Educ Res Med Sci. 2024 December; 13(2): e154119 https://doi.org/10.5812/ermsj-154119

Published Online: 2024 November 19 **Research Article**

The Efficacy of Metacognitive Therapy on Social Avoidance and Distress, and Academic Persistence Among Students with Exam Anxiety

Sara Mousavi [1], Alireza Heidari [1,*], Sahar Safarzadeh [1], Parviz Asgari [1], Marzieh Talebzadeh Shoushtari [1]

[1] Department of Psychology, Ahvaz Branch, Islamic Azad University, Ahvaz, Iran

[*] ***Corresponding Author:*** Department of Psychology, Ahvaz Branch, Islamic Azad University, Ahvaz, Iran. Email: heidaria945@gmail.com

Received: 28 August, 2024; **Revised:** 4 October, 2024; **Accepted:** 21 October, 2024

Abstract

Background: Attendance in educational settings such as schools is often accompanied by varying levels of anxiety for many students. One of the most significant types of anxiety in educational environments is exam anxiety.

Objectives: This study aimed to investigate the efficacy of metacognitive therapy on social avoidance, distress, and academic persistence among students with exam anxiety in 2023.

Methods: This quasi-experimental study utilized a pretest-posttest design to assess the efficacy of metacognitive therapy for female students with exam anxiety. All female second-grade high school students in Ahvaz city who reported experiencing exam anxiety during the 2022 - 2023 academic year were included in the study sample. A purposive sample of 36 female students was randomly divided into two groups: An experimental group receiving metacognitive therapy and a control group. The experimental group participated in seven 60-minute sessions of metacognitive therapy, conducted twice a week. The control group did not receive any intervention during the study period. The Social Avoidance and Distress Scale (SADS) and Academic Persistence Scale (APS) were administered to both groups before and after the intervention. Data were analyzed using analysis of covariance to control for baseline differences.

Results: Metacognitive therapy was effective in reducing social avoidance and distress, as well as in improving academic persistence in high school students ($P < 0.001$). Specifically, the mean social avoidance and distress score decreased significantly from 19.67 ±1.68 to 10.11 ±2.13 in the metacognitive therapy group. Additionally, the mean academic persistence score increased significantly from 9.39 ±1.78 to 23.72 ±3.10 in the metacognitive therapy group.

Conclusions: Metacognitive therapy effectively reduced social avoidance and distress while increasing academic persistence in female students with exam anxiety. This study highlights the therapy's potential as a valuable intervention for improving the overall well-being and academic performance of students facing similar challenges.

Keywords: Academic Persistence, Anxiety, Distress, Metacognitive, Students

1. Background

Exam anxiety, a pervasive concern among students, is a significant emotional challenge that negatively impacts academic performance. Characterized as an emotional response or state of stress that precedes or accompanies exams, it is often perceived as a threat (1). In situations of academic pressure, exam anxiety can lead to decreased academic achievement and intrusive thoughts (2). Cognitive models suggest that exam anxiety comprises two primary dimensions: Cognitive, characterized by worrying thoughts and rumination, and behavioral, manifested through physiological reactions during exams and reduced performance (3). Research indicates that high levels of exam anxiety are associated with various negative outcomes, including academic underachievement, low self-esteem, self-doubt, poor concentration, and unpleasant physical symptoms (4, 5). These challenges can undermine a student's ability to cope effectively with exams and

contribute to poor mental health and negative emotions (6).

Exam anxiety has also been linked to heightened social avoidance and distress among students (7). This condition is characterized by a pronounced fear or anxiety regarding social situations that may expose individuals to scrutiny or negative judgment. Those affected by this condition often experience intense fear of acting in a humiliating or embarrassing manner or displaying signs of anxiety in social settings, leading them to avoid social interactions (8). Social distress, defined as an unpleasant experience in the company of others, acts as an external influence that diminishes or inhibits specific behaviors or tendencies. In social interactions, social distress is characterized by negative emotions such as discomfort, anxiety, and nervousness in group and social settings (9). Similarly, social avoidance is defined as the imagined or actual avoidance of being with others, conversing with them, or withdrawing from them without a specific reason (10).

