Health, Spirituality and Medical Ethics Journal
Qom University of Medical Sciences

June 2023. Volume 10. Number 2

Research Paper

Comparing the Effectiveness of Cognitive-behavioral Therapy Combined With Self-compassion and Cognitive Motor Activities and Cognitive Motor Intervention Alone on Forgiveness and Self-compassion in the Elderly

Anahita Kashmari[1], Fatemeh Shahabizadeh[2*], Ghasem Ahi[2], Alireza Mahmoudi Rad[3]

1. Department of General Psychology, Faculty of Literature and Humanities, Birjand Branch, Islamic Azad University, Birjand, Iran.
2. Department of Psychology, Faculty of Literature and Humanities, Birjand Branch, Islamic Azad University, Birjand, Iran.
3. Department of Internal Medicine, Faculty of Medicine, Birjand Branch, Birjand Islamic Azad University, Birjand, Iran.

Use your device to scan and read the article online

Please cite this article as Kashmari A, Shahabizadeh F, Ahi Gh, Mahmoudi Rad A. Comparing the Effectiveness of Cognitive-behavioral Therapy Combined With Self-compassion and Cognitive Motor Activities and Cognitive Motor Intervention Alone on Forgiveness and Self-compassion in the Elderly. . Health Spiritual Med Ethics. 2023; 10(2):93-102. http://dx.doi.org/10.32598/hsmej.10.2.460.1

http://dx.doi.org/10.32598/hsmej.10.2.460.1

Article info:
Received: 29 Jan 2023
Accepted: 26 Sep 2023
Publish: 01 Jun 2023

Keywords:
Cognitive-behavioral therapy (CBT), Self-compassion, Cognitive psychology, Forgiveness

ABSTRACT

Background and Objectives: Forgiveness and self-compassion are essential constructs that are the opposite of high levels of anxiety and depression in older people. Their improvement can help reduce the problems of psychological symptoms in older people, therefore, this research aims to compare the effectiveness of cognitive-behavioral therapy (CBT) combined with self-compassion, cognitive-motor activities, and specific cognitive-motor intervention conducted on forgiveness and self-compassion of older people.

Methods: The research method was a quasi-experimental study with a pre-test & post-test and follow-up design with a control group. For this purpose, a sample consisting of 42 people (21 women and 21 men) over 60 years of age living in Mashhad City, Iran in 2021 who met the inclusion criteria were selected and, after random assignment in three groups of the first experiment (combined CBT intervention self-compassion with cognitive-motor activities), the second experimental group (intervention of cognitive-motor activities) and the control group (without any intervention) and underwent interventions in 18 sessions during 9 weeks.

Results: The data obtained from the questionnaires of the heartland forgiveness scale (HFS) and the self-compassion questionnaire were analyzed by the multivariate analysis of covariance method with repeated measurements, and the results showed a significant difference between the test groups and the control group, in the mean scores of forgiveness ($P<0.001$) and self-compassion ($P<0.001$) in the post-test and follow-up. Also, a significant difference was observed between the two test groups in the mean self-compassion scores in the post-test and follow-up ($P<0.001$).

Conclusion: Undergoing 9 weeks of CBT along with self-compassion accompanied by cognitive-motor activities, as well as 9 weeks of intervention with cognitive-motor activities alone can contribute to increasing forgiveness and self-compassion in older people.

*** Corresponding Author:**
Fatemeh Shahabizadeh, PhD.
Address: *Department of Psychology, Faculty of Literature and Humanities, Birjand Branch, Islamic Azad University, Birjand, Iran.*
Phone: *+98 (915) 3319855*
E-mail: *f_shahabizadeh@yahoo.com*

Introduction

The elderly is a stage of life in which natural, progressive, and irreversible physiological changes significantly affect physical and mental abilities, exposing the elderly to diseases and problems. Aging is a biological process resulting from the complex interaction of physiological, psychological, social, and environmental factors that affect the function of cells, tissues, and body systems. One of the critical issues of aging is mental health; depression and anxiety are among the most common psychological disorders that engage mental health.

Compassion is the opposite of depression and anxiety. It represents the acceptance of aspects of oneself and life, which has three main elements, first, whenever a person becomes aware of his inefficiency, he loves and understands his existence; second, recognizing that pain and disability are unavoidable and everyday aspects of all human beings; and third, self-compassion refers to a balanced awareness of one's emotions and includes the ability to face painful thoughts and feelings without magnificence or feelings of sadness and pity for oneself [1-4]. Most people show less self-compassion compared to others, but self-compassionate people are just as kind to themselves as they are to others [5]. Compassion means patience, kindness, and a non-judgmental understanding of others [6].

