

| |
|---|
| Access this article online |
| Quick Response Code: |
|  |
| Website: www.jehp.net |
| DOI: 10.4103/jehp.jehp_1799_22 |

The effect of positive thinking training on anxiety and happiness among older adults: A quasi-experimental study

Anis Pourdavarani¹, Jamileh Farokhzadian¹, Mansooreh Azizzadeh Forouzi², Sedigheh Khodabandeh Shahraki³

Abstract:

BACKGROUND: Anxiety and depression are the most prevalent mental disorders associated with aging. Positive thinking training is a way to help older adults cope with anxiety and depression and increase their happiness. This study aimed to determine the effect of positive thinking training on anxiety and happiness among older adults.

MATERIALS AND METHODS: This quasi-experimental study was conducted with 48 older adults referred to two comprehensive health service facilities in the southeastern Iranian province of Kerman. The intervention ($n = 24$) and control ($n = 24$) groups were randomly assigned from a convenience sample of older adults. The intervention group attended eight two-hour training sessions on positive thinking. Data were collected before and one month after the positive thinking training using Beck Anxiety Inventory and Oxford Happiness Inventory. All statistical procedures were performed in SPSS software (version 22), with the significance level set to $P = 0.05$.

RESULTS: Before the positive thinking program was delivered, the mean anxiety scores in the intervention and control groups were 13.98 ± 8.61 and 19.25 ± 11.67 , respectively. After the intervention was completed, the mean scores for the intervention and control groups were 4.50 ± 4.07 and 15.54 ± 9.04 , indicating a significant reduction in anxiety among intervention group participants ($t = -5.45$, $P < 0.001$). The mean baseline happiness scores in the intervention and control groups were 26.58 ± 12.40 and 37.91 ± 5.57 , respectively, which changed to 62.91 ± 4.66 and 35.62 ± 10.62 at the post-test. Positive thinking training improved happiness in a significant manner ($t = -4.08$, $P < 0.001$).

CONCLUSION: Results revealed that positive thinking training decreased anxiety and enhanced happiness among older adults. Given the growing elderly population, clinical managers, clinical specialists, nurses in health care centers, and those involved in elderly care facilities can benefit from this non-pharmacological treatment program for older adults suffering from anxiety and depression. It is suggested that preventive programs based on positive psychology be developed to aid in the prevention of people's declining happiness and increasing anxiety as they age.

Keywords:

Anxiety, education, elderly, happiness, optimism

Introduction

Older adults are at risk of potential threats such as increased chronic illness, anxiety, loneliness, isolation, and insufficient social support^[1] as well as physical and mental disabilities that threaten their mental health in a variety

of circumstances.^[2] Besides, psychological issues such as anxiety and depression lower their sense of happiness, as they experience a variety of feelings of deficiency and disability as they age.^[3] Depression and anxiety are the most prevalent problems affecting various aspects of the health of older adults.^[4] According to epidemiological studies, the prevalence of anxiety in older

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

For reprints contact: WKHLRPMedknow_reprints@wolterskluwer.com

How to cite this article: Pourdavarani A, Farokhzadian J, Azizzadeh Forouzi M, Khodabandeh Shahraki S. The effect of positive thinking training on anxiety and happiness among older adults: A quasi-experimental study. *J Edu Health Promot* 2024;13:65.

¹Nursing Research Center, Kerman University of Medical Sciences, Kerman, Iran, ²Neuroscience Research Center, Institute of Neuropharmacology Kerman University of Medical Science, Kerman, Iran, ³Reproductive Health, Family and Population Research Center, Kerman University of Medical Sciences, Kerman, Iran

Address for correspondence:

Dr. Sedigheh Khodabandeh Shahraki, Reproductive Health, Family and Population Research Center, Kerman University of Medical Sciences, Kerman, Iran. E-mail: s_khodabandeh@kmu.ac.ir

Received: 17-12-2022
Accepted: 24-04-2023
Published: 26-02-2024

adults ranges from 1.2 to 15 percent.^[5] Anxiety is associated with insomnia, forgetfulness, irritability, sadness, impaired concentration, and changes in appetite.^[6] According to studies, anxiety diminishes happiness, whereas positive emotions can increase an individual's cognitive capacity, entrepreneurial creativity, and happiness.^[7] Happiness includes positive emotions, life satisfaction, and the absence of negative emotions such as depression and anxiety.^[8,9]