Within the positive psychology paradigm, the concept of academic persistence has emerged as a focus on positive processes related to student academic life and well-being, distinct from the concept of academic resilience (11). Resilience generally refers to an individual's capacity to bounce back from significant adversity, while academic persistence specifically examines how students manage the everyday challenges and setbacks commonly encountered in school, such as receiving lower-than-expected grades, failing to win academic competitions, or experiencing exam anxiety and evaluation, which can temporarily undermine motivation and engagement (12). Academic persistence reflects a learner's ability to overcome the problems, obstacles, and challenges typical in daily academic life. This positive orientation of academic persistence aligns with the growth of positive psychology, which emphasizes the constructive aspects of individuals' lives and focuses on students' abilities to overcome challenges and difficulties, rather than focusing on the risk of psychopathology (13). Persistent students maintain high levels of motivation, progress, and academic performance, even in the face of stressful conditions and events that might otherwise lead to poor school performance (14).

In recent decades, there has been significant advancement in the field of cognitive science. Among the therapies that have proven effective in educational settings and gained the attention of experts is metacognitive therapy (15). Over the past decade, a new approach in psychology, known as metacognitive therapy, has emerged, building on cognitive-behavioral methods. This model was developed to address the limitations of traditional cognitive theories (16). Metacognition is a type of cognition—cognition about cognition—that involves monitoring cognitive processes and is one of the most effective predictors of performance on complex tasks (17). The metacognitive process enables learners to be aware of how to use available information to achieve a goal, to judge cognitive processes in a specific task, and to apply these strategies to achieve their goals. Learners also assess their progress during and after task completion (18).

Metacognitive therapy, a relatively recent approach in psychological intervention, emphasizes the importance of individuals developing awareness and control over their cognitive processes (19). By focusing on metacognition—monitoring and regulating one's thoughts and behaviors—this therapy aims to help individuals identify and challenge negative thought patterns that contribute to anxiety and distress. This approach is particularly relevant for students experiencing exam anxiety, as it provides them with tools to manage their thoughts and emotions effectively in stressful situations (20). Research has demonstrated the effectiveness of metacognitive therapy in reducing anxiety disorders in children and adolescents (21), social anxiety disorder (22), and improving academic motivation, social avoidance, and distress among students (15).

Given the widespread prevalence of exam anxiety and its documented negative impact on academic achievement, there is a pressing need for effective therapeutic interventions to address this issue. While previous research has explored various strategies to mitigate exam anxiety, the specific efficacy of metacognitive therapy on social avoidance, distress, and academic persistence among students with exam anxiety remains understudied.

2. Objectives

This study aimed to address this gap in the literature by investigating the effectiveness of metacognitive therapy in addressing these critical factors in a high school population.

3. Methods

This study employed a quasi-experimental design with pre- and post-test measures to evaluate the efficacy of an intervention for female high school students experiencing exam anxiety. The study population comprised all second-grade female high school students

in Ahvaz city who exhibited exam anxiety during the 2022 - 2023 academic year. A purposive sample of 36 female students was selected based on specific inclusion criteria, including providing informed consent, scoring above average on an exam anxiety questionnaire, and not participating in other relevant interventions concurrently. The sample size of 36 participants was determined through an a priori power analysis using G*Power software, aiming to ensure sufficient statistical power to detect a medium effect size (f = 1.02) with an alpha level of 0.05 and a desired power of 0.90, resulting in a required sample size of 36 participants.

To ensure random assignment, a table of random numbers was used. Participants were sequentially numbered, and their corresponding numbers were matched with randomly generated numbers from the table. The first 18 participants were assigned to the experimental group receiving metacognitive therapy, while the remaining 18 were assigned to the control group (Figure 1). Exclusion criteria included missing multiple therapy sessions and a lack of willingness to continue the intervention.

Informed consent was obtained from all participating students prior to their involvement in the study. A detailed information sheet was provided to each potential participant, outlining the purpose of the study, the procedures involved, potential risks and benefits, and the right to withdraw from the study at any time.

3.1. Instruments

3.1.1. The Social Avoidance and Distress Scale

Developed by Watson and Friend (23), this scale is designed to assess social avoidance and distress. The Social Avoidance and Distress Scale (SADS) consists of 28 items, with half answered positively and the other half negatively, yielding a total score range from 0 to 28. A score above 12 indicates high levels of social avoidance and distress. Watson and Friend (23) reported a test-retest reliability coefficient of 0.68 and a concurrent validity of 0.54 for the scale. Ebrahimzade et al. (15) reported a Cronbach's alpha of 0.73 for the entire scale. In the present study, Cronbach's alpha was used to assess the scale's reliability, resulting in a value of 0.85, indicating good internal consistency.