Self-compassion is associated with more positive thinking and less anger. The more compassionate, the less motivated for revenge or avoidance of those who have wronged them, and a greater inclination toward forgiveness [7]. Forgiveness is a set of motivational changes that result from an internal error. When a hurt person forgives the offender, their primary motivations to seek revenge and avoid contact with him are reduced [8].

Today, paying attention to psychological treatments to reduce patients' problems has become particularly crucial; one of the most efficient is cognitive-behavioral therapy (CBT) [9]. The basis of this approach is to identify negative and irrational beliefs affecting emotions and behavior and correct these foundational beliefs using cognitive and behavioral techniques [10], which, despite being new, has provided unprecedented research opportunities as a therapeutic theory and method [11]. Although the origin of CBT goes back to Beck's cognitive-therapeutic method, it is a combination of behavioral-therapeutic and cognitive-therapeutic theories and techniques that emphasize increasing adaptive cognitive skills and reducing maladaptive activities [12].

CBT is based on two fundamental principles: First, people's cognitions control their emotions and behavior, and second, how people function and behave strongly affects their thoughts and emotional patterns [13]. CBT can be implemented individually or in groups. The advantage of the group method is that being in a group increases a person's awareness of himself due to interacting with members and receiving feedback from them. It helps improve interpersonal skills and environmental adaptation [14]. The multimodal nature of CBT shows that seven different but related areas should be considered in the treatment program: Behavior, emotions, feelings, perception, cognition, interpersonal and biological factors [15]. Compassion-focused therapy is also considered a proper psychological treatment method for all disorders [16].

According to studies, self-compassion is related to the psychological well-being of older people, and compassionate thought can provide a clear perspective of accepting old age [17]. Cognitive-motor activities depend on a cognitive component and are mainly considered to improve physical and cognitive abilities in rehabilitation [18]. With increasing age, the sequence of cognitive disorders is accompanied by movement limitations [19]. Considering the increase in psychological problems in old age, it is necessary to find non-pharmacological treatment methods to reduce the psychological issues of mood of older people. Therefore, the present study was conducted to compare the effectiveness of CBT combined with self-compassion, cognitive-motor activities, and cognitive-motor intervention alone on forgiveness in older people.

Methods

This was an applied research with a quasi-experimental method and pre-test & post-test, and follow-up with the control group. The statistical population included all the elderly residents of Mashhad City, Iran who attended daycare centers for the elderly or public places from the beginning of the winter of 2018 to the end of the winter of 2019. The investigated sample was selected from the mentioned statistical population. It was chosen by random sampling and considering the inclusion and exclusion criteria after verifying the absence of practical cognitive problems by screening tests. The final sample consisting of 42 people (21 women and 21 men) in three groups (first, experimental group, 14 people, 6 women, and 8 men; second, experimental group, 14 people, 7 women, and 7 men; and control group, 14 people, 8 women, and 6 men) was randomly selected. Then (from May 2021), two experimental groups were exposed to

independent variables (the first group, CBT combined with self-compassion along with cognitive-motor activities, and the second group, only intervention based on cognitive-motor activities). Still, the control group received no training.

Two sessions per week were held for both groups, each lasting 90 minutes, for 18 sessions. The heartland forgiveness scale (HFS) and the self-compassion questionnaire were used to collect data before and after the interventions and during the follow-up. The research tool consisted of:

HFS (2002)

The HFS was created and used to measure forgiveness. It has 18 questions and three subscales of self-forgiveness, forgiveness of others, and forgiveness of circumstances. Items 1 to 6 were designed to measure self-forgiveness, 7 to 12 to measure forgiveness of others, and 13 to 18 to measure forgiveness in uncontrollable situations. Scoring is based on a 7-point Likert scale (totally agree=7, almost agree=6, agree=5, have no opinion=4, disagree=3, nearly disagree=2, and completely disagree=1). The range of scores for this questionnaire is between 18 and 126; the higher the subject's score, the higher his forgiveness. Also, questions 2-4-6-7-9-11-13-15-17 are graded in reverse [20]. Thompson et al. have reported the reliability of the questionnaire based on Cronbach's α coefficient between 0.840 and 0.87, and its content validity in correlation with other research is appropriate and >80% [21]. Also, the reliability of the questionnaire in the study of Akbari et al. [22], Asgari and Roshani [23], and Dehghan et al [24]. was reported based on Cronbach's α coefficient between 0.760 and 0.83, indicating the high reliability of the test [22-24]. Also, according to Ebrahimi et al., the results related to the validity of the HFS in Thompson's study showed that the HFS and other tools, such as the Mauger self and other forgiveness scale (r=0.62), have a significant positive relationship with the multidimensional forgiveness inventory (r=0.47) questionnaire [25]. The Cronbach's α coefficient for this questionnaire was calculated as 0.955 in the present study.

