



## Effectiveness of Metacognitive Therapy on Psychological Hardiness of Students

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### ABSTRACT

**Aims** The aim of the present study was to determine the effectiveness of metacognitive therapy on the psychological hardiness of students referring to the Student Counseling Center of Shahreza University in 2016-2017.

**Materials & Methods** The present study was a quasi-experimental research with pre-test-post-test design and follow-up with the control group. In this study, 34 subjects were selected by simple random sampling and were divided into two groups of control and experiment. The experimental group received an 8-session course of metacognitive therapy, and both groups answered a pre-test and post-test Kobasa's Psychological Hardiness Questionnaire, followed by 4 weeks of follow-up.

**Findings** There is a significant difference between the two experimental and control groups in the three stages of pre-test, post-test, and follow-up in the psychological hardiness variable ( $p=0.001$ ).

**Conclusion** Metacognitive therapy helps to improve and enhance psychological hardiness in students and is a good way to increase the level of this positive trait.

**Keywords** Metacognition; Cognitive Behavioral Therapy; Psychotherapy; Resilience/Psychological

### CITATION LINKS

[1] Personality and social resources in stress ... [2] The role of psychological hardiness on ... [3] Effects of psychological hardiness, job demands, and job ... [4] Psychological hardiness predicts success in US ... [5] The relationship between perceived social support, psychological ... [6] The relationship between psychological hardiness and coping strategies ... [7] Effect of psychological hardiness training on mental health ... [8] Hardiness, perseverative cognition, anxiety, and ... [9] Psychological hardiness and coping style as risk/resilience factors ... [10] Mindfulness and acceptance for addictive behaviors: Applying ... [11] Metacognitive therapy for anxiety and ... [12] The conceptual foundations of metacognitive ... [13] Advancing the theory and practice of metacognitive therapy: A commentary ... [14] Effect of meta-cognitive therapy on patient with ... [15] Metacognitive therapy for obsessive-compulsive disorder: A ... [16] Metacognitive therapy for body dysmorphic disorder patients in Iran ... [17] The role of metacognition in pathological gambling: A mediation ... [18] Metacognitive therapy for PTSD: A preliminary investigation of a ... [19] Metacognitive therapy and other ... [20] The efficacy of metacognitive therapy for anxiety and ... [21] Group metacognitive therapy vs. mindfulness ... [22] Detecting and defusing cognitive traps: Metacognitive intervention ... [23] Metacognitive therapy in people with a schizophrenia ... [24] Efficacy of meta-cognitive therapy for adult ... [25] Changes in neuropsychological function after treatment with ... [26] Effectiveness of group metacognitive therapy in self-efficacy ... [27] The efficacy of group metacognitive therapy on self-esteem ... [28] Metacognitive therapy for generalized anxiety disorder: An open ... [29] The problems of educational period and the proper referece for solving ... [30] Stress, coping and health: Enhancing well-being during medical ... [31] The impact of cultural intelligence and psychological ... [32] Toward teachers' adaptive ... [33] The effect of teaching metacognitive strategies on students' metacognitive ... [34] The study of psychometric properties of psychological ... [35] The effectiveness of metacognitive interventions in ... [36] The effectiveness of metacognitive therapy on the degree of self-efficacy ... [37] Effectiveness of meta-cognitive therapy on depressive symptoms and ... [38] Comparison of the brief behavioral activation treatment and meta-cognitive therapy in ... [39] Effectiveness of group therapy based on detached mindfulness meta-cognitive ...