3.1.2. The Academic Persistence Scale

The Academic Persistence Scale (APS) is a six-item instrument developed by Martin and Marsh (11) to measure academic persistence. Items are rated on a 5-point Likert Scale, ranging from "strongly agree" to "strongly disagree," with higher scores indicating higher levels of academic persistence. The Persian version of the APS has demonstrated reliability with a Cronbach's alpha coefficient of 0.87 (24). In the present study, the scale's reliability was assessed using Cronbach's alpha, resulting in a coefficient of 0.78, indicating acceptable internal consistency.

3.2. Intervention

3.2.1. Metacognitive Therapy

In this study, metacognitive therapy was conducted over seven 60-minute sessions, held twice a week, following the techniques outlined by Wells et al. (25). Metacognitive therapy, in brief, comprises the following stages:

- Session 1: Formulation—before developing a specific formulation, positive and negative metacognitive beliefs, as well as strategies for controlling thoughts and coping responses, are identified.

- Session 2: Introduction to Therapy—in this phase, the therapist introduces the patient to the metacognitive model, helping the patient understand that their primary issue lies in their beliefs about worry and their maladaptive strategies for managing worry.

- Session 3: Challenging negative metacognitive beliefs related to the controllability of worry—two main methods for challenging these beliefs are verbal restructuring and behavioral experiments.

- Session 4: Challenging negative metacognitive beliefs related to the danger of worry—verbal restructuring and behavioral experiments are used to modify or weaken beliefs about the perceived danger of worry.

- Session 5: Challenging positive metacognitive beliefs related to worry—in this model, positive metacognitive beliefs about worry are considered normal and not necessarily pathological. While the main issue is the patient's flexibility in choosing and implementing strategies to cope with intrusive thoughts and emotions, positive beliefs can influence the processing style of negative thoughts and emotions.

- Session 6: Reinforcing new schemas to replace the worry process—after sufficient modification of negative and positive metacognitive beliefs, this phase focuses on developing and strengthening alternative metacognitive schemas to manage responses to intrusive thoughts, which is crucial for relapse prevention.

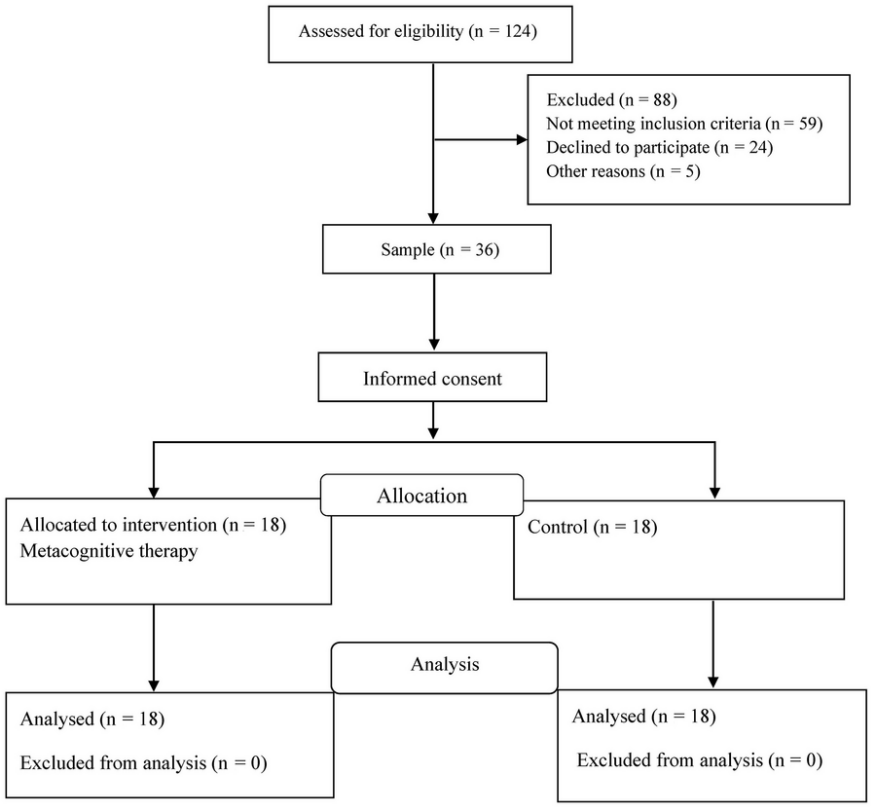

Figure 1. Flow diagram of the sampling process

- Session 7: Relapse prevention—relapse prevention involves reviewing residual metacognitive beliefs that remain as potential vulnerabilities.