People who experience happiness are more likely to develop resources for stress resilience.^[10] Various pharmacological therapies have been utilized to alleviate anxiety and depression caused by physical illness and addiction. Non-pharmacological or complementary therapies tend to be less expensive, simple to implement, non-invasive, and risk-free compared to pharmacological methods and can be used alone or in conjunction with pharmacological approaches.^[11]

Positive thinking training is one of the interventions that can enhance older adults' psychological health.^[12] A negative outlook on life is a significant factor in depression and anxiety.^[13] Positive interventions reduce anxiety and increase happiness and psychological well-being among individuals by increasing positive emotions, thoughts, and behaviors and addressing the fundamental needs of older adults, such as love, belonging, and communication.^[14]

Several studies have looked into the effectiveness of positive thinking on psychological variables. Gallagher *et al.* found a correlation between positive thinking, improved emotion, adaptation, and health among middle-aged cancer survivors.^[15] Thadchai *et al.*^[12] demonstrated that in the face of the retirement crisis, employees who were more adaptable, more optimistic, and happier performed better.^[16] Another study has demonstrated the effectiveness of a positive thinking program on the hope and sleep quality of thalassemia major patients.^[17]

An increase in global life expectancy has resulted in aging, and the older population is growing more rapidly than the total population. Approximately, 8% of the Iranian population is above 60 years old, and the proportion of individuals aged above 60 has increased by 50% over the past three decades. As anxiety and depression are inevitable during the aging process and have a negative impact on the physical and mental health of older adults, older adults should receive support. Training positive thinking is assumed to impact the life quality of older adults. Few studies have examined the effects of positive thinking training on older adults' happiness and depression levels. Consequently, this study aimed to examine the impact of positive thinking training on anxiety and happiness in older adults.

Materials and Methods

Study design and setting

A pretest–post-test controlled quasi-experimental study was performed with older adults visiting comprehensive health centers affiliated with Kerman University of Medical Sciences between March 2021 and September 2021 in Kerman Iran. All the procedures adopted were performed per the relevant guidelines and regulations.

Study participants and sampling

The statistical population ($n = 204$) comprised all older adults who visited two health centers affiliated with the Kerman University of Medical Sciences during data collection. The sample size was estimated based on Rafie and Momeni's study.^[18] Each group comprised 24 individuals, taking into account $\alpha = 0.05$, a test power of 80%, and an effect size (Cohen $d = 0.2$). Given possible attrition and the test power, 60 participants were included in the study to ensure a sufficient sample size. The sampling was conducted in stages. First, a list of health centers in Kerman's urban areas was compiled. Two of the ten facilities were selected using a convenience sampling method because the older population served by these centers was larger than in other centers.

Data collection tool and technique

The first researcher obtained a list of older adults registered on the Integrated Health System website from the centers' directors. Given the nearly equal number of older adults in the two centers, 30 older adults were selected from each center using a table of random numbers. They were then randomized into intervention ($n = 30$) and control ($n = 30$) groups. The response rate was 80%; that is, 24 participants responded to the questionnaires in each group. Six participants in the intervention group were excluded from the study; one was hospitalized, and five could not participate in the training program because they lived too far from the class location. In addition, six control group participants were excluded due to travel, hospitalization, or distant residence from the class location [Figure 1].

Participants could include older adults with current medical records at a comprehensive health center. Other inclusion criteria were a willingness to participate in the study, no history of mental, behavioral, or communication disorders. (The elderly in these centers are regularly visited by the center's psychiatrist and psychologist. Any psychiatric disorder is recorded in the file), absence of any psychotropic medications, and no concurrent participation in another psychological intervention (similar to positive thinking). Exclusion criteria comprised missing more than two intervention sessions, hospitalization, or a lack of desire to continue the training.