## Introduction

Psychological hardiness is a positive personality structure first considered by Madi and Kobasa in the 1980s based on personality existential theories. Kobasa defines psychological hardiness as a combination of beliefs about self and the world, which consists of three components: commitment, control, and challenge [1]. As a protective shield, this collection protects the individual from the stresses of life. Since hard people find life events interesting, varied, informative, and challenging, they look at life events realistically but optimistically, which pulls them out of the troubles of life [2]. As a result, this variable is an important resource for health [3] and is a key factor in enduring stress and successful performance in difficult situations [4]. In fact, psychological hardiness is a combination of beliefs about self and the world. A person with high commitment considers himself/herself an important factor in performing activities which leads him/her to success. Moreover, a person with high control can control and predict life events, and knows that with his efforts he can succeed; the challenging person will solve problems one after another. The result of such abilities is the increased quality of life [5]. This structure is also related to planning and preparation and positive and spiritual coping strategies [6]. As a result, psychological hardiness increases the level of mental health [7, 8] and reduces disorders such as alcohol abuse [9]. Consequently, any treatment that can increase the level of this psychological component will increase the level of tolerance and mental health of people and will be considered valuable. Given that metacognitive therapy is highly effective and, in some cases, more effective than other cognitive-behavioral therapies, it is important to examine whether modifying metacognitive processes has an effect on improving and enhancing a person's psychological hardiness and subsequent mental health in the third-wave therapies.

Metacognition is defined as thinking about thinking. In fact, it is the knowledge and cognition involved in evaluating, controlling, or thinking [10]. Metacognitive therapy is an emerging approach that has been created as a result of systematic hypothesis testing, and has led to the application of various methods. This therapeutic approach is based on the theory of self-regulatory executive theory and includes any kind of knowledge or cognitive process in which cognitive assessment, monitoring, or control exists [11]. This treatment is a cognitive-behavioral approach with a coherent theoretical background in understanding and explaining the mechanisms on which any psychological disorder is based [12]. More than 20 years of research supports the theoretical integration and clinical efficacy of this method [13]. This approach is a new perspective on the treatment of mood-mental disorders and emphasizes the importance of how a person thinks, not what his or

her cognitive content is. Case formulation and its specific techniques are the main distinguishing features of this therapeutic approach, putting it in a special position among cognitive-behavioral approaches. The main goal of metacognitive therapy is to inhibit cognitive attentional syndrome [12]. Focusing on techniques that directly target the symptoms of the disease, this treatment leads to the improvement and modification of mind rumination and consequently, the improvement of mood. It can be used in the treatment of patients with insomnia [14], obsessive-compulsive disorder [15], body dysmorphic disorder [16], pathological gambling [17], post-traumatic stress disorder [18] and traumatic disorders [19], anxiety and depression [20, 21], hallucination in schizophrenic patients and improvement of psychiatric symptoms [22, 23] and attention deficit hyperactivity disorder [24]. In addition, emphasizing the teaching attention and flexible control of thought, this treatment has a positive effect on cognitive function and improves the aspects of executive function, increases the level of self-efficacy, mature defense mechanisms and self-esteem [25-27]. Structural metacognition is more affordable than long-term psychotherapy in terms of structure and a limited number of sessions (an average of 8 sessions) [28].

During their studies, students face many problems that make it important to establish counseling systems in universities and scientific centers. Psychological problems are at the forefront of these issues and among the educational issues, academic motivation and academic failure are abundant [29]. The specific environment of academic education that causes psychological, social, and educational stresses demonstrates the need to strengthen coping strategies [30]. Increasing abilities such as intercultural adaptation, psychological hardiness creates skills in students that have a significant impact on such problems including family distance and dormitory life, and leads to greater academic success for students [31]. On the other hand, improving metacognitive awareness to succeed in college is more important than lower courses [32]. In fact, all students use metacognitive strategies in a different way in the learning process, and as a result, metacognitive therapy is a good way to solve students' problems [33]. Therefore, the use of metacognitive therapy seems to be an optional treatment for students' psychological hardiness.

The present study was conducted to determine the effectiveness of metacognitive therapy on the psychological hardiness of students referring to the counseling center.