3.3. Data Analysis

Descriptive statistics (mean, standard deviation) and inferential statistics (analysis of covariance) were conducted using SPSS version 27 to analyze the data collected at the pre-test and post-test stages.

4. Results

This study involved 36 female high school students aged 15 to 18 who reported experiencing exam anxiety. The mean age of the control group was 17.21 ±2.12 years, and the mean age of the experimental group was 16.76 ±2.38 years. A *t*-test revealed no significant age difference between the two groups. Table 1 summarizes the mean and standard deviation for social avoidance and distress, as well as academic persistence, at the pre-test and post-test stages.

Before data analysis, the assumptions underlying analysis of covariance were verified. The Kolmogorov-Smirnov Z test confirmed the normality of the data for social avoidance and distress (Z = 0.19, P = 0.257) and academic persistence (Z = 0.24, P = 0.486). Levene's test indicated homogeneity of variances for both social avoidance and distress (F = 0.99, P = 0.384) and academic persistence (F = 0.60, P = 0.518). Based on these findings, analysis of covariance was deemed appropriate. To compare the experimental and control groups based on post-test scores while controlling for pre-test effects, a multivariate analysis of covariance was conducted. Table 2 presents the results, demonstrating the impact of metacognitive therapy on social avoidance, distress, and academic persistence among students with exam anxiety.

The multivariate analysis of covariance revealed significant differences between the metacognitive

Table 1. Mean and Standard Deviation ± SD of Social Avoidance and Distress, and Academic Persistence in the Pre-test and Post-test Stages [a]

Variables and Phases	Metacognitive Therapy Group	Control Group	P (Comparison Between Groups)
Social avoidance and distress			
Pre-test	19.67 ± 1.68	20.28 ± 2.10	0.343
Post-test	10.11 ± 2.13	20.94 ± 2.90	0.001
Academic persistence			
Pre-test	9.39 ± 1.78	9.83 ± 1.68	0.451
Post-test	23.72 ± 3.10	10.28 ± 2.51	0.001

[a] Values are expressed as mean ± SD.

Table 2. Results of Multivariate Analysis of Covariance on Posttest Scores of Social Avoidance and Distress, and Academic Persistence

Variables	Value	df	Error df	F	P	η^2
Pillais Trace	1.12	4	56	95.51	0.001	0.56
Wilks Lambda	0.05	4	54	95.51	0.001	0.77
Hotelling's trace	14.69	4	52	95.51	0.001	0.88
Roy's largest root	14.46	2	28	95.51	0.001	0.94

therapy and control groups in at least one dependent variable ($P < 0.001$) (Table 2). Univariate analysis of covariance further demonstrated significant group differences in social avoidance and distress, as well as academic persistence ($P < 0.001$). These findings suggest that metacognitive therapy effectively reduced social avoidance and distress while increasing academic persistence among female students with exam anxiety (Table 3).

5. Discussion

This study evaluated the effectiveness of metacognitive therapy in addressing social avoidance, distress, and academic persistence among students experiencing exam anxiety. The findings demonstrate the efficacy of metacognitive therapy in reducing social avoidance and distress, consistent with previous studies by Ebrahimzadeh et al. (15) and Nordahl and Wells (26). To elucidate these findings, it can be posited that metacognitive therapy, through its various techniques, assists individuals in managing and observing their thoughts rather than struggling against them, and in challenging their metacognitive beliefs. Primarily, challenging metacognitive beliefs empowers individuals to exert control over their thoughts and recognize the unfounded nature of their worries and ruminations. By employing these techniques, individuals can reduce anxiety and avoidance behaviors through improved functioning (26). Furthermore, by focusing on the external characteristics of situations, negative self-evaluation, perceived threat of others' reactions, and social pressure decrease. Metacognitive therapy fosters positive experiences, equipping individuals with greater motivation to apply these techniques, thereby disrupting the maladaptive cycle of metacognitive beliefs, avoidance behaviors, anxiety, and rumination encountered in various situations (15).

