, including cognitive and physical disorders, irrational fears, and panic attacks. Social phobia creates numerous difficulties in interacting with other members of society (Voncken, Dijk, Stohr, Niesten, Schruers, & Kuypers, 2021). Social phobia is characterized by extreme anxiety in social situations. These individuals with social phobia fear that, in social situations, they will attract the attention of others and be negatively evaluated by them (Tully, Cosh, & Baune, 2013). This severe anxiety develops into a disorder known as social phobia, with an extreme and persistent fear of social situations in which one's performance may cause embarrassment. Facing the dream prediction of these situations that trigger an immediate anxiety response, the individual realizes that their fear is irrational, that they avoid these situations or tolerate them with great trepidation, and that anxiety interferes with their functioning and social relationships (Zhang, Chen, & Ma, 2018; Sfeir, Saliba, Akel, Hallit, & Obeid, 2022).

The defining characteristic of social phobia disorder is the fear of being observed and evaluated by others. People with social phobia dread saying or doing anything in social situations that will attract the negative attention of others. Social phobia is a chronic anxiety disorder characterized by a fear of being humiliated in social situations and avoiding these situations (Watkins, Blumenthal, Davidson, Babyak, McCants, & Sketch, 2006). The disease can impose restrictions on the patient's way of life, significantly impact significant life decisions, and in many cases result in the loss of numerous important opportunities. This disorder typically results in lengthy incapacity, and sufferers experience severe impairments in their daily work, and social and occupational relationships (Becker, Orellana Rios, Lahmann, Rucker, Bauer, & Boeker, 2018). According to estimates, about 50 to 80% of patients with this disorder have at least 1 other mental disorder (Alfano & Beidel, 2011). Social phobia is associated with other anxiety disorders, depression, alcoholism, and various personality disorders, including avoidant personality disorder. In recent years, this disorder has been regarded as a significant disorder in public health (Bitsika, Sharpley, & Heyne, 2022).

Several factors have been proposed in recent years to explain the persistence and aggravation of social phobia symptoms. Metacognitive beliefs describe a variety of interrelated factors. In addition, they include any knowledge or the cognitive process involved in interpreting, reviewing, or controlling cognitions associated with different forms of psychological pathology in panic disorder (Merikangas, Avenevoli, Acharyya, Zhang, & Angst, 2002). The processing style created by a person's metacognitive beliefs leads to the formation of negative thoughts and ideas about themselves. It facilitates the stabilization of the disorder's symptoms by the person and their environment. Due to the complexity of negative metacognitive beliefs as the cognitive cause of the social phobia, it appears necessary to offer a wide range of

therapeutic interventions to individuals with this phobia. Emotional schema therapy is a method that has been investigated for its effectiveness in alleviating the symptoms of anxiety disorders. Emotional schema therapy is based on the premise that emotional disorders result from emotion-related beliefs, interpretations, and coping mechanisms. In the emotional schema model, when experiencing a negative emotion, a set of evaluations, interpretations, and strategies known as emotional schemas are employed (Santabarbara, Lipnicki, Villagrasa, Lobo, & Lopez-Anton, 2019). Since patients with social phobia engage in objective processing, assessments of the significance of disturbing thoughts are deemed entirely reliable. Metacognitive therapy helps patients become aware of and reflect on their metacognitive processing system. As a result, it shifts the focus of treatment away from attempting to stop obsessive thoughts and toward realizing that these kinds of disturbing thoughts are not always followed by action. In metacognitive therapy, the fusion of thoughts challenges verbal re-mastering techniques and behavioral experiences (Özdemir, Kapikiran, Bülbüloglu, & Saritas, 2022).

Cognitive theories in psychopathology have increased interest in cognitive characteristics and their regulation. Wells and Matthews (1996) combined metamorphosis and information processing for the first time in modern psychological therapies. They used a metacognitive model to explain and treat emotional disorders based on self-regulation and executive performance. Metacognition refers to any knowledge involving a cognitive process that involves cognitive evaluation or control. Metacognitive therapy was developed to address cognitive-behavioral deficits. Wells (2005) argues that cognitive therapy emphasizes the origin of thought content, given that negative thoughts in emotional disorders result from dysfunctional beliefs' activity. While no attempt has been made to determine how dysfunctional thoughts are formed or what constitutes and operates these dysfunctional thoughts, it is known that they exist. People's metacognitive beliefs and how they control their attention are critical to understanding how their thoughts work. Do not confront long-term and frequent beliefs about trauma or physical symptoms or challenge thoughts and cognitive errors. Metacognitive therapy focuses on factors that control thinking and alter mental state (Harter, Conway, & Merikangas, 2003; Naghibzadeh, Johari Fard, & Moradi, 2018).