## Materials and Methods

This study was a quasi-experimental research with pre-test-post-test design and follow-up with the control group. Among the students referring to the

counseling center of Shahreza Azad University in 2016-2017, 34 students were selected by simple random sampling. The study variables included students' psychological hardiness as a dependent variable and intervention of Wells' metacognitive therapy (2015) as an independent variable.

In the present study, Kobasa's Psychological Hardiness Questionnaire was used. The test was developed by Kobasa *et al.* (1982) to measure hardiness, and it consists of twenty 4-choice questions (never, rarely, sometimes, and often). The validity of the psychological hardiness test in foreign and domestic research has been measured and confirmed by various methods. Kobasa *et al.* reported Cronbach's alpha coefficient to be 0.81 and in the country, it has been standardized by Aminpour and Zare on the students of Payame Noor University and Cronbach's alpha coefficient has been reported to be 0.914 [34].

After selecting the samples and randomly placing them in the experimental and control groups, the Kobasa's Psychological Hardiness Questionnaire was administered as a pre-test on both groups, and after 8 sessions of metacognitive therapy, on the experimental group, while the control group did not receive any training, post-test was performed on both groups. Finally, follow-up was performed to assess the effectiveness of metacognitive therapy 4 weeks after the end of the intervention.

SPSS 24 software and variance test with repeated measurements were used to analyze the data.

## Findings

In order to determine the scores of the subjects in the two groups of experiments and controls in the pre-test, post-test, and follow-up stages, mean and standard deviation of psychological hardiness are presented in Table 1.

The results of Table 1, the review of the descriptive findings and the comparison of the mean scores of the group in the post-test and follow-up stages showed that in the dependent variables, the experimental group was superior to the control group. In order to make a significant change, the assumptions of the repeated measurement analysis of variance were first examined. The results of the Kolmogorov-Smirnov test depicted that the significance level of psychological hardiness in the experimental and control groups was higher than 0.05, indicating that the distribution of data in these variables is normal. Examination of Levine's test also showed that the psychological hardiness variable of this assumption was not violated and the assumption of homogeneity of variances was observed in the psychological hardiness variable ( $F= 0.221, p>0.05$ ). Thus, the use of parametric tests to analyze research data is unrestricted. The overall results of the repeated measures analysis of variance are presented in Table 2.

According to the results of the four analysis tests presented in Table 2, the experimental and control groups differ significantly in at least one of the dependent variables. In order to understand this difference, the results of the repeated measures analysis of variance are given in Table 3.

Based on the results of Table 3, it can be said that there is a significant difference between the experimental and control groups in the three stages of pre-test, post-test, and follow-up in the variable of psychological hardiness ( $p= 0.001$ ). Also, it can be said that the intervention had a significant effect on psychological hardiness (Table 1).

**Table 1)** Mean and standard deviation of students' psychological hardiness criterion

Variable	Pre-test	Post-test	Follow-up
<b>Psychological Hardiness</b>			
Experiment	28.20±4.73	40.25±3.46	39.35±3.84
Control	28.28±5.99	26.78±5.98	24.42±5.97

**Table 2)** Overall results of the repeated measures analysis of variance

Test type	Value	F	p
Pillais Trace	0.93	210.55	0.001
Wilks Lambda	0.06	210.55	0.001
Hotelling's Trace	13.58	210.55	0.001
Roy's Largest Root	13.58	210.55	0.001

**Table 3)** Separate results of repeated measures analysis of variance of the effect of metacognitive therapy on the psychological hardiness of students referring to the Students' Counseling Center