Neff self-compassion questionnaire (2003)

The Neff self-compassion questionnaire (2003) is a scale with 26 items that measure self-compassion using a 5-point Likert scale (from never to always). The questionnaire consists of three bipolar scales, kindness with oneself versus judgment, common humanity versus isolation, and mindfulness versus over-identification. The scoring is based on a 5-point Likert scale (5=always, 4=often, 3=sometimes, 2=rarely, and 1=never). The reverse-scored questions are numbered 1, 2, 4, 6, 8, 11, 13, 16, 18, 20, 21, 24 and 25. The minimum possible score is 26, and the maximum is 130, with higher scores indicating higher levels of self-compassion. Additionally, the questionnaire has six subscales, self-kindness (5, 12, 19, 23 and 26), self-judgment (2, 6, 20 and 24), mindfulness (1, 8, 16, 11, and 21), over-identification (3, 7, 10 and 15), common humanity (4, 13, 18 and 25), and isolation (9, 14, 17 and 22) [26].

The results of studies indicate that self-compassion is significantly associated with positive mental health outcomes, such as less depression and anxiety, as well as greater life satisfaction. There is also evidence for the discriminant validity of this scale, including based on self-compassion criteria. The overall reliability coefficient of the questionnaire is 0.770 by Cronbach's α method and 0.750 by the re-testing method [27]. In the study conducted by Shahbazi et al, the α coefficient for the scale's total score is 0.91. Furthermore, Cronbach's α coefficients for the sub-scales of self-kindness, self-judgment, everyday humanity experiences, isolation, mindfulness, and over-identification are 0.83, 0.87, 0.91, 0.88, 0.92, and 0.77, respectively. The convergence of the questionnaire has also been reported as favorable [28].

In the research conducted by Momeni et al., the convergent and divergent validity of the self-compassion scale was calculated by implementing the self-respect scale and Beck's depression and anxiety questionnaires. The results were significant (P<0.01), and the internal consistency of the self-compassion scale was calculated using Cronbach's α coefficient, which was confirmed with a correlation coefficient of 0.7. A significant correlation coefficient (0.89) was also obtained between the scores of two test sessions with a 10-day interval, indicating high reliability of the scale's re-test [29].

In the study conducted by Khosravi et al., the content validity of the confirmation questionnaire and its reliability were obtained with a Cronbach's α coefficient of 0.86 [30]. Furthermore, the Cronbach's α coefficient of this questionnaire was calculated to be 0.925 in the present study.

The intervention of the first experimental group was based on the guidelines of the self-compassion-focused educational program, according to the program of Colts, Neff and Gomer, and Gilbert plus the instructions of the CBT educational program based on Bailing et al., and Hawton and Salkous Case that after completing 9 sessions of an academic program focused on self-compas-

sion, 9 weekly group sessions (two sessions per week) were held for one month. In addition, for 45 minutes weekly (once a week) (following the second session of psychological intervention in the week) and one session online weekly for two months, they simultaneously received cognitive-motor activities based on the Silas Padal at the beginning and end of psychological interventions.

The intervention of the second experimental group only included cognitive-motor activities based on the Pedal Sills program and colleagues, which consisted of 18 sessions (twice a week, totaling 90 minutes per session) over two months. At the end of the interventions, post-tests were completed for each of the three groups.

After 6 weeks and during the follow-up period, the questionnaires were completed again, and the results of the pre-test & post-test, and follow-up in the groups were compared. Statistical methods were used to analyze the hypotheses in two sections, descriptive statistics and inferential statistics, using the SPSS software. In the descriptive statistics section, methods, such as frequency, percentage, Mean±SD, as well as minimum and maximum scores, were used. The inferential statistics section used univariable and multivariable covariance analysis to investigate the hypotheses.

In this research, ethical considerations, such as obtaining written consent from participants before entering the study, committing to ensure the confidentiality of information, adhering to all health protocols to maintain their health (due to the COVID-19 pandemic), and appreciating them at the end of the research have been fully observed.