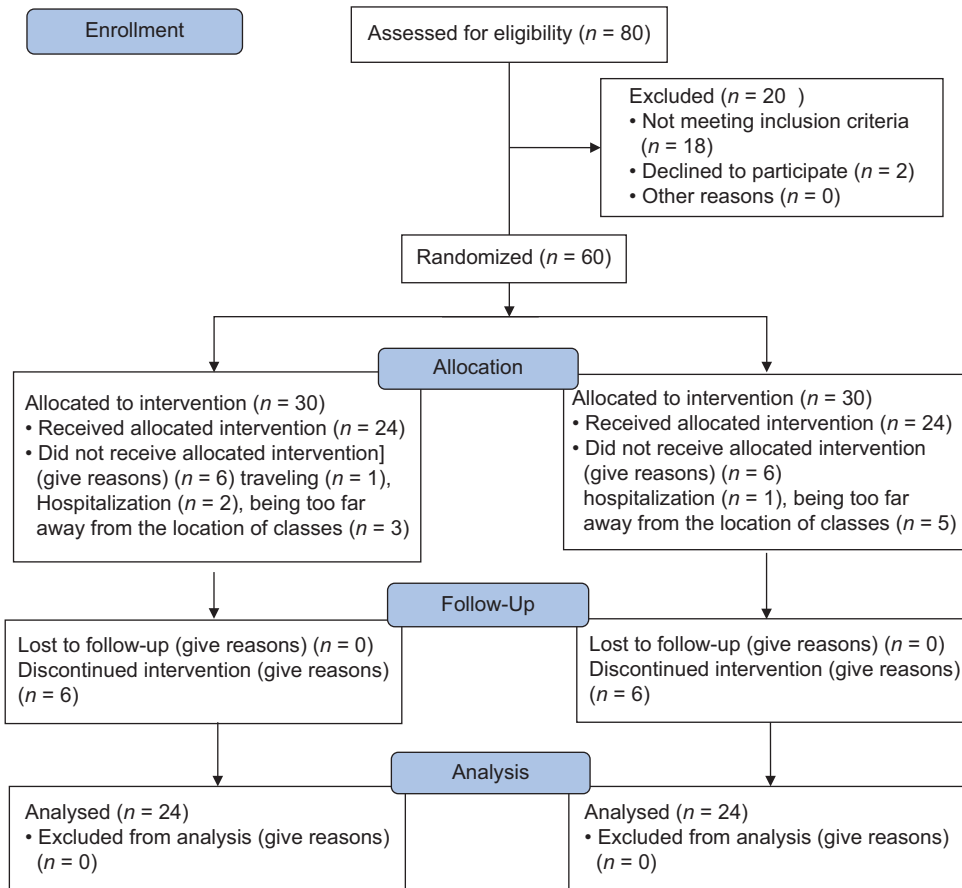


Figure 1: Flow diagram of experimental study

For data collection, older adults’ mobile phone numbers were collected, and, if required, a meeting with a family member was held in the health center’s lobby.

A training program on positive thinking was delivered in eight two-hour sessions held twice weekly. The researchers and a clinical psychologist presented training through lectures, storytelling, and educational materials taken from Seligman’s^[19] and sayadi Sarini *et al.*’s^[20] educational and therapeutic books on positive thinking. A clinical psychologist and senior psychiatric nurse approved the educational material [Table 1]. Each session of positive thinking training included lectures, questions and answers, educational video clips, and group discussions. They were divided into groups of eight people. After the final positive thinking session, the first researcher encouraged the older adults to engage in positive thinking daily by contacting them once a week. After one month, the researcher administered the anxiety and happiness questionnaires and coordinated with older adults. The older adults in the control group did not receive training during the research. At the conclusion of the study, the researcher distributed educational pamphlets among the controls and held a two-day workshop for them.

Table 1: The educational content of the positive thinking protocol

| Session | Educational content |
|---------|---|
| S1 | Introducing the concept of positive thinking as well as the group rules |
| S2 | Understanding how thoughts and attitudes are shaped |
| S3 | Learning about negative thoughts and ways to moderate them, and learning about positive thoughts and their impact on health and longevity |
| S4 | Nurturing positive thinking by challenging negative thoughts, altering mental images, employing constructive language, and modifying beliefs |
| S5 | Learning to be positive by institutionalizing positive thinking strategies in one’s life and continuing to practice positive thinking strategies in the face of unsolvable problems |
| S6 | Experiencing positive life by building healthy relationships with others and loving them wholeheartedly |
| S7 | Being positive by learning how to stop thinking, calm down, and change attitudes, including inhibition and defiance |
| S8 | Creating a more beautiful life, fostering self-confidence, and establishing a healthy exercise routine |

To collect data, demographics forms, the Beck Anxiety Inventory (BAI), and the Oxford Happiness Inventory (OHI) were used to collect data for the current study. The survey took approximately 15 minutes to complete.