Source of changes	F	p
Test	44.03	0.001
Group×Test	186.48	0.001

## Discussion

Over the past two decades, attention has been paid to the strengths of clinical and normal clients, and research shows that the effectiveness of psychological interventions on positive traits and their improvement is examined. Little research has been done regarding the effectiveness of metacognitive therapy on improving the positive characteristics of research. The study of Paydar and Asgharnejad [35] on psychological well-being, as well as that of Khoshlahje Sedgh and Mohammadkhani [36] on self-efficacy and quality of life are some of them. In this study, there was a significant difference between the pre-test and post-test scores and the follow-up of psychological hardiness as a positive trait in the group under metacognitive intervention compared to the control group, which confirms previous research conducted on the metacognitive treatment. Its achievements are not limited to the reduction of clinical symptoms, but its scope also leads to the improvement of social, occupational, and academic functions [37]. The results of this study are consistent with those of other studies such as Parhoon *et al.* [38] and Bakhtiari *et al.* [39] that have shown that psychological interventions improve the quality of life in patients. Therefore, it can be inferred that

metacognitive therapy can moderate mind anxiety and rumination by improving the metacognitive knowledge and metacognitive experiences of individuals, and provides them with more accurate assessments and judgments of a person's cognitive status. The collection of these factors makes people feel that they can control their living conditions more, and as a result, this feeling and experience of metacognition, cognitive control, challenge, and endurance will be strengthened, which in turn improves metacognitive control strategies and coping styles in different situations. On the other hand, the most important reason for the emergence and persistence of anxiety is the thinking style called cognitive-attention syndrome, which includes thinking anxiety, attention to threats and inefficient defense mechanisms, characteristics that are rarely seen in people with high psychological hardiness. Accordingly, the focus of metacognitive therapy is to moderate beliefs related to uncontrollable thoughts. The way a metacognition helps a person to deal with and control his or her negative thoughts can foster a challenge and control over problems, and oblige him or her to take an active part in the issues of his or her life, which is also a component of psychological hardiness. One of the effective techniques in metacognitive therapy is to delay worry and change attention, which increases the ability to control one's life issues. Positive judgment techniques and irrational patterns of belief and thinking lead to increased commitment to different issues and conditions by improving one's view of things in a positive way and finding more meaning and appeal in issues. Other techniques such as exploring ways to achieve a goal, tackling challenges, and creating coping strategies increase a person's ability to cope with unexpected life issues and look at them as an opportunity to grow and increase his/her ability to challenge. Based on the findings of the present study, it can be said that metacognitive therapy is one of the effective psychotherapies in promoting and improving psychological hardiness and positive characteristics of a person in dealing with different situations at any stage of life.

Among the limitations of the present study are the limited volume of the sample and lack of long-term follow-up.

### Conclusion

Metacognitive therapy helps to improve and enhance psychological hard work in students and is a good way to increase the level of this positive trait.