Results

The demographic information of the target sample, separated by the first test group (n=14), the second test group (n=14), and the control group (n=14), respectively, for demographic variables in terms of number and percentage, are:

Gender: Females=5(35.7%), 8(57.1%), and 1 individual (7.1%); males=9(64.3%), 6(42.9%), and 6 individuals (42.9%);

Age: 61 to 65 years=5(35.7%), 5(35.7%), and 9 individuals (64.3%); 66 to 70 years=8(57.1%), 7(50%), and 4 individuals (28.6%); 71 to 75 years=0 individuals, 1 individual (7.1%), and 0 individuals; over 75 years=1 individual (7.1%), 1 individual (7.1%), and 1 individual (7.1%);

Education level: Below diploma and diploma=6 (42.9%), 6(42.9%), and 9 individuals (64.3%); post-diploma and bachelor's degree=6(42.9%), 6(42.9%), and 4 individuals (28.6%); postgraduate and doctorate=2(14.2%), 2(14.2%), and 1 individual (7.1%).

Table 1 presents descriptive indices, including the Mean±SD of the studied variables (forgiveness and self-compassion) separately for the three groups in the three stages of pre-test & post-test, and follow-up.

Table 2 presents the test of the effects between the subjects, the most crucial table for interpreting the results of the repeated measures analysis of variance test, and indicates the significance or non-significance of the group effect. In Table 2, the level of significance of the

Table 1. Descriptive indices of the variables (forgiveness and self-compassion) according to the studied groups and investigation stages

Variables	Groups	Mean±SD		
		Pre-test	Post-test	Follow-up
Forgiveness	CBT combined with compassion along with cognitive-motor activities	62.71±17.25	73.64±12.89	72.36±14.50
	Cognitive-motor activities	63.78±15.66	64.078±15.54	65.28±15.78
	Control group	64±14.76	62.50±14.87	64±14.14
Self-compassion	CBT combined with compassion along with cognitive-motor activities	74.14±6.86	89.78±5.56	89.83±6.94
	Cognitive-motor activities	75.93±10.36	76.57±10.61	76.37±10.67
	Control group	76.07±11.88	74. 86±12.15	75.93±11.07

CBT: Cognitive-behavioral therapy

Table 2. Test of the effects between the subjects in the variables of forgiveness and self-compassion

Dependent Variables	Source	Sum of Squares	df	Mean of Squares	F	Sig.	η^2
Forgiveness	Time	289.714	1	289.714	41.792	0.000	0.517
	Time×Group	376.929	2	188.464	27.187	0.000	0.582
	Error	270.357	39	6.932	-	-	-
Self-compassion	Time	602.679	1	602.679	110.479	0.000	0.739
	Time×Group	1143.071	2	104.770		0.000	0.843
	Error	212.750	39	5.455	-	-	-

df: Degrees of freedom, η^2: Eta squared

Health, Spirituality and Medical Ethics Journal
Qom University of Medical Sciences

variables is reported as 0.000, which is <0.05, indicating that the group has a significant effect on the mean of forgiveness and self-compassion and the difference in the mean of each of the scores of these two variables among the three study groups at three study times is significant.

To examine the effectiveness and changes in the variables under study, pairwise comparisons of the means of forgiveness and self-compassion variables were made in the experimental and control groups over three periods (pre-test, post-test, and follow-up) using the Bonferroni test. The items marked with an asterisk (*) in Table 3 have a significance level of <0.05, indicating a significant difference between the means in the respective periods. This suggests that for the self-compassion variable, a significant difference is observed between the first experimental group and the second experimental group, as well as the control group in both periods.

All required follow-up tests were performed in the inferential analysis of the desired hypotheses, and the Shapiro-Wilk test supported the normality of the data for both dependent variables (forgiveness and self-compassion) in all three study groups. Examining the equality of covariance matrices through Mauchly's test indicated the equality of observed covariance matrices of the dependent variables among different groups. The significant investigation of the interactive effect of independent variables in the model by examining the contribution of time and the contrast between time and group carried out in all four tests conducted (Pilay's effect, Wilks's lambda, Hotelling's effect, and the largest zinc root) indicated the significant effects of time, time-group interaction, and the indication of differences in dependent variables over time in the three study groups. The results of Bartlett's test confirmed the normality of the structure of the variance-covariance matrix. Thus, they supported the null hypothesis of the sphericity of the variance-covariance matrix of the dependent variables. The results of Levene's test for the equality of error variances of the time variable over time (pre-test, post-test, and follow-up) indicated the homogeneity of error variances.

