

## Efficacy of training optimism on general health

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**Background:** The purpose of this study was to investigate the relation of optimism with mental health and the affectivity of optimism training on mental health and its components on Yazd University students.

**Materials and Methods:** Fifty new students of the 2008-2009 academic years were randomly selected. The General Health Questionnaire (GHQ-28) and the optimism scale were completed by them. Thirty persons of these students, who had the highest psychological problems based on the general health questionnaire, were divided into two case and control groups through random assignment. The case group was trained for one month, in two 90-minute sessions per week. Pre-tests and follow-up tests were performed in both groups.

**Results:** The results of Pearson correlation coefficients showed that optimism had a negative and significant relationship with mental health, anxiety, social function, and depression scores ( $p < 0.0001$ ). However, no significant relationship was seen with somatic symptoms ( $p > 0.005$ ). Multivariate analysis of covariance showed that optimism training had significant impact on mental health and its components in the case group, compared with the control group ( $p < 0.0001$ ).

**Conclusion:** In general, the findings of this research suggest the relationship between optimism and mental health and the effectiveness of optimism training on mental health. This method can be used to treat and prevent mental health problems.

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## Introduction

The World Health Organization defined mental health as an essential need and a crucial issue to improve the quality of human life. This organization defines mental health as a “state of complete physical, psychological, and social health (rather than absence of disease or disability).” Optimism is among the structures that has attracted a large number of studies on predicting mental health in recent years. Inherent optimism – or in other words, the inspiration that good experiences will occur in life – is defined as a relatively stable personality trait which determines the type of person’s behavior [1].

This structure affects the individual's behavior in coping with stressful experiences and success in what they deal with in life. A person with an optimistic orientation toward the future evaluates stressing conditions with a positive view and has a good estimation of his/her abilities to solve the problems [2]. Seligman defined optimism as an explanatory style, rather than a personality trait. According to this view, optimistic people explain negative events or experiences as transient and specific, by attributing them to external factors [3].

Other researches indicate that optimism as an explanatory style in the face of unpleasant events can play an effective role in maintaining people mental health [4-6]. To explain the effect of optimism on mental health, Seligman believes that optimistic people deal with mental stress better by using more effective coping strategies, such as reassessment and problem solving [3]. Several

studies have demonstrated that optimism has a reversed relationship with depression as an adaptive behavior [7]. In addition to physical health and depression, optimism plays a significant role in reducing anxiety levels when dealing with stressful life events. A research has shown that pessimistic victims were more prone to anxiety disorders and sleep problems compared to their optimistic counterparts [8].

In a study, Segerstrom measured the mutual effects of optimism, and situational and social resources in first-year law students and reevaluated the same students ten years later. He concluded that optimistic people in the first year of university found higher income and broader social support network [9]. In a similar study, Sheier and Corver also showed that higher optimism was related to lower stress and depression and increased social support [1]. The purpose of this study is to examine the relationship between optimism in Yazd University students and the effectiveness of optimism training on mental health of this university's female students.

## Materials and Methods

This study included two parts: the first part of the research was descriptive-correlation, examining the relationship between optimism and mental health and its subscales; the second part was a quasi-experimental study which was conducted in two groups of case and control with pre-test, post-test and follow-up. The statistical

society included all new students of the 2008-2009 academic year of Yazd University. In this study, marital status and age less than 18 years and above 23 years were exclusion criteria. Three fields of study including law, accounting, and computer sciences were randomly selected at first for sampling. Accordingly, 100 new students including 50 females and 50 males were randomly selected from these disciplines.

The General Health Questionnaire (GHQ-28) and the optimism scale were completed by them. For the second part of the study, 30 female students who had the highest scores in general health test were selected and were randomly assigned into two groups, each consisting of 15 persons. To observe research ethics and to ensure the proper implementation of procedures, they informedly wrote a consent form and committed to participate in the training program. After this step, the case group was trained in 8 sessions of 90 minutes. After the training sessions, the post-test, and one month later, the follow-up test was performed. It should be mentioned that, the results of the first part of the research were considered as pre-test.