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### References

- 1- Kobasa SC, Puccetti MC. Personality and social resources in stress resistance. *J Personal Soc Psychol.* 1983;45(4):839-50.
- 2- Haluk Sivrikaya M. The role of psychological hardiness on performance of scissors kick. *J Educ Train Stud.* 2019;6(12a):70-4.
- 3- Hystad SW, Eid J, Brevik JI. Effects of psychological hardiness, job demands, and job control on sickness absence: A prospective study. *J Occup Health Psychol.* 2011;16(3):265-78.
- 4- Bartone PT, Roland RR, Picano JJ, Williams TJ. Psychological hardiness predicts success in US Army Special Forces candidates. *Int J Sel Assess.* 2008;16(1):78-81.
- 5- Souri A, Ashoori J. The relationship between perceived social support, psychological hardiness and family communication patterns with quality of life among patients with type II diabetes. *J Diabetes Nurs.* 2015;3(2):53-65. [Persian]
- 6- Sarani A, Azhari S, Mazlom SR, Aghamohammadian Sherbaf H. The relationship between psychological hardiness and coping strategies during pregnancy. *J Midwifery Reprod Health.* 2015;3(3):408-17.
- 7- Kalantar J, Khedri L, Nikbakht A, Motvalian M. Effect of psychological hardiness training on mental health of students. *Int J Acad Res Bus Soc Sci.* 2013;3(3):68.
- 8- Kowalski CM, Schermer JA. Hardiness, perseverative cognition, anxiety, and health-related outcomes: A case for and against psychological hardiness. *Psychol Rep.* 2019;122(6):2096-118.
- 9- Bartone PT, Hystad SW, Eid J, Brevik JI. Psychological hardiness and coping style as risk/resilience factors for alcohol abuse. *Mil Med.* 2012;177(5):517-24.
- 10- Levin ME, Hayes SC, editors. Mindfulness and acceptance for addictive behaviors: Applying contextual CBT to substance abuse and behavioral addictions. Oakland: New Harbinger Publications; 2012.
- 11- Wells A. Metacognitive therapy for anxiety and depression. New York: Guilford Press; 2011.
- 12- Batmaz S. The conceptual foundations of metacognitive therapy. *J Cogn Behav Psychother Res.* 2014;3(1):11-7.
- 13- Matthews G. Advancing the theory and practice of metacognitive therapy: A commentary on the special issue. *Cogn Ther Res.* 2015;39(1):81-7.
- 14- Rezaei M, Hojjat K, Hatami SE, Monadi Ziarat H, Eynbeigi E. Effect of meta-cognitive therapy on patient with insomnia. *J North Khorasan Univ Med Sci.* 2015;7(2):319-27. [Persian]
- 15- Fisher PL, Wells A. Metacognitive therapy for obsessive-compulsive disorder: A case series. *J Behav Ther Exp Psychiatry.* 2008;39(2):117-32.
- 16- Rabiei M, Mulkens S, Kalantari M, Molavi H, Bahrami F. Metacognitive therapy for body dysmorphic disorder patients in Iran: acceptability and proof of concept. *J Behav Ther Exp Psychiatry.* 2012;43(2):724-9.