From a metacognitive perspective, negative self-beliefs and thoughts are products of processing styles guided by individual metacognitions. Through metacognitive therapy, students can learn new strategies to manage their anxiety (22). By altering their attitudes toward exams and failure, they can significantly improve academic performance and self-esteem. Consequently, metacognitive therapy can help students overcome social avoidance and distress, leading to an overall improvement in their daily lives. They can identify maladaptive behaviors and replace them with healthier, more effective ones (15). Overall, metacognitive therapy can help students achieve meaningful improvements in social avoidance and distress through increased self-awareness, higher self-esteem, and greater life satisfaction.

Moreover, the results indicated that metacognitive therapy was effective in enhancing academic persistence among students. This finding aligns with previous studies by Rashidzadeh et al. (27) and Ghadampour et al. (28). To explain this, it can be argued that by increasing awareness and control over stressful events, students are better equipped to cope with exam

Table 3. Results of Univariate Analysis of Covariance on Post-test Scores of Social Avoidance and Distress, and Academic Persistence

Variables	SS	df	MS	F	P	η^2
Social avoidance and distress	27043.38	1	27043.38	113.88	0.001	0.89
Academic persistence	15453.02	1	15453.02	90.93	0.001	0.87

pressure and stress, resulting in improved and more consistent performance in exams—in other words, greater academic persistence. In this context, metacognitive therapy incorporates techniques such as deep breathing exercises, mental rehearsal, and positive imagery, which help students manage their anxiety effectively. By implementing metacognitive therapy, students can handle exam-related stress and anxiety more effectively, leading to improved performance. Additionally, this approach fosters greater self-awareness and enhances self-esteem and confidence (27).

Metacognition is a therapeutic approach that empowers students to manage stress, anxiety, and academic pressures effectively, thereby strengthening their academic persistence. Research indicates that metacognitive therapy can significantly improve academic persistence among students by fostering increased self-confidence, reducing stress and anxiety, improving problem-solving skills, and enhancing focus and attention to academic material (28). Consequently, with consistent and appropriate application of metacognitive therapy, students can better navigate academic challenges and increase their academic persistence.

One limitation of this study is the gender homogeneity of the sample, which may limit the generalizability of the findings to male students. Further research is needed to examine the effectiveness of metacognitive therapy for both male and female students. Additionally, as this research relied on self-report questionnaires, there is potential for response bias. Future studies could consider incorporating multiple data collection methods, such as interviews or observations, to enhance the validity and reliability of the findings.

5.1. Conclusions

The present study demonstrated the efficacy of metacognitive therapy in addressing the multifaceted challenges faced by female students with exam anxiety. The findings revealed a significant reduction in social avoidance and distress, along with a notable increase in academic persistence among participants. These outcomes underscore the potential of metacognitive therapy as a valuable intervention for enhancing the overall well-being and academic performance of students struggling with exam anxiety. Future research could examine the long-term effects of metacognitive therapy on these outcomes, as well as its applicability to male students and individuals with varying levels of exam anxiety. Additionally, investigating the mechanisms through which metacognitive therapy exerts its beneficial effects could provide further insights into the underlying processes involved in overcoming exam anxiety and improving academic performance.

Footnotes

Authors' Contribution: S. M. and S. S.: Study concept and design, acquisition of data, analysis and interpretation of data, and statistical analysis; A. H. and P. A.: Administrative, technical, and material support, study supervision; A. H. and M. T. S.: Critical revision of the manuscript for important intellectual content.

Conflict of Interests Statement: The authors of this article report no conflict of interest.

Data Availability: The dataset used in the present study will be provided by the corresponding author upon reasonable request.

Ethical Approval: This study was conducted in accordance with the ethical guidelines outlined by the Ethical Committee of Islamic Azad University- Ahvaz Branch (approval code: IR.IAU.AHVAZ.REC.1402.068).

Funding/Support: This study did not receive any funding.

Informed Consent: Informed consent was obtained from all participating students prior to their involvement in the study.

References

1. Roos A, Goetz T, Voracek M, Krannich M, Bieg M, Jarrell A, et al. Test Anxiety and Physiological Arousal: A Systematic Review and Meta-

Analysis. *Educ Psychol Rev*. 2021;**33**(2):579-618. https://doi.org/10.1007/s10648-020-09543-z.