Developed by Steer and Beck *et al.* (1988), BAI includes 21 questions. Anxiety symptoms are graded on a 4-point scale ranging from 0 (not at all) to 3 (severely). The lowest and highest possible scores are 0 and 63, respectively, indicating no or minimal anxiety (0–7), mild anxiety (8–15), moderate anxiety (16–25), and severe anxiety (25–63).^[21] In Iran, Kaviani and Mousavi (2008) have standardized this questionnaire. The content validity and reliability of the questionnaire were confirmed using retest ($r = 0.83$) and internal consistency ($\alpha = 0.92$) strategies, respectively.^[22]

The 29-item OHI was used to assess participants' happiness. This tool was first developed by Argyle in 2001^[23] and includes the five domains of life satisfaction (8 items), self-esteem (seven items), subjective well-being (five items), self-satisfaction (four items), and positive affect (five items). Items are rated on a 4-point Likert scale from 0 (always) to 3 (not at all). Scores can range between 0 and 87. A score of 87 indicates the highest level of happiness, a score between 40 and 42 indicates normal happiness, and a score of 0 suggests dissatisfaction with life and depression. This questionnaire was validated by Alipour *et al.* in 2007. Its reliability was estimated using retest ($r = 0.83$) and internal consistency ($\alpha = 0.92$) techniques.^[24,25]

Data were analyzed with SPSS software (Version 22). Descriptive statistics (mean, frequency, and standard deviation) and analytic statistics (Mann–Whitney *U*-test, *Chi*-square test, analysis of covariance, independent *t*-test, and paired *t*-test) were used to analyze the data. The significance level was established at $P = 0.05$.

Ethical consideration

This paper was extracted from a master's degree dissertation in community health nursing (project number 98000924). The Ethics Committee of Kerman University of Medical Sciences (ethics code: IR.KMU.REC.1398.606) approved the study's protocol, and the study's objectives were explained to the participants before recruitment. Unique codes were assigned to each participant to ensure information confidentiality. All participants signed consent forms, and the confidentiality of the information was assured.

Results

Demographic characteristics

The majority of participants in the intervention and control groups (66.79 ± 0.93 and 66.62 ± 0.87 , respectively) were between 60 and 67 years old. The intervention and control group members were primarily married (79.2% and 83.3%, respectively), held degrees above associate's (50.0% and 58.3%, respectively), and had low incomes (66.7% and 58.3%, respectively).

Moreover, 20.8% of the intervention group and 16.7% of the control group members lived alone [Table 2].

Anxiety

Before the intervention, 8.3% of the older adults in the intervention group and 25% of those in the control group had severe anxiety. However, after the intervention, the rates dropped to 0% in the intervention group and 16.7% in the control group.

Before the intervention, the mean anxiety scores of both groups were not significantly different ($P = 0.062$). Nevertheless, after the positive thinking training, the mean anxiety score of the intervention group decreased significantly more than that of the control group ($t = -5.45, P < 0.001$), indicating that positive thinking skills significantly affected the intervention group's anxiety. The independent *t*-test was utilized to confirm the results [Table 3].

Happiness

Table 4 displays the level and dimensions of happiness in the intervention and control groups before and one month after the intervention. At the post-test, the total happiness score in the intervention group increased