In most social phobia treatments, more emphasis has been placed on the content of thoughts and avoidance behaviors. Positive metacognitive beliefs about anxiety are related to an individual's positive beliefs about the efficacy of anxiety-based coping strategies, whereas these are incompatible (Morrison & Heimberg, 2013). Low cognitive trust refers to a person's lack of confidence in memory and attention, which are incompatible with metacognitive components and strategies. Numerous studies have demonstrated a link between certain facets of metacognition and psychological disorders (Izgic, Akyuz, Dogan, & Kugu, 2004). Metacognitive therapy's success in treating anxiety disorders can be attributed to its ability to target the positive and negative aspects of one's self-perceived anxiety. Positive metacognitive beliefs in anxiety and low cognitive trust are also considered to be the causes of anxiety and worry (Al-Bawaleez, 2022).

The third most common psychiatric disorder is social phobia. This disorder is marked by a persistent fear of one or more social or functional situations in which a person may be closely watched by others and is afraid to act in a way that will make them look bad or humiliate them. This disorder affects approximately 7 to 8% of the population. According to previous studies, women are more likely than men to suffer

from social phobia (Celano, Daunis, Lokko, Campbell, & Huffman, 2016). Researchers have considered this disorder due to its high prevalence and serious interference with a person's personal and professional life. Social phobia usually manifests in late childhood or early adolescence (Jia, Dai, Chu, Wang, Hao, & Wang, 2022).

In addition to drug therapies, numerous psychological treatments have been developed over the years to treat this disorder. In the 1950s and 1960s, the first generation of behavioral techniques was developed in contrast to the classical psychoanalytic approach based on classical conditional and factor perspectives. In the 1990s, the second generation of these therapies (known as "cognitive-behavioral") emerged with a greater emphasis on the cognitive aspects, emphasizing the role of beliefs and cognitive processes such as schemas and information processing in the etiology of mental disorders (Malekian, Afshar, & Ahamadzadeh, 2014). The current study examined the effect of emotional schema intervention on metacognitive belief components.

When contemplating the effects of mental disorders, mental health is essential. The prevalence of depression and social phobia among students will have negative individual and social repercussions, thus necessitating universities' efforts to reduce it. Due to the importance of identifying strategies to promote students' mental health and the paucity of prior research on this group, the present study investigated the effect of intervention through emotional schema on social anxiety in a student sample.

Methods

The quasi-experimental study was conducted using a pretest-posttest design with a control group. This statistical population consisted of all students with social phobia enrolled at the University of Surabaya and Airlangga University, Indonesia, from 2020 to 2021. From the entire student body, 80 students were randomly chosen using a multi-stage cluster sampling strategy. Thus, 5 fields of study were identified. In each academic discipline, 16 students from different academic years were chosen.

Students filled out the Social Phobia Inventory (SPIN). Then, 80 students diagnosed with social phobia based on a cut-off score of 18 or higher on the questionnaire and the Fifth Diagnostic and Statistical Manual of Mental Disorders (5-DSM) criteria were selected. The selected individuals were randomly allocated to intervention and control groups (40 people in each group). The study inclusion criteria included diagnosis of social phobia disorder based on the 5-DSM and a cut-off score of 46 on the SPIN scale. Failure to receive emotional schema treatment training prior to entry into the study or to receive other psychological interventions occurred simultaneously. The study exclusion criteria included not agreeing to participate, not completing the questionnaire, and missing 3 consecutive sessions.

All participants were briefed on the procedure and execution of the project, and their consent was obtained. In order to comply with ethical principles, they signed a consent form to participate in the study, and the researcher assured them that all information presented during the training sessions and the questionnaire results would be kept confidential. The intervention group received treatment for emotional schemas, whereas the control group did not. The study groups completed the questionnaires in two phases: pretest and posttest.