Discussion

The current study was conducted to compare the effectiveness of CBT combined with self-compassion and cognitive-motor activities with its intervention alone on forgiveness and self-compassion in older people. The research results showed that the scores of forgiveness of old age were different in the three studied groups over time. Therefore, both types of interventions improved the forgiveness scores of older people, and this effect continued until the follow-up. Still, the difference between the two experimental groups is not significant. Therefore, both intervention methods have been equally effective in improving forgiveness in the post-test and follow-up. Also, the average difference in self-compassion scores between the three study groups and over time has a significant difference; therefore, both types of interventions have been effective in improving the self-compassion scores of older people, which continued until the follow-up.

It was also observed that the difference between the two experimental groups in post-test and follow-up times is significant; therefore, CBT effectively increased the effectiveness of cognitive-motor activities in improving self-compassion. The cognitive-behavioral intervention structure, along with self-compassion and the role of self-compassion in facilitating treatment and psychological interventions, and self-compassion through improving emotional defense mechanisms and self-reproach, can facilitate self-regulation and goals through emotion monitoring, evaluation, and regulation.

Table 3. Multiple comparisons of means of forgiveness and self-compassion variables based on the Bonferroni test

Variables	Stages	Group (I)	Group (J)	Difference	SE	Sig.
Forgiveness	Post-test	CBT combined with compassion along with cognitive-motor activities	Cognitive-motor activities	9.57	5.47175	0.264
			Control group	11.14	5.47175	0.146
		Cognitive-motor activities	CBT combined with compassion along with cognitive-motor activities	-9.57	5.47175	0.246
			Control group	1.57	5.47175	1.000
		Control group	CBT combined with compassion along with cognitive-motor activities	-11.14	5.47175	0.146
			Cognitive-motor activities	-1.57	5.47175	1.000
	Follow-up	CBT combined with compassion along with cognitive-motor activities	Cognitive-motor activities	7.07	5.60418	0.644
			Control group	8.35	5.60418	0.432
		Cognitive-motor activities	CBT combined with compassion along with cognitive-motor activities	-7.07	5.60418	0.644
			Control group	1.28	5.60418	1.000
		Control group	CBT combined with compassion along with cognitive-motor activities	0.432	0.432	0.432
			Cognitive-motor activities	0.003	0.003	0.003
Self-compassion	Post-test	CBT combined with compassion along with cognitive-motor activities	Cognitive-motor activities	14.92*	3.72375	0.001
			Control group	-13.21*	3.72375	0.003
		Cognitive-motor activities	CBT combined with compassion along with cognitive-motor activities	1.71	3.72375	1.000
			Control group	-14.92*	3.72375	0.001
		Control group	CBT combined with compassion along with cognitive-motor activities	-1.71	3.72375	1.000
			Cognitive-motor activities	13.57*	3.68099	0.002
	Follow-up	CBT combined with compassion along with cognitive-motor activities	Cognitive-motor activities	14.00*	3.68099	0.001
			Control group	-13.57*	3.68099	0.002
		Cognitive-motor activities	CBT combined with compassion along with cognitive-motor activities	0.426	3.68099	1.000
			Control group	-14.00*	3.68099	0.001
		Control group	CBT combined with compassion along with cognitive-motor activities	-0.428	3.68099	1.000
			Cognitive-motor activities	13.21*	3.72375	0.003

CBT: Cognitive-behavioral therapy, SE: Standard error.

*Significance level of <0.05

Health, Spirituality and Medical Ethics Journal
Qom University of Medical Sciences

Compassion is one of the aspects of emotional intelligence that includes the ability to register emotions and use information to guide thoughts and actions [31]. According to studies, individuals who are self-compassionate experience better mental health compared to those with low self-compassion because the experience of pain and failure is reinforced through self-condemnation [32], feelings of isolation [33], and magnification of thoughts and emotions [34]. Therefore, self-compassion-based therapy is expected to significantly impact improvement.