Table 2: Comparison of demographic characteristics of control and intervention groups

| Group Variable | Intervention (n=24) | | Control (n=24) | | Test result |
|---------------------|---------------------|------|----------------|-------|-----------------------------|
| | n | % | n | % | |
| Age (year) | | | | | |
| Mean±SD | 66.79±0.93 | | 66.62±0.87 | | Mann–Whitney U=249, P=0.379 |
| Sex | | | | | |
| Female | 12 | 50 | 15 | 62.5 | $\chi^2=0.76$ |
| Male | 12 | 50 | 9 | 37.5 | $P=0.38$ |
| Education | | | | | |
| Diploma | 10 | 41.7 | 12 | 50 | $\chi^2=0.33$ |
| Middle/high school | 14 | 58.3 | 12 | 50 | $P=0.56$ |
| Income level | | | | | |
| \$ <74 | 16 | 66.7 | 14 | 58.3 | $\chi^2=0.36$ |
| \$149–186 | 6 | 25 | 7 | 29.16 | $P=0.55$ |
| \$ >186 | 2 | 8.33 | 3 | 12.5 | |
| Marital status | | | | | |
| Married | 19 | 79.2 | 20 | 83.3 | $\chi^2=0.13$ |
| Single | 5 | 20.8 | 4 | 16.7 | $P=0.712$ |
| Occupation | | | | | |
| Homemaker | 10 | 41.7 | 8 | 33.3 | $\chi^2=0.35$ |
| Self-employed | 6 | 25 | 7 | 29.2 | $P=0.83$ |
| Retired | 8 | 33.3 | 9 | 37.5 | |
| Living status | | | | | |
| Alone | 5 | 20.8 | 4 | 16.7 | $\chi^2=0.25$ |
| With spouse | 9 | 37.5 | 9 | 37.5 | $P=0.96$ |
| Children | 3 | 12.5 | 4 | 16.7 | |
| Spouse and children | 7 | 29.2 | 7 | 29.2 | |

*Chi-square tests

Table 3: Comparison of the mean baseline and post-test anxiety scores between intervention and control groups

| Variable | Group | Before intervention Mean SD | One month after the intervention Mean SD | Paired t-test | Effect size |
|----------|---|--------------------------------|---|----------------------------|------------------|
| Anxiety | Intervention | 13.58±8.61 | 4.50±4.07 | t=8.10, P<0.001 P=0.093 | d=1.65 d=0.35 |
| | Control | 19.25±11.67 | 15.54±9.04 | | |
| | Between-group estimation in each section | t=-1.91 P=0.062 | t=-5.45 P<0.001 | | |

Table 4: Comparison of mean baseline and post-test happiness scores between intervention and control groups

| Variable | Group | Before intervention Mean SD | One month after the intervention Mean SD | Paired t-test | Effect size |
|-----------------------|---|--------------------------------|---|----------------------------------|--------------------|
| Satisfaction | Intervention | 7.79±5.18 | 15.29±3.82 | t*=-4.968 P<0.001 P=0.031 | d=1.01 d=0.46 |
| | Control | 11.54±3.45 | 8.95±5.21 | | |
| | Between-group estimation in each section | t**=-2.95 P=0.005 | F***=17.68 P<0.001 | | |
| Self-esteem | Intervention | 6.37±3.09 | 14.25±1.89 | t*=-11.12 P<0.001 P=0.409 | d=2.27 d=0.17 |
| | Control | 8.33±1.49 | 7.75±2.90 | | |
| | Between-group estimation in each section | t**=-2.795 P=0.008 | F***=70.845 P<0.001 | | |
| Subjective well-being | Intervention | 5.29±3.55 | 11.91±1.44 | t*=-10.8, P<0.001 P=0.570 | d=2.20 d=0.11 |
| | Control | 7.41±1.10 | 7.01±3.51 | | |
| | Between-group estimation in each section | t**=-2.796 P=0.008 | F***=43.546 P<0.001 | | |
| Self-satisfaction | Intervention | 2.95±1.39 | 9.91±1.10 | t*=-23.36 P<0.001 P=0.039 | d=4.79 d=0.44 |
| | Control | 3.62±1.76 | 5.25±2.40 | | |
| | Between-group estimation in each section | t**=-1.451 P=0.154 | t**=8.65 P<0.001 | | |
| Positive mood | Intervention | 4.16±2.69 | 11.54±1.10 | t=-15.584 P<0.001 P=0.645 | d=3.19 d=0.100 |
| | Control | 7.01±0.083 | 6.66±3.71 | | |
| | Between-group estimation in each section | t**=-4.916 P<0.001 | F***=37.093 P<0.001 | | |
| Happiness total | Intervention | 26.8±12.40 | 62.91±4.66 | t*=-113.93 P<0.001 P=0.297 | d=2.846 d=0.218 |
| | Control | 37.91±5.57 | 35.62±10.62 | | |
| | Between-group estimation in each section | t**=-4.08 P<0.001 | F***=-107.73 P<0.001 | | |