The GHQ-28 questionnaire consists of four subscales, each including seven questions on somatic symptoms, anxiety symptoms, social function, and symptoms of depression. Studies have shown that gender, age, and education level do not have an important effect on this questionnaire. Goldberg analyzed 34 studies and reported its sensitivity 84 and its specificity 82 [10]. With a cut-off point of 23, Yaghoobi et al. reported the sensitivity and specificity as 86 and 82, respectively [11]. The reliability coefficient of the test-retest and Cronbach's Alpha were reported as 0.88 by Yaghoobi et al [11].

The Life Orientation Test (LOT) questionnaire has been designed by Sheier and Corver. This 8-item scale gives the measure with which people evaluate their expectations relative to life outcomes, and includes four questions with positive statements such as "in uncertain times, I usually expect the best" and four questions with negative expressions such as "if something can go wrong for me, it will." Questions 1, 3, 4, and 7 are positive and scored directly, and questions 2, 5, 6, and 8 are negative and scored in reverse.

This scale had satisfactory psychometric properties [12]. The mean scores of scale, standard deviation, and LOT reliability were  $2.98 \pm 0.43$  respectively and alpha was equal to 0.85. In the present study, descriptive statistics and multivariate analysis of covariance were used to investigate the relationship between optimism and mental health and its subscales, as well as the effectiveness of optimism training on mental health and its subscales.

Optimism training was performed over 8 sessions for the case group. The overall content of the educational sessions was as follows: the first session, an introduction to automatic thoughts and negative beliefs about self, God, others, life, and future; the second session, combating negative thoughts by tracing their sources, challenging negative thoughts and stopping them; the third session, ABC analysis, including familiarity with the relationship between unpleasant events, beliefs, and mood

changes resulting from them; the fourth session, correction of documents; change of the pessimistic explanatory style (internal, general, and stable) to optimistic explanatory style (external, specific, and transient); the fifth session, DE analysis, including familiarity with attention distraction techniques such as saying "no" and postponing, self-learning of scenes (finding evidence for self-interpretation, finding other interpretations and evaluation of usefulness of beliefs), and fortifying processes including summarizing thoughts and actions, and planning for future; the sixth session, familiarity with the techniques of self-acceptance, self-confidence, focus on abilities, and assuming the inabilities to be limited; the seventh session, promoting religious beliefs, familiarity with the role of faith, trust in God and belief in the divine predeterminations in the face of unpleasant events, and the eighth session, summing up and conclusion.

## Results

The participants in this study consisted of 50 female students of Yazd University, with a mean age of 22.92 years. All were single and had no significant difference in terms of parents' education and economic level ( $p=0.76$ ).

The Pearson correlation coefficient was used to analyze the relationship between optimism and mental health and its subscales, of which anxiety, social dysfunction and depression subscales were related to mental health ( $p < 0.0001$ ). A significant relationship was not found between the physical symptoms variable and optimism ( $p > 0.05$ ). There was also a significant association between optimism and the total score of mental health, which indicates that mental health improved by increasing optimism.

Table 1 shows the descriptive indices of the total mental health scores in three phases of the research. Since obtaining higher score in general health questionnaire indicates a decrease in mental health, descriptive indices of groups in mental health general factor show that the experimental group implied a significant reduction in both post-test and follow-up scores of the general health questionnaire.

**Table 1.** Mean and standard deviation of general mental health scores in different phases and groups

Groups	Sessions	Mean±SD
Experimental	Pre-test	1.64±46.46
	Post-test	30±1.28
	Follow-up	29.06±1.17
Control	Pre-test	34.9±1.17
	Post-test	34.9±1.38
	Follow-up	40.33±1.49

To investigate the effect of optimism training on mental health and its subscales, covariance analysis was performed. After observing the two assumptions of variance equality and normal distribution of variables in the society, the data were analyzed by covariance analysis. Since pre-test scores had a significant association with post-test scores, they were fed into

covariance analysis in order to remove their effect on the final analysis. However, even after controlling the effect of pre-test scores, there was a significant difference between the groups in terms of post-test scores related to scores of general physical symptoms and its components (symptoms of somatic complaints, anxiety, social dysfunction, and depression), ( $p < 0.0001$ ). Therefore, the independent variable had a significant effect on the dependent variable and group membership explained 0.65, 0.31, 0.38, 0.71, and 0.40 percent of the total variance of physical symptoms and their components (symptoms of somatic complaints, anxiety, social dysfunction, and depression), respectively in post-test ( $p < 0.0001$ ).