These results are consistent with research on the effectiveness of cognitive-behavioral interventions, CBT, and cognitive-movement activities. For example, Mohammadi et al. reported in their study that both treatments affect increasing psychological capital and self-compassion in depressed adolescent girls [35]. Karimkhani and Kuchak Khoshnvis found that mindfulness training improves self-compassion and emotion regulation in obese girls [36]. Manookian et al. reported in their study that a significant relationship is observed between self-compassion and attitude toward aging in middle-aged individuals [37]. Tawhidi Far et al. reported in their research that compassion-based therapy reduces loneliness and increases cognitive flexibility in older people [38]. Entezari et al. reported in their study that elderly individuals can improve their cognitive flexibility and perfectionism by engaging in physical activity [39]. In their research, Mróz and Kaleta reported no difference in forgiveness between the treatment and control groups. Still, the treated individuals achieve more mental health forgiveness than untreated individuals [40]. Rezaei and Gharayag Zandi found that teaching self-compassion strategies improves and increases self-compassion and mindfulness [41]. Struthers et al. reported in their study that compared to aerobic exercises or no exercise, aerobic and flexibility exercises facilitate self-control over resentment and forgiveness [42].

Although the research mentioned above focused on the effectiveness of just one psychological intervention, CBT combined with compassion-based therapy and cognitive-movement therapy seems to be an effective way to improve resilience and self-compassion for the elderly, who typically struggle with a combination of psychological and biological disorders simultaneously. Furthermore, studies show that self-compassion and self-acceptance effectively increase older people's happiness and mental well-being. Therefore, by increasing these variables, positive changes can be made to improve the quality of life for older people. It is obvious that the use of psychological therapies, in addition to being preferred over drug treatments, is simple, harmless, and cost-effective in practice and is fully applicable.

Conclusion

In summary, it can be concluded that undergoing 9 weeks of CBT along with self-compassion accompanied by cognitive-motor activities due to the favorable role of self-compassion, as well as 9 weeks of intervention with cognitive-motor activities alone, considering the impact of this method on improving cognitive and emotional performance, can contribute to increasing forgiveness and self-compassion in older people. It is recommended to use these treatments to enhance the psychological well-being of older people.

Ethical Considerations

Compliance with ethical guidelines

The study was approved by the Ethics Committee of Birjand University of Medical Sciences (Code: IR.BUMS.REC.1398.003) and the clinical trial was registered at the Iran Clinical Trials Registration Center (IRCT) (Code: IRCT20191012045065N1). Written consent obtained from participants.

Funding

This article was extracted from PhD dissertation of Anahita Kashmari, approved by Islamic Azad University, Birjand Branch.

Authors' contributions

Conceptualization and supervision: Fatemeh Shahabizadeh; Data collection and data analysis: Ghasem Ahi and Alireza Mahmoudi Rad; Revising the manuscript: All authors.

Conflict of interest

The authors declared no conflict of interest.

Acknowledgments

The authors thank to the efforts of the professors who have assisted in conducting this research and participants of this research project.

References

[1] Manafifar SFZ, Ghaffari F, Faramarzi M, Youseframaki M, Shamsalinia A. [What is healthy ageing? Definitions and Effective factors (Persian)]. Caspian J Health Aging. 2020; 5(1):27-34. [DOI:10.22088/cjhaa.5.1.5]

[2] Falcone M, Paul M, Tiseo G, Yahav D, Prendki V, Friberg LE, et al. Considerations for the optimal management of antibiotic therapy in elderly patients. J Glob Antimicrob Resist. 2020; 22:325-33. [DOI:10.1016/j.jgar.2020.02.022] [PMID]

[3] Abbasalizadeh Ranjbari R, Bayrami M, Badri R. [Reducing depression symptoms through homeopathic treatment (Persian)]. Paper presented at: 5th Congress of the Iranian Psychological Association. 5 May 2015; Tehran, Iran. [Link]

[4] Walton CC, Baranoff J, Gilbert P, & Kirby J. Self-compassion, social rank, and psychological distress in athletes of varying competitive levels. Psychol Sport Exerc. 2020; 50:101733. [DOI:10.1016/j.psychsport.2020.101733]

[5] Neff KD, Germer CK. A pilot study and randomized controlled trial of the mindful self-compassion program. J Clin Psychol. 2013; 69(1):28-44. [DOI:10.1002/jclp.21923] [PMID]

[6] Rapgay L, Bystrisky A. Classical mindfulness: An introduction to its theory and practice for clinical application. Ann N Y Acad Sci. 2009; 1172:148-62. [DOI:10.1111/j.1749-6632.2009.04405.x] [PMID]

[7] Miyagawa Y,Taniguchi J. Self-compassion helps people forgive transgressors: Cognitive pathways of interpersonal transgressions. Self Identity.2022; 21(2):244-56. [DOI:10.1080/15298868.2020.1862904]