*Independent t-test, **Analysis of Covariance (ANCOVA)

significantly ($t = -4.08, P < 0.001$), indicating that the educational intervention was conducive to happiness. The mean happiness scores of the two groups were significantly different, as confirmed by a covariance analysis test ($F = -107.73, P < 0.001$). In addition, the mean scores of the intervention group were significantly higher than those of the control group (62.91 ± 4.66 versus 35.62 ± 10.62) [Table 4].

Discussion

The present study revealed that positive thinking training significantly reduced anxiety levels among older adults in the intervention group.

Older adults' anxiety stems primarily from unawareness or negative perceptions of themselves

and their surroundings. This study found that enhancing communication, raising awareness of individual and group strengths and abilities, teaching patients internal and external problem-solving skills, fostering positive emotions and optimistic thinking, and combating negative thoughts could all reduce older adults' anxiety. Positive thinking and communication skills can promote self-confidence leading to a change in attitude from a negative to a more brilliant and better perspective.

Numerous studies have demonstrated the efficacy of positive thinking training. For instance, training positive thinking skills is shown to significantly reduce nurses' anxiety, stress, and occupational burnout.^[20] Nikmanesh and Zandvakili discovered that positive thinking training diminished adolescents' mean scores of depression, anxiety, and stress and enhanced their quality of life.^[26] According to the Stanford Center for Longevity Research, as people age, they adjust their emotional health and are better able to view experiences and challenges in a positive light. In memory tests, older adults recalled positive images better than younger individuals.^[27] That is why positive thinking training will help them improve personal satisfaction, happiness, and overall health as a result. Researchers at the Yale School of Public Health hypothesized that older adults with positive age stereotypes would be much more likely to get over the disability than those with negative age stereotypes.^[28] Indeed, numerous studies have demonstrated the efficacy of positive thinking training on anxiety.^[16,29,30]

Positive thinking that emphasizes inner resilience and coping can aid older adults in adapting to and escaping from complex, challenging, and stressful living conditions. Older adults are one of the special groups who experience a great deal of fear and anxiety. According to de Oliveira *et al.*,^[31] the higher the positive thinking level, the lower the stress level of older adults. Puig-Perez *et al.* maintain that positive thinking leads to improved adaptation to the stressful situation of aging, whereas negative thinking can result in maladaptation.^[32] According to Ahmad and Gaber,^[33] positive thinking reduces death anxiety in older adults. Another study with 70 hemodialysis patients revealed that positive thinking training had no significant effect on their depression.^[34] Inconsistency between the results of this study and the present study may be due, in part, to differences in the study populations and severe depression.

The results indicated that positive thinking training could increase the intervention group's mean happiness score. Several studies have also reported that the positive thinking training program increases the happiness score of the intervention group. Sohani and Barghi Irani *et al.*, for instance, demonstrated that positive

thinking skills training had a positive effect on older adults' self-care, happiness, and self-efficacy.^[35] Another study demonstrated that positive psychotherapy increased resilience, happiness, and overall health.^[36] Researchers have found that positive thinking training enhances happiness and life satisfaction among older men.^[37] In addition, Tavakoli *et al.*^[38] and Ho *et al.*^[39] have demonstrated the effectiveness of positive thinking interventions on older adults' happiness, depression, and life satisfaction.^[40]

Limitations and recommendation

Given the prevalence of COVID-19, the present study collected data only at two-time points. Further research is suggested to have long-term interventions and longer follow-ups (three months or six months).

Conclusion

According to the findings of this study, positive thinking training led to the acquisition of positive thinking skills and flexibility. This made older adults physically and mentally adaptable to problems and issues, particularly during the coronavirus pandemic, when they experienced higher anxiety. Therefore, it is also suggested that psychiatrists, psychologists, clinical nurses, nursing home administrators, and all caregivers of older adults use positive thinking skills training programs as a non-pharmacological method that can help prevent psychological problems such as anxiety and make older adults happier.