The results were similarly true in the follow-up phase. The data in the table show that, after controlling the effect of pre-test scores, there was a significant difference between the groups in terms of follow-up scores related to the total physical symptoms and their components (symptoms of somatic complaints, anxiety, social dysfunction, and depression) ( $p < 0.0001$ ).

Thus, at this phase, the independent variable had a significant effect on the dependent variable and group membership explained 0.52, 0.45, 0.27, 0.49, and 0.31 percent of the total variance of physical symptoms and their components (symptoms of somatic complaints, anxiety, social dysfunction, and depression) respectively in follow-up ( $p < 0.0001$ ).

## Discussion

The results of this study indicated that optimism had a significant negative correlation with scores of mental health, anxiety, social function and depression. However, there was no significant relationship with somatic symptoms. Multivariate analysis of covariance showed that optimism training had a significant effect on mental health and its components in the case group compared with the control group. In this study, the relationship between optimism and mental health was confirmed; hence, it is consistent with the findings of several performed studies [4, 10, 13].

Our findings are also consistent with studies of Shahny Yeylagh et al. [14], and Segerstrom [9]. Individual differences in optimism level play an important role in adaptability with stressful and unpleasant life events [3]. One explanation for this relationship is that optimistic people deal more effectively with unpleasant events than pessimistic people. There is sufficient evidence that optimistic people use various strategies for coping compared with pessimistic people, and these numerous confrontations play an important role in the relationship between optimism and better adaptability.

Our other finding was the impact of optimism training on the mental health of subjects in the post-test and follow-up phases. In both phases, the mental health level of the subjects was significantly higher than the pre-test phase, but no research was found in the field of optimism education based on this model or the model of Seligman,

inside or outside Iran. Regarding to the efficacy obtained in the study, this point clearly shows the necessity of using and repeating this approach. The next hypotheses were based on the relationship between optimism and the physical symptoms of the experimental group in post-test and follow-up phases; the relationship between optimism and physical symptoms was not confirmed, but the effectiveness of optimism training on physical symptoms was ascertained. In recent years, major advances have been made in the study of contribution levels of psychological factors in physical health. One of these factors is optimism or the expectation of positive outcomes, which is associated with better physical health and successful coping with health challenges [3].

In many studies, optimism has been considered as one of the correlates of physical health [3]. One possible way for optimism to affect physical health is its impact on the immune system. Optimistic individuals confront stresses differently; they experience less negative moods and may have more health-adaptable behaviors, all of which can lead to better immune status [9]. Other research supports the effect of optimism on maintaining physical health and the improvement of somatic symptoms after catching diseases or surgeries [4, 9]. Hypotheses regarding the effectiveness of optimism training on somatic symptoms in the experimental group in post-test and follow-up phases are consistent with the findings of these researches, but the hypothesis that suggested the relationship between optimism and somatic symptoms, and was not confirmed, is not consistent with the studies presented in this section. Nonetheless, in the research by Shahny Yeylagh et al. [14] the relationship between optimism and physical health is not approved, either. This lack of relationship may initially seem contradictory with research literature, but it should be noted that most studies have examined one or more specific diseases, and in most of these studies the measurement method was performed accurately and non-mentally. However, in this research, the assessment of physical health was mental; furthermore, many of somatic symptoms were measured. The next hypotheses were about the relationship between optimism and anxiety, and the effectiveness of optimism training on anxiety symptoms of experimental group subjects in post-test and follow-up phases; these hypotheses were confirmed. In other studies, the role of optimism in reducing anxiety in individuals witnessing aviation accidents or victims of accidents [15] has been investigated; the results of our research are consistent with them. Regarding the role of optimism training in reducing symptoms of anxiety, no research was found inside or outside Iran.

Other investigated hypotheses in this study were about the correlation of optimism with social function, and the effect of optimism training on the increment of social function levels of the experimental group in post-test and follow-up phases in comparison with the control group; these were confirmed as well. One of the important characteristics of optimistic individuals is to pursue their goals insistently and effectively; thus, over time they will probably gain more resources such as money, friendly relations, skills,

and social status that seems to be associated with more mental health.