[8] Hashemi Shekofteh S, Vardezayedeh S, Sofi S, Siyavash B. [Forgiveness teaching on happiness and attitude to the life of parentless or poorly parented adolescent (Persian)]. Middle East J Disabil Stud. 2020; 10 :83-83. [Link]

[9] Lancman ME, Fertig EJ, Trobliger RW, Perrine K, Myers L, Iyengar SS, et al. The effects of lacosamide on cognition, quality-of-life measures, and quality of life in patients with refractory partial epilepsy. Epilepsy Behav. 2016; 61:27-33. [DOI:10.1016/j.yebeh.2016.04.049] [PMID]

[10] Agnew S, Vallières A, Hamilton A, McCrory S, Nikolic M, Kyle SD, et al. Adherence to cognitive behavior therapy for insomnia: An updated systematic review. Sleep Med Clin. 2021; 16(1):155-202. [DOI:10.1016/j.jsmc.2020.11.002] [PMID]

[11] Bieling PJ, Kuyken W. Is cognitive case formulation science or science fiction? Clin Psychol. 2023; 10(1):52-69. [DOI:10.1093/clipsy.10.1.52]

[12] Kramer HJ, Wood TD, Lara KH, Lagattuta KH. Children's and adults' beliefs about the stability of traits from infancy to adulthood: Contributions of age and executive function. Cogn Dev. 2021; 57:100975. [DOI:10.1016/j.cogdev.2020.100975] [PMID] [PMCID]

[13] Wright J, Besco M, Denise M. Learning cognitive-behavior therapy: An illustrated guide [H. Ghasemzadeh, Persian trans]. Tehran: Arjmand; 2021. [Link]

[14] Sadock B J, Sadock VA, Ruiz P. Kaplan & Sadock's synopsis of psychiatry: Behavioral sciences [F. Rezaei, Persian trans]. Tehran: Arjamand; 2021. [Link]

[15] De Vito AN, Ahmed M, Mohlman J. Cognitive enhancement strategies to augment cognitive-behavioral therapy for anxiety and related disorders: Rationale and recommendations for use with cognitively healthy older adults. Cogn Behav Pract. 2019; 29(1):175-84. [DOI:10.1016/j.cbpra.2019.10.007]

[16] Neff KD. Self-compassion, selfesteem and well being. Soc Personal Psychol Compass. 2011; 5(1):1-12. [DOI:10.1111/j.1751-9004.2010.00330.x]

[17] Allen AB, Leary MR. Self-compassionate responses to aging. Gerontologist. 2014; 54(2):190-200. [DOI:10.1093/geront/gns204] [PMID] [PMCID]

[18] Ramesh S, Azadian E, Majlesi M. [The comparison and relationship between cognitive and motor function in elderly with and without falling experience (Persian)]. Res Sport Manage Motor Behav. 2020; 10(20):138-50. [DOI:10.29252/JRSM.10.20.138]

[19] Pettersson AF, Olsson E, Wahlund LO. Motor function in subjects with mild cognitive impairment and early Alzheimer's disease. Dement Geriatr Cogn Disord. 2005; 19(5-6):299-304. [DOI:10.1159/000084555] [PMID]

[20] Thompson LY, Snyder CR, Hoffman L, Michael ST, Rasmussen HN, Billings LS, et al. Dispositional forgiveness of self, others, and situations. J Pers. 2005; 73(2):313-59. [DOI:10.1111/j.1467-6494.2005.00311.x] [PMID]

[21] Thompson LY, Snyder CR, Hoffman L, Michael ST, Rasmussen HN, Billings LS, et al. Heartland forgiveness scale (HFS). Washington: APA PsycTests; 2002. [DOI:10.1037/t00957-000]

[22] Akbari M, Gol Parvarr M, Kamkar M. [Relationship between interpersonal trust, self-efficacy, religious adherence and forgiveness with distributive and procedural just world beliefs (Persian)]. Knowl Res Appl Psychol. 2009; 10(35-36):53-80. [Link]

[23] Asgari P, Roshani K. [Validation of forgiveness scale and a survey on the relationship of forgiveness and students' mental health (Persian)]. Int J Psychol Behav Res. 2013; 2(2):109-15. [Link]

[24] Dehghan S, Kord Tamini B, Arab A. Comparing the Forgiveness, Psychological Well Being and Affective Control between Recovering Drug-Addicted and Healthy Subjects. Journal of Social Issues & Humanities 2014; 2(4). [Persian].