Acknowledgment

The authors express their gratitude and appreciation to the Kerman University of Medical Sciences and health centers the respondents, who participated in this research project. This study was approved by the Ethics Committee of Kerman University of Medical Sciences with the code of IR.KMU.REC.1398.606.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

References

1. Mosavi SV, Mahfeli M, Rezaei S, Poorabolghasem Hosseini S. The effectiveness of laughter therapy on the hope and pain intensity in elderly. *Aging Psychology* 2018;4:1-12. (In Persian).
2. Jiménez MG, Montorio I, Izal M. The association of age, sense of control, optimism, and self-esteem with emotional distress. *Dev Psychol* 2017;53:1398-403.
3. Chen Y, Li X, Ge L, Pan B, Bing Z, Ying X, *et al.* Comparison of life quality in older adults living in traditional family versus nursing home: A systematic review and meta-analysis. *Psychol Health Med* 2022;27:1072-83.

4. Oon-Arom A, Wongpakaran T, Kuntawong P, Wongpakaran N. Attachment anxiety, depression, and perceived social support: A moderated mediation model of suicide ideation among the elderly. *Int Psychogeriatr* 2021;33:169-78.
5. Bergman YS, Cohen-Fridel S, Shrira A, Bodner E, Palgi Y. COVID-19 health worries and anxiety symptoms among older adults: The moderating role of ageism. *Int Psychogeriatr* 2020;32:1371-5.
6. Indarwati R, Fauzi A, Asmoro CP. The effect of reminiscence therapy on the level of anxiety for elderly people. *Sys Rev Pharm* 2020;11:793-6.
7. Kahrazei F, Akbarizadeh A. Comparison of the general health and happiness of the elderly living in nursing homes, private homes with and without family-based rehabilitation Services. *Journal of Gerontology* 2020;4:56-67. (In Persian).
8. Oraki M, Mehdizadeh A, Dortaj A. The effectiveness of self-care empowerment training on life expectancy, happiness and quality of life of the elderly in Iranian elderly care centers in Dubai. *Iranian Journal of Ageing* 2019;14:320-31. (In Persian).
9. Zhang Y, Han B. Positive affect and mortality risk in older adults: A meta-analysis. *Psych J* 2016;5:125-38.
10. Jafari A, Behboodi M. The efficacy of aerobic exercises in reducing loneliness and promoting happiness in Elderly. *IJPN* 2017;5:9-17. (In Persian).
11. Hashemi Siyavoshani M, Fallahi Arezodar F, Pishgooei SA, Jaidid_milani M. The effect of rose water on the anxiety level of aged admitted to cardiac intensive care units. *IJNR* 2020;15:59-68. [In Persian].
12. Thadchai N, Suksawat J, Wongtim S. Adaptation, positive thinking, and happiness in work performance affecting preparation to enter elderly social society. *Human Behavior, Development and Society* 2018;19:105-12.
13. Ajlouni AO, Almahaireh AS. Relationship between coronavirus-related anxiety and optimism among undergraduates at the University of Jordan. *Education*. 2015.
14. Seligman MEP. *Positive psychology in practice*: John Wiley & Sons; 2012.
15. Gallagher MW, Long LJ, Richardson A, D'Souza JM. Resilience and coping in cancer survivors: The unique effects of optimism and mastery. *Cognit Ther Res* 2019;43:32-44.
16. Ahangarzadeh RS, Oladrostam N, Nematolahei A. The effect of positive thinking training on stress, anxiety and depression in coronary heart disease. *Journal of Urmia Nursing and Midwifery Faculty* 2017;15:339-48. (In Persian).
17. Makaremnia S, Manshadi MD, Khademian Z. Effects of a positive thinking program on hope and sleep quality in Iranian patients with thalassemia: A randomized clinical trial. *BMC Psychol* 2021;9:43.
18. Rafiee Z, Momeni K. The Effectiveness of optimist memory telling on death anxiety and the sense of aging in elderly. *Int J Behav Sci* 2018;12:69-75.
19. Seligman ME, Rashid T, Parks AC. *Positive psychotherapy*. *Am Psychol* 2006;61:774-88.
20. Sarini MS, Hojatkhah SM, Rashidi A. The effectiveness of positive thinking skills on enhancement of psychological well-being and decreased of loneliness in elderly women. *Aging Psychology* 2016;2:61-71.