Before surveys could be done, a demographic information questionnaire had to be filled out. The questionnaire contained questions regarding the participants' age, term, gender, marital status, and socioeconomic status. The SPIN, created by Connor, Davidson, Churchill, Sherwood, Foa, and Weisler (2000), consists of 17 questions and the 3 subscales of physiological fear, avoidance, and anxiety. The questions are

scored on a 5-point Likert scale ranging from 0 (not at all) to 5 (unlimited). The total score of the inventory ranges between 0 and 85, with higher scores indicating greater social anxiety. To interpret the scores, a cut-off score of 40 with a diagnostic accuracy of 80% and a cut-off score of 50 with a diagnostic accuracy of 89% is indicative of social phobias. Connor et al. (2000) determined the reliability coefficient of this scale to be between 0.78 and 0.89 by retesting in groups with a diagnosis of social phobia disorder, and the internal consistency coefficient for the whole scale to be 0.94 using Cronbach's alpha method in healthy individuals.

In addition, the Metacognitions Questionnaire (MCQ) was utilized. Wells and Cartwright-Hatton (2004) designed the questionnaire to measure individual differences in metacognitive beliefs, judgments, and supervisory attitudes. It consists of 30 questions and 5 subscales measuring confidence, positive beliefs, cognitive self-awareness, uncontrollability and danger of thoughts, and the desire to control one's thoughts. The questions are scored using a 4-point Likert scale ranging from 1 (strongly disagree) to 4 (strongly agree). The total score of the questionnaire ranges between 30 and 120. They determined the retest reliability of the whole questionnaire to be 0.75 and its subscales to be in the range of 0.76-0.93 using Cronbach's alpha coefficient.

Notably, in this study, the intervention group received 5 weeks of training (2 sessions each week for 90 minutes). The educational content of the emotional schema therapy sessions is presented in table 1.

A P-value of less than 0.05 was considered significant. Accordingly, SPSS software (version 21, IBM Corp., Armonk, NY, USA) was used to perform descriptive and inferential statistics on the data, including frequency, percentage, mean and standard deviation.

Results

Table 2 presents the demographic characteristics of the subjects.

Table 1. The educational content of the emotional schema therapy sessions

Session	Educational content
1	Explaining social phobia disorder based on emotional schema therapy, communicating, evaluating, and teaching the dynamic schema treatment model
2	Emotions and patient validation, describing the function of emotions, and distinguishing between thoughts, emotions, and behavior
3	Giving the patient credit, mindfulness corresponding with the patient's negative beliefs, emotions, identifying the patient's difficult strategies and emotional schemas
4	Accrediting patients' emotions, using emotion recognition and labeling techniques, recording emotions, observing and describing emotions
5	Validating patient emotions, using emotion normalization techniques, educating transient emotions, and reducing stress by exercising
6	Validating the patient's emotions, confronting emotional misconceptions, increasing emotion acceptance, and using a guest metaphor
7	Explaining the benefits and drawbacks of accepting emotions, observing and describing emotions, validating the patient's emotions, using the ladder of meaning technique, and challenging the patient to abandon troublesome strategies
8	Identifying useful strategies and introducing mindfulness to help stop worrying and rumination, as well as behavioral techniques, mixed emotion tolerance, and mindfulness
9	Reducing negative emotional beliefs and interpretations, increasing the power of emotional acceptance, taking contradictory action, taking a position far from judging for emotion, and conducting behavioral experiments to test false emotional beliefs
10	Accrediting sick emotions, re-confronting negative beliefs and emotional interpretations, linking to higher values, explaining the technique for creating emotional space, increasing tolerance for mixed emotions

Table 2. Demographic characteristics of participating students

Demographic characteristics	Variable	Frequecy (%)		P-value
		Intervention group	Control group	
Age (year)	< 20	6 (15)	6 (15)	0.63
	21-23	17 (42)	21 (52)	
	24-26	14 (35)	11 (28)	
	> 26	3 (8)	2 (5)	
Term	< 4	13 (32)	14 (35)	0.37
	4-8	18 (45)	15 (37)	
	> 8	9 (23)	11 (28)	
Gender	Female	23 (58)	26 (65)	0.19
	Male	17 (42)	14 (35)	
Marital status	Single	27 (68)	21 (52)	0.24
	Married	13 (32)	19 (48)	
Socioeconomic status	Very poor	5 (11)	3 (7)	0.46
	Poor	7 (18)	8 (20)	
	Medium	18 (45)	19 (48)	
	Good	9 (23)	7 (18)	
	High	1 (3)	3 (7)	

The chi-square test was used to evaluate the significance of the parameter values. The results indicated that none of the groups had a significant relationship ($P > 0.05$).