Segerstrom [9], Scheier and Corver's findings also suggest that greater optimism leads to higher attraction of social support and better use of social resources and positions, which are consistent with the research findings [1]. In this study, optimism training increased the social function of subjects; in this field, no research was found inside and outside of Iran. Other hypotheses investigated in this study concerned the relationship between optimism and depression, and the effect of optimism training on depression in the experimental group in post-test and follow-up phases; these hypotheses were also confirmed. The findings of this research indicated the relationship between optimism and mental health and its subscales. Also, these results indicate that optimism training can play an important role in maintaining and improving the mental health of students.

Positive psychology, as a complement to traditional and deficiency-oriented approaches, essentially focuses on the study of human abilities, and the identification of the factors that increase mental health; its goal is beyond repair of damages and goes toward optimization of the life quality.

This movement is seeking to use human strengths as a shield against mental disease. This area requires research related to the subject. Regarding the importance of optimism and optimistic documents in the face of unpleasant events and maintenance of individuals' mental health, in this study optimism training methods were combined with religious and cultural teachings and the above-mentioned results have been obtained.

### References

1. Scheier MF, Corver CS. Optimism pessimism, and psychological wellbeing. In E. C. Change (Ed.), optimism and pessimism: Implications for theory research and practice. Washington DC: American Psychological Association; 2001: 189-216.
2. Nes LS, Segerstrom SC, Sephton SE. Engagment and arousal: Optimistic's effects during a brief stressor. *Pers Soc Psychol Bull* 2005; 31(1): 111-20.
3. Seligman ME. Positive social science. *APA Monitor* 1998; 29: 2-5.
4. Ribero JP, Silva AM, Meneses RF and Falco C. Relationship between optimism, disease variables, and health perception and quality of life in individuals with epilepsy. *Epilepsy Behav* 2007; 11: 33-38.
5. Durán A, Extremera N, Rey L, et al. Predicting academic burnout and engagement in educational settings: Assessing the incremental validity of perceived emotional intelligence beyond perceived stress and general self-efficacy. *Psicothema* 2006; 18: 158-64.
6. Saeed Sh. The effects of an optimism-based cognitive behavior intervention on mood and functioning in cardiac patients. *J Appl Soc Psychol* 2006; 6(3): 129-151.
7. Abend TA, Williamson GM. Feeling attractive in the wake of breast cancer: Optimism matters and so do interpersonal relationships. *J Health Psychol* 2002; 28: 427-436.
8. Marshall GN, Lang EL. Optimism, self mastery and symptoms of depression in women professionals. *Am Psychol Assoc* 1990; 59: 132-139.
9. Segerstrom SC. Optimism and resources: Effects on each other and on health over 10 years. *J Res Personal* 2006; 41: 772-786.
10. Goldberg DP, Hiller VF. A scaled version of general health questionnaire. *Psychol Med* 1979; 9: 131-145.
11. Mulkana S, Hailey B. The role of optimisms in health-enhancing behavior. *Am J Health Behav* 2001; 52: 388-395.
12. Yaghoobi NA. [Ephidemiology of mental disorder] Persian. Tehran: Psyhyathry Institute; 1995: 132-145.
13. Moosavi-Nasab M, Taghavi M, Mohamadi N. [Optimism and stress] Persian. *J Tehran Med Univ* 2007; 13(2): 111-120.
14. Shahani-Yeilagh, M, Movahed A, Shekarshekan H. [Religion, optimism, mental health and somatic health] Persian. *J Psychol Shahid Chamran Univ* 2005; 11(3): 19-34.
15. Dougall AL, Hymak KB, Hayward MC, et al. Optimism and traumatic stress: The importance of stress and coping. *J Appl Soc Psychol* 2001; 31(3): 223-245.

It is obvious that if we can provide a good educational practice that can be effective in the prevention of psychological problems like depression and anxiety, a major step will be taken in protecting general health and saving therapeutic costs. This requires further research in this field. Given that this study has been conducted on a sample of female students, to generalize these results to other groups in society, caution should be observed, as well as here the measurement of the somatic symptoms was mental and inaccurate, which causes mismatch with other related researches.

It is recommended to repeat this study and to increase its generalization power, samples other than students, such as young boys or other age groups including adolescents and adults to be used for training. Also, for measuring physical health, future studies could use more accurate measuring techniques.

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### Authors' Contributions

All authors had equal role in design, work, statistical analysis and manuscript writing.

### Conflict of Interest

The authors declare no conflict of interest.

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