2. McCurdy BH, Scozzafava MD, Bradley T, Matlow R, Weems CF, Carrion VG. Impact of anxiety and depression on academic achievement among underserved school children: evidence of suppressor effects. *Curr Psychol*. 2022:1-9. [PubMed ID: 36213567]. [PubMed Central ID: PMC9524334]. https://doi.org/10.1007/s12144-022-03801-9.
3. Iranfar S, Khoshnoudi R, Rezaei M, Ahmadi S, Khoshay A, Rashiditabar A, et al. The Relationship between Test Anxiety and Academic Performance of Students in Vital Statistics Course. *Educ Res Med Sci*. 2014;**2**(2). e77230.
4. Maier A, Schaitz C, Kroner J, Berger A, Keller F, Beschoner P, et al. The Association Between Test Anxiety, Self-Efficacy, and Mental Images Among University Students: Results From an Online Survey. *Front Psychiatry*. 2021;**12**:618108. [PubMed ID: 34916965]. [PubMed Central ID: PMC8668864]. https://doi.org/10.3389/fpsyt.2021.618108.
5. Thiriveedhi S, Myla A, Priya CV, Vuppuluri K, Dulipala P, Vudathaneni VKP. A Study on the Assessment of Anxiety and Its Effects on Students Taking the National Eligibility cum Entrance Test for Undergraduates (NEET-UG) 2020. *Cureus*. 2023;**15**(8). e44240. [PubMed ID: 37772207]. [PubMed Central ID: PMC10523350]. https://doi.org/10.7759/cureus.44240.
6. Liu Y, Pan H, Yang R, Wang X, Rao J, Zhang X, et al. The relationship between test anxiety and emotion regulation: the mediating effect of psychological resilience. *Ann Gen Psychiatry*. 2021;**20**(1):40. [PubMed ID: 34488816]. [PubMed Central ID: PMC8419945]. https://doi.org/10.1186/s12991-021-00360-4.
7. Putwain DW, Stockinger K, von der Embse NP, Suldo SM, Daumiller M. Test anxiety, anxiety disorders, and school-related wellbeing: Manifestations of the same or different constructs? *J Sch Psychol*. 2021;**88**:47-67. [PubMed ID: 34625210]. https://doi.org/10.1016/j.jsp.2021.08.001.
8. Luo Y, Shi Z, Zhang B, Peng Y, Zhang A, Zeng Y. Interpersonal sensitivity and social avoidance and distress in female college students: Mediating role of self-inconsistency and moderating role of self-consciousness. *J Psychol Africa*. 2021;**31**(3):219-25. https://doi.org/10.1080/14330237.2021.1927342.
9. Yuan Y, Jiang S, Wen X, Han Z, Wu D, Wang X, et al. The Chain-Mediation Pathway of Social Avoidance to Depression in College Students Is Regulated by Self-Esteem. *Front Psychol*. 2022;**13**:802161. [PubMed ID: 35656501]. [PubMed Central ID: PMC9152420]. https://doi.org/10.3389/fpsyg.2022.802161.
10. Kraft JD, Grant DM, White EJ, Taylor DL, Frosio KE. Cognitive mechanisms influence the relationship between social anxiety and depression among college students. *J Am Coll Health*. 2021;**69**(3):245-51. [PubMed ID: 31518208]. https://doi.org/10.1080/07448481.2019.1661844.
11. Martin AJ, Marsh HW. Academic resilience and its psychological and educational correlates: A construct validity approach. *Psychol Sch*. 2006;**43**(3):267-81. https://doi.org/10.1002/pits.20149.
12. Stephen JS. Academic Persistence in an Online Course or Program. In: Stephen JS, editor. *Academic Success in Online Programs*. New York, USA: Springer; 2024. p. 29-43. https://doi.org/10.1007/978-3-031-54439-2_3.
13. Xavier M, Meneses J. Persistence and time challenges in an open online university: a case study of the experiences of first-year learners. *Int J Educ Technol Higher Educ*. 2022;**19**(1). https://doi.org/10.1186/s41239-022-00338-6.
14. Mtshweni BV. Sense of belonging and academic persistence among undergraduate university students: The chain mediation effect of emotional and academic adjustment. *J Psychol Africa*. 2024;**34**(2):176-83. https://doi.org/10.1080/14330237.2024.2335868.