[25] Ebrahimi M, Azkhosh M, Shoaai F, Froughan M, Dolatshahi B. [Psychometric properties of persian version of heartland forgiveness scale in elderly (Persian)]. Iran J Rehabil Res Nurs. 2017; 3(4):9-20. [DOI:10.21859/ijrn-03042]

[26] Neff KD. The development and validation of a scale to measure self-compassion. Self Identity. 2003; 2(3):223-50. [DOI:10.1080/15298860309027]

[27] Neff KD, Pisitsungkagarn K, Ya-Ping H. (2008). Self-compassion and self-construal in the United States, Thailand, and Taiwa. J Cross Cult. 2008; 39(3):267-85. [DOI:10.1177/0022022108314544]

[28] Shahbazi M, Rajabi G, Maggi E, Jalodari A. [Confirmatory factor analysis of the persian version of the self-compassion rating scale-revised (Persian)]. Psychol Models Methods. 2015; 6(19):31-46. [Link]

[29] Momeni F, Shahidi S, Moutabi F, Heydari M. [Psychometric features of the Persian version of the self-compassion scale (Persian)]. Contemp Psychol. 2013; 8(2):27-40. [Link]

[30] Khosravi S, Sadeghi M, Yabandeh M. [Psychometric properties of self-compassion scale(SCS) (Persian)]. Psychol Models Methods. 2013; 4(13):47-59. [Link]

[31] Russell HM, Ariail DL, Smith KT, Smith LM. Analysis of compassion in accounting and business students, overall and by gender. J Account Educ. 2020; 53:100684. [DOI:10.1016/j.jaccedu.2020.100684]

[32] Lee WK. Self-compassion as a moderator of the relationship between academic burn-out and psychological health in Korean cyber university students. Personal Individ Differ. 2013; 54(8):899-902. [DOI:10.1016/j.paid.2013.01.001]

[33] Van Dam NT, Sheppard SC, Forsyth JP, Earleywine M. Self-compassion is a better predictor than mindfulness of symptom severity and quality of life in mixed anxiety and depression. J Anxiety Disord. 2011; 25(1):123-30. [DOI:10.1016/j.janxdis.2010.08.011] [PMID]

[34] Raes F. Rumination and worry as mediators of the relationship between self-compassion and depression and anxiety. Personal Individ Differ. 2010; 48(6):757-61. [DOI:10.1016/j.paid.2010.01.023]

[35] Mohammadi Z, Gol Parvar M, Atashpour S H. [Comparison of the effectiveness of existential acceptance and commitment therapy and compassion therapy based on psychological capital and self-compassion (Persian)]. Posit Psychol Research. 2022; 8(3):99-120. [DOI:10.22108/ppls.2022.132212.2255]

[36] Karimkhani S, Koochak Khoshnevis H. The effect of mindfulness-based training on self-compassion and emotion regulation in obese girls. J Adolesc Youth Psychol Stud. 2021; 1(1):377-85. [Link]

[37] Manookian A, Navab E, Zomorodi M. [The relationship between self-compassion and attitude to ageing in middle aged people (Persian)]. Iran J Nurs Res. 2020; 15(5):20-8. [Link]

[38] Tawhidi Far M, Kazemian Moghadam K, Harun Rashidi H. The effectiveness of compassion-based therapy on the feeling of loneliness and cognitive flexibility of elderly men. Psychol Stud. 1400; 17(2):97-116. [DOI:10.22051/PSY.2021.36089.2449]

[39] Entezari M, Shamsipour Dehkordi P, Sahaf R. [Effect of physical activity on cognitive flexibility and perfectionism in the elderly (Persian)]. Salmand. 2018; 12(4):402-13. [DOI:10.21859/sija.12.4.402]

[40] Mróz J, Kaleta K. [Forgiveness and mental health variables among psychotherapy outpatients. Annales Universitatis Mariae Curie-Skłodowska (Polish)]. Paedagogia Psychologia. 2020; 33(3):145-59. [DOI:10.17951/j.2020.33.3.145-159]

[41] Rezaei R, Gharayag Zandi H. Investigation of the effect of teaching self-compassion strategies on athletes' compassion and mindfulness (Persian)]. Movement and Behavioral Sciences. 2022; 5(4). [Link]

[42] Struthers CW, van Monsjou E, Ayoub M, Guilfoyle JR. Fit to forgive: Effect of mode of exercise on capacity to override grudges and forgiveness. Front Psychol. 2017; 8:538. [DOI:10.3389/fpsyg.2017.00538] [PMID] [PMCID]