Table 3 displays the mean and standard deviation of variables of metacognitive belief and its components in the intervention and control groups in the pretest and posttest phases. As shown in table 3, after emotional schema treatment in the intervention group, the mean scores of metacognitive belief variables of students with social phobia decreased.

Figure 1 depicts, in percentage, the rate of change for each metacognitive belief component. As can be seen, the most changes occurred in positive beliefs (25.7%), while the least occurred in need to control thoughts (15.21%).

Multivariate analysis of covariance (MANCOVA) was used to see if there were any differences between the intervention and control groups (Table 4). Based on the total score of cognitive beliefs in the groups receiving emotional schema therapy and control therapy, Wilkes' lambda coefficient equaled 0.106 and the eta coefficient equaled 0.92 after adjusting the variable and modifying the analysis of multivariate covariance ($F = 37.41$; $P < 0.05$).

According to table 4, it can be concluded that the results showed that the intervention caused noticeable changes between the groups in the pretest and posttest ($P < 0.05$). Notably, the effect of the intervention on both variables has been observed for all metacognitive belief components.

Table 3. The mean and standard deviation of metacognitive belief variables

Components	Group	Mean ± SD	
		Pretest	Posttest
Cognitive self-awareness	Intervention	20.63 ± 1.87	16.41 ± 1.48
	Control	19.84 ± 1.64	20.74 ± 1.72
Need to control thoughts	Intervention	17.09 ± 1.36	14.49 ± 1.03
	Control	17.42 ± 1.39	17.26 ± 1.14
Lack of control of thoughts	Intervention	16.73 ± 1.64	13.07 ± 1.48
	Control	17.23 ± 1.71	16.45 ± 1.76
Positive beliefs	Intervention	15.37 ± 1.13	11.42 ± 1.61
	Control	15.29 ± 1.27	14.93 ± 1.44
Cognitive reassurance	Intervention	16.89 ± 1.26	13.18 ± 1.94
	Control	16.43 ± 1.47	16.75 ± 1.17

SD: Standard deviation

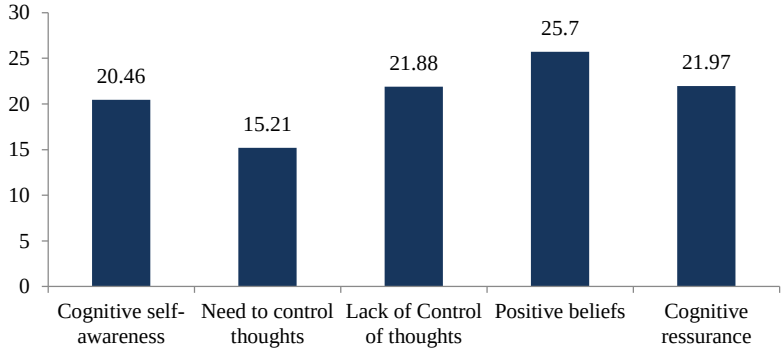

Figure 1. Percentage reduction of metacognitive beliefs components

Discussion

The current study was conducted with the aim to examine the impact of an educational intervention on medical students with social phobia. Emotional schema training in groups affected students' metacognitive beliefs (cognitive self-awareness, need to control thoughts, lack of control over thoughts, positive beliefs, and cognitive reassurance). The results also revealed that the intervention caused noticeable differences in the posttest results compared to the pretest, and between groups.

The present study sample was selected from among the student population, which is a homogeneous and typical population. Due to a reduction in variability, a specific factor structure has been extracted from this data. In contrast, if a heterogeneous community, such as those with different mental disorders, were sampled, the variance of the variables would increase dramatically, and a new factor structure might emerge. Leahy, Holland, and McGinn (2011) created this scale to diagnose emotional schemas underlying the problems of individuals with refractory mental disorders.