15. Ebrahimzade K, Soleymany E, Sadeghi K. Comparison of the effectiveness of Metacognitive Therapy and assertiveness Training on Social Avoidance and Distress of Junior high school students with Foreign language Anxiety. *Knowledge Res Appl Psychol*. 2023;**2023**(1):1-12.
16. Normann N, Morina N. The Efficacy of Metacognitive Therapy: A Systematic Review and Meta-Analysis. *Front Psychol*. 2018;**9**:2211. [PubMed ID: 30487770]. [PubMed Central ID: PMC6246690]. https://doi.org/10.3389/fpsyg.2018.02211.
17. Farhadifar F, Nikkhoo B, Pouladi A, Bahram Rezaie M, Shahgheibi S, Shami S, et al. Examining the Learning Requirements of General Practitioner Courses in the Areas of Cognitive, Psychological-Motor and Emotion from the Perspective of Professors of Kurdistan University of Medical Sciences. *Educ Res Med Sci*. 2013;**2**(1). e77206.
18. Capobianco L, Nordahl H. A Brief History of Metacognitive Therapy: From Cognitive Science to Clinical Practice. *Cogn Behav Practice*. 2023;**30**(1):45-54. https://doi.org/10.1016/j.cbpra.2021.11.002.
19. Altıok S, Başer Z, Yükseltürk E. Enhancing metacognitive awareness of undergraduates through using an e-educational video environment. *Computers Educ*. 2019;**139**:129-45. https://doi.org/10.1016/j.compedu.2019.05.010.
20. Darehshoori Mohammadi Z, Bavi S, Human F. Effectiveness of Metacognitive Therapy in Behavioral-Emotional Problem, Cognitive-Emotional Regulation Strategies, and Mind Wandering of 9 to 13-Year-Old Children with ADHD: A Quasi-experimental Study. *Jundishapur J Chronic Disease Care*. 2022;**11**(4). https://doi.org/10.5812/jjcdc-123921.
21. McEvoy PM. Metacognitive Therapy for Anxiety Disorders: a Review of Recent Advances and Future Research Directions. *Curr Psychiatry Rep*. 2019;**21**(5):29. [PubMed ID: 30880368]. https://doi.org/10.1007/s11920-019-1014-3.
22. Haseth S, Solem S, Soro GB, Bjornstad E, Grotte T, Fisher P. Group Metacognitive Therapy for Generalized Anxiety Disorder: A Pilot Feasibility Trial. *Front Psychol*. 2019;**10**:290. [PubMed ID: 30837921]. [PubMed Central ID: PMC6382699]. https://doi.org/10.3389/fpsyg.2019.00290.
23. Watson D, Friend R. Measurement of social-evaluative anxiety. *J Consult Clin Psychol*. 1969;**33**(4):448-57. [PubMed ID: 5810590]. https://doi.org/10.1037/h0027806.
24. Darabi K, Hosseinzadeh M, Zolfaghari Kahkesh M, Nayodi S. The Effectiveness of Self-Regulation Training in Improving Engagement and Academic Resilience of Male Students. *Int J Sch Health*. 2023;**10**(2):98-105.
25. Wells A, Fisher P, Myers S, Wheatley J, Patel T, Brewin CR. Metacognitive Therapy in Recurrent and Persistent Depression: A Multiple-Baseline Study of a New Treatment. *Cogn Ther Res*. 2007;**33**(3):291-300. https://doi.org/10.1007/s10608-007-9178-2.
26. Nordahl H, Wells A. Metacognitive Therapy for Social Anxiety Disorder: An A-B Replication Series Across Social Anxiety Subtypes. *Front Psychol*. 2018;**9**:540. [PubMed ID: 29706924]. [PubMed Central ID: PMC5906593]. https://doi.org/10.3389/fpsyg.2018.00540.
27. Rashidzade A, Badri R, Fathi Āzar E, Hāshemi T. The effectiveness of self-regulated metacognitive strategies training on educational resilience and educational procrastination. *J Educ Innovations*. 2019;**18**(1):139-58.
28. Ghadampour E, Yousefvand L, Radmehr P. The Compare Effectiveness of Cognitive and Meta Cognitive Strategies Education on Academic Hope of Girl and Boy Students. *Biquarterly J Cogn Strategies Learn*. 2018;**5**(9):33-47. https://doi.org/10.22084/j.psychogy.2017.9335.1274.