- 17- Mansueto G, Pennelli M, De Palo V, Monacis L, Sinatra M, De Caro MF. The role of metacognition in pathological gambling: A mediation model. *J Gambl Stud*. 2016;32(1):93-106.
- 18- Wells A, Sembi S. Metacognitive therapy for PTSD: A preliminary investigation of a new brief treatment. *J Behav Ther Exp Psychiatry*. 2004;35(4):307-18.
- 19- Simons M. Metacognitive therapy and other cognitive-behavioral treatments for posttraumatic stress disorder. *Verhaltenstherapie*. 2010;20(2):86-92.
- 20- Normann N, Van Emmerik AA, Morina N. The efficacy of metacognitive therapy for anxiety and depression: A meta-analytic review. *Depression Anxiety*. 2014;31(5):402-11.
- 21- Capobianco L, Reeves D, Morrison AP, Wells A. Group metacognitive therapy vs. mindfulness meditation therapy in a transdiagnostic patient sample: A randomised feasibility trial. *Psychiatry Res*. 2018;259:554-61.
- 22- Moritz S, Vitzthum F, Randjbar S, Veckenstedt R, Woodward TS. Detecting and defusing cognitive traps: Metacognitive intervention in schizophrenia. *Curr Opin Psychiatry*. 2010;23(6):561-9.
- 23- Morrison AP, Pyle M, Chapman N, French P, Parker SK, Wells A. Metacognitive therapy in people with a schizophrenia spectrum diagnosis and medication resistant symptoms: A feasibility study. *J Behav Ther Exp Psychiatry*. 2014;45(2):280-4.
- 24- Solanto MV, Marks DJ, Wasserstein J, Mitchell K, Abikoff H, Alvir JM, et al. Efficacy of meta-cognitive therapy for adult ADHD. *Am J Psychiatry*. 2010;167(8):958-68.
- 25- Groves SJ, Porter RJ, Jordan J, Knight R, Carter JD, McIntosh VV, et al. Changes in neuropsychological function after treatment with metacognitive therapy or cognitive behavior therapy for depression. *Depression Anxiety*. 2015;32(6):437-44.
- 26- Asgharkhah E, Shareh H. Effectiveness of group metacognitive therapy in self-efficacy and defense styles in women with multiple sclerosis. *J Fundam Mental Health*. 2017;19(4):330-40.
- 27- Farahmand V, Hassanzadeh R, Mirzaian B, Bordbar MR, Feizi J. The efficacy of group metacognitive therapy on self-esteem and mental health of patients suffering from major depressive disorder. *Iran J Psychiatry Behav Sci*. 2014;8(2):4-10.
- 28- Wells A, King P. Metacognitive therapy for generalized anxiety disorder: An open trial. *J Behav Ther Exp Psychiatry*. 2006;37(3):206-12.
- 29- Shams B, Garakyaraghi M, Ebrahimi A, Avizhgan M, Gyahchin A. The problems of educational period and the proper referece for solving them: medical students' viewpoints in Isfahan University of Medical Sciences. *Iran J Med Educ*. 2006;6(2):63-70. [Persian]
- 30- Wolf TM. Stress, coping and health: Enhancing well-being during medical school. *Med Educ*. 1994;28(1):8-17.
- 31- Kline Harrison J, Brower HH. The impact of cultural intelligence and psychological hardiness on homesickness among study abroad students. *Front Interdiscip J Study Abroad*. 2011;21(1):41-62.
- 32- Lin X, Schwartz DL, Hatano G. Toward teachers' adaptive metacognition. *Educ Psychol*. 2005;40(4):245-55.
- 33- Noori A, Sanagoo A, Amini M, Adib M, Jouybari L. The effect of teaching metacognitive strategies on students' metacognitive awareness and academic performance of students. *Dev Strateg Med Educ*. 2016;3(1):11-9. [Persian]
- 34- Aminpoor H, Zare H. The study of psychometric properties of psychological hardiness questionnaire and the study of differences among individuals with academic and non-academic education. The 1<sup>st</sup> Scientific-Research Conference on Psychology and Educational Sciences Social and Cultural Problems in Iran, 2015 March 18, Tehran, Iran. Tehran: Soroush Hekmat Mortazavi Islamic Studies and Research Center, Development and Promotion of Fundamental Science and Technology. 2015. [Persian]
- 35- Paydar N, Asgharnejad AA. The effectiveness of metacognitive interventions in metacognitive beliefs and psychological wellbeing of substance abuser in addiction treatment centers. 2<sup>nd</sup> International Conference on Applied Research in Educational Sciences and Behavioral Studies and social Problems in Iran, 2016 November 4, Tehran, Iran. Tehran: Soroush Hekmat Mortazavi Islamic Studies and Research Center; 2016. [Persian]
- 36- Khoshlahje Sedgh A, Mohammadkhani Sh. The effectiveness of metacognitive therapy on the degree of self-efficacy, quality of life and perceived stress in women with obsessive compulsive disorder. 9<sup>th</sup> International Congress for Psychotherapy/Asian Chapter of WCP, 2016 May 17-19, Tehran, Iran. Tehran: Secretariat of Congress for Psychotherapy; 2016. [Persian]
- 37- Shakeri M, Parhoon H, Mohammadkhani SH, Hasani J, Parhoon K. Effectiveness of meta-cognitive therapy on depressive symptoms and quality of life of patients with major depression disorder. *J North Khorasan Univ Med Sci*. 2015;7(2):253-65. [Persian]
- 38- Parhoon H, Moradi A, Hatami M, Parhoon K. Comparison of the brief behavioral activation treatment and meta-cognitive therapy in the reduction of the symptoms and in the improvement of the quality of life in the major depressed patients. *Res Psychol Health*. 2013;6(4):36-52.
- 39- Bakhtiari A, Neshatdoost H, Abedi A, Sadeghi M. Effectiveness of group therapy based on detached mindfulness meta-cognitive model on hypertension-suffering female patients'. *Clin Psychol Personal*. 2013;2(8)47-62. [Persian]