21. Steer RA, Beck AT. *Beck Anxiety Inventory*. In Zalaquett CP, Wood RJ. *Evaluating stress: A book of resources*. Lanham: Scarecrow Education 1997;23-40.
22. Kaviani H, Mousavi AS. Psychometric properties of the Persian version of Beck Anxiety Inventory (BAI). *Tehran Univ Med J* 2008;66:136-40. (In Persian).
23. Hills P, Argyle M. The Oxford Happiness Questionnaire: A compact scale for the measurement of psychological well-being. *Personality and Individual Differences* 2002;33:1073-82.
24. Alipoor A, Noorbala AA. A preliminary evaluation of the validity and reliability of the Oxford happiness questionnaire in students in the universities of Tehran. *Iranian Journal of Psychiatry and Clinical Psychology* 1999;5:55-66. (In Persian).
25. Alipour A, Agah Heris M. Reliability and validity of the Oxford Happiness Inventory among Iranians. *Developmental Psychology (Journal of Iranian Psychologists)* 2007;3:287-98. (In Persian).
26. Nikmanesh Z, Zandvakili M. The effect of positive thinking training on quality of life, depression, stress and anxiety in delinquent juveniles. *Positive Psychology Research* 2015;1:64-53.
27. Charles ST, Mather M, Carstensen LL. Aging and emotional memory: The forgettable nature of negative images for older adults. *J Exp Psychol Gen* 2003;132:310-24.
28. Michael G. Positive age stereotypes improve recovery among the elderly November 20, 2012 [Available from: <https://medicine.yale.edu/news-article/positive-age-stereotypes-improve-recovery-among-the-elderly-1/>].
29. Farnam A. The effect of positive thinking training in enhancement of quality and hope of life among the elderly. *Positive Psychology Research* 2016;2:75-88. (In Persian).
30. Layous K, Lee H, Choi I, Lyubomirsky S. Culture matters when designing a successful happiness-increasing activity: A comparison of the United States and South Korea. *Journal of Cross-Cultural Psychology* 2013;44:1294-303.
31. de Oliveira NA, Souza ÉN, Luchesi BM, Inouye K, lost Pavarini SC. Stress and optimism of elderlies who are caregivers for elderlies and live with children. *Rev Bras Enferm* 2017;70:697-703.
32. Puig-Perez S, Villada C, Pulopulos MM, Almela M, Hidalgo V, Salvador A. Optimism and pessimism are related to different components of the stress response in healthy older people. *Int J Psychophysiol* 2015;98:213-21.
33. Ahmad AA, Gaber OH. The relationship between death anxiety, level of optimism and religiosity among adult cancer patients: A predictive study. *International Journal of Psychological Studies* 2019;11:26-35.
34. Shokrpour N, Sheidaie S, Amirkhani M, Bazrafkan L, Modreki A. Effect of positive thinking training on stress, anxiety, depression, and quality of life among hemodialysis patients: A randomized controlled clinical trial. *J Edu Health Promot* 2021;10:225.
35. Sohani A, Barghi Irani Z. Effectiveness of psychological rehabilitation based on training of positive thinking skills on self-care, happiness and self-efficacy in elderly people with type 2 diabetes. *Aging Psychology* 2018;4:235-49.
36. Sohrabi F, Jafari Roshan F. Effectiveness of positive group psychotherapy on resiliency, happiness and general health on women with a substance dependence spouses. *Positive Psychology Research* 2016;2:31-46.
37. Haroon Rashidi H, Bahiraei MR. The effectiveness of positivism training on the life satisfaction and character strengths in the elderly men. *Aging Psychology* 2020;6:179-89.
38. Tavakoli G, Rezai Dehnavi S, Montajabian Z. The effectiveness of positive psychotherapy on the vitality in the elderly. *Aging Psychology* 2020;6:299-308. (In Persian).
39. Ho HCY, Yeung DY, Kwok SYCL. Development and evaluation of the positive psychology intervention for older adults. *The Journal of Positive Psychology* 2014;9:187-97.
40. Leontopoulou S. A positive psychology intervention with emerging adults. *The European Journal of Counselling Psychology* 2015;3:113-36.