Table 4. Results of analysis of covariance in the examination of the difference in scores obtained for the components of metacognitive beliefs

Components	Evaluation variables	SS	df	Mean MS	F-value	P-value
Cognitive self-awareness	Intervention	20.43	1	20.43	7.48	0.003
	Group	86.51	1	86.51	34.26	0.002
	Error	46.29	24	1.93		
	Total	1164.13	28			
Need to control thoughts	Intervention	17.24	1	17.24	6.59	0.010
	Group	139.41	1	139.41	84.54	0.001
	Error	47.12	24	1.96		
	Total	6647.73	28			
Lack of control of thoughts	Intervention	21.76	1	21.76	9.13	0.040
	Group	114.25	1	114.25	38.14	0.003
	Error	73.68	24	3.07		
	Total	6409.17	28			
Positive beliefs	Intervention	7.28	1	7.28	2.43	0.009
	Group	152.07	1	152.07	94.28	0.001
	Error	14.19	24	0.59		
	Total	6249.15	28			
Cognitive reassurance	Intervention	43.51	1	43.51	26.73	0.002
	Group	127.13	1	127.13	88.19	0.001
	Error	46.27	24	1.93		
	Total	5329.14	28			

Consequently, some species on this scale sought answers that appeared vague and incomprehensible to the average human. They also stated that dysfunctional ways of controlling emotions could be changed through determining and changing people's emotional schemas. Stein et al. (2017) believed that at least 3 variables or items are required to identify a particular factor using the factor analysis method. Emotional self-awareness is an adaptive factor in emotion regulation that includes reviewing, evaluating, and modifying emotional experiences, and has been included as one of the 6 factors of emotion regulation on the Difficulties in Emotion Regulation Scale (DERS) in the research by Lipsitz and Schneier (2000).

In this emotional therapy intervention, dysfunctional coping strategies used in social situations, such as negative metacognitive beliefs about oneself, are first identified. Then, applying the approach of accepting emotions, mindfulness, and validating the patient's feelings reduces the individual's effort to control their thoughts, physical sensations, and phobias. The patient is then instructed to observe emotions without judging them to reduce the signs and symptoms of panic (Watkins et al., 2006).

Social phobias can impair social functioning and are linked to lower levels of career advancement, a higher risk of unemployment, and difficulty forming intimate relationships. Despite the numerous negative effects of social phobia, few sufferers seek professional assistance. One possible explanation for the low level of assistance seeking is that social phobia prevents these individuals from interacting with psychiatric providers and others. Mindfulness techniques such as detached consciousness attention and fusion increase an individual's capacity for fundamental acceptance when regulating emotional intervention. By increasing the psychological flexibility of individuals, the application of mindfulness techniques facilitates the process of accepting emotions and promotes their conscious existence (Sfeir et al., 2022).

Additionally, observing and getting feelings is beneficial compared to relying on ineffective coping strategies based on flawed metacognitive beliefs, such as depression. By curiously focusing on the present moment and advancing the experience in the present moment with curiosity, mindfulness techniques promote openness and acceptance. In addition, they cause individuals to reduce their efforts in maintaining dysfunctional metacognitive beliefs, and instead, concentrate on the present experience (Bitsika et al., 2022).

The limitations of the study include purposeful sampling, a quasi-experimental design rather than a full experimental design, and the one-dimensional evaluation of research variables (for example, the assessment of social phobia symptoms with only one tool). Other limitations of this study included the small sample size and incomparability with common cognitive-behavioral therapies or other psychotherapies. Therefore, it is recommended that future researches in this field compare this treatment in larger groups and to other treatment methods because the study of the therapeutic effect mentioned on other mental disorders can be extremely beneficial in psychotherapy. It is suggested that other researchers interested in this field investigate the subject discussed in this study among students from other universities and employ alternative experimental designs involving random sampling. In addition, it is suggested that they monitor the effect of the intervention in question to determine the degree of stability of the results over time and collect information using additional self-report or interview methods.

Conclusion

It is recommended that students with social phobia symptoms be taught this

therapeutic approach as an effective intervention to reduce their metacognitive beliefs through emotional schema treatment. It is important to note that this study was conducted on medical students of the University of Surabaya and Airlangga University, which reduces the generalizability of its findings to other samples.

Conflict of Interests

Authors have no conflict of interests.

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None.

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