

Effect of Positive Interventions Training on Happiness, Life Satisfaction, Positive and Negative Emotions in Veterans

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ABSTRACT

Aims When a person is exposed to stress, her/his ability to cope decreases and affects her/his life in both quantitative and qualitative ways. This study was to determine the effectiveness of positive intervention training on the levels of veterans' happiness, life satisfaction, positive and negative emotions.

Methods This semi-experimental study was carried out on veterans, spouses of veterans and martyrs in Tehran in 2019. 64 veterans (28 veterans and 36 spouses of veterans and martyrs) were randomly assigned into experimental and control groups (n=32 for each group). The Oxford Happiness Questionnaire, Life Satisfaction Scale and positive and negative emotions scale were performed in pretest step. Then, the experimental group received 10 sessions (2 hours) of training, but the control group did not receive any training. The data were analyzed by multivariate analysis of covariance (MANCOVA) with repeated measure and Bonferroni post hoc test, using SPSS 24 software. At the end of the intervention sessions and two months later (follow-up), post-test was performed on the experimental and control groups.

Findings The positive interventions had a significant effect on increasing happiness and positive emotions and reducing negative emotions of the veterans ($p < 0.05$). There was no significant difference between the experimental and control group in life satisfaction ($p > 0.05$). This change was maintained in the follow-up phase.

Conclusion Performing positivist interventions can be considered in increasing happiness and positive emotion and reducing negative emotion in veterans.

Keywords Psychotherapy; Happiness; Satisfaction; Affect; Veterans

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Introduction

Happiness is one of the highest goals of human life at the individual and social levels [1]. Happiness produces energy, passion, vitality, movement, and dynamism, and as a shield, it can protect a person against stress and problems and guarantee her/his physical and mental health [2]. Hill and Argyle [3] defined happiness as a combination of positive emotion, life satisfaction, and lack of negative emotion. Positive emotion includes enthusiasm for life and a sense of awareness and activity, and negative emotion is the general dimension of inner unhappiness and unpleasant mental occupation, which is associated with unpleasant moods, including anger, hatred, guilt, and fear [4]. Life satisfaction is the evaluation of the quality of life-based on selected individual criteria, and if living conditions meet individual criteria, life satisfaction will be higher [5]. Hill and Argyle [3] considered joy and life satisfaction as the emotional component, and cognitive component of happiness, respectively, and most studies in the field of happiness have emphasized these components [6]. The most important findings in the field of happiness have also emphasized positive excitement and life satisfaction as the significant components of happiness [7].

The positive psychology approach has been proposed by Martin Seligman in 1998. This approach developed the focus of clinical psychology beyond the unpleasant symptoms of a disorder and the direct relief of symptoms [8, 9]. Seligman mentioned the goal of psychotherapy to increase people's well-being and happiness. Seligman [10] considered happiness to be the main subject of the positivist psychological approach and divided it into three components that can be better defined scientifically: positive excitement, engagement, and meaning. According to this approach, "positive interventions" are the strategies that help clients to make life enjoyable, attractive, and meaningful are called [8]. The interventions reflect the thoughts and behaviors of people who are inherently happy and can increase the happiness of the people who perform them [11]. The interventions are also designed to affect one or more aspects of happiness [12].

Positive psychotherapy is based on the hypothesis, that disorders can effectively enhance a person's abilities and create meaning therapy not only by reducing negative symptoms but also by creating positive excitement. Building these positive resources may prevent disorder or deal with negative symptoms and be a barrier to recurrence of the disorder [12]. In recent years, many studies have examined this hypothesis and have shown its validity [13-21]. Studies related to emotional neuroscience and psychological pharmacology have also been able to provide models for the neural mechanisms of positivist interventions [22]. Thus,

positivist psychotherapy has provided a new method for prevention and treatment.

On the other hand, stress is an integral part of contemporary human life. When a person is exposed to stress, her/his ability to cope decreases and her/his life is affected quantitatively and qualitatively. People are ready for various physical and mental illnesses after facing severe and persistent negative stresses [23]. War as a severe stressor is an event that has been imposed many times throughout Iran's history. Although the defense of Islamic values and the territorial integrity of the country is an inevitable religious and national duty. While, we should never neglect its negative consequences including irreparable damage caused by the martyrdom, wounding, disability, and disappearance of many of the best members of the society (veterans and warriors). One of the negative consequences is the psychological effects on the families of veterans and martyrs. This group of people with similar conditions to other people in society are particularly affected by the effects of physical disabilities, psychological effects, and the complications of losses [24].

Thus, war, as a social and stressful phenomenon, has severe effects on the individual, social and cultural aspects of individuals involved in war and their family members [25]. Noferesti *et al.* [26] in a study examined the level of happiness and its affecting factors in the population of veterans. The results of this study showed that the level of happiness in the population of veterans is lower than the average of the community. This study also showed that Neuroticism, Extraversion, Performing joyful voluntary activities, physical health and income level are the most important predictors of happiness in the veteran population. Lyubomersky *et al.* [6] believe that the voluntary and conscious activities of individuals have the best power to raising the level of happiness and the sense of mental well-being of people to the highest potential point and keeping people fixed at that point. These activities can increase the level of happiness by up to 40%. Therefore, the key factor to people's happiness is to be able to gain and maintain many positive experiences over time.

Voluntary activities including expressing gratitude, being kind, fostering social relationships, coping with stress, enjoy the pleasures of life, doing physical activity, performing happy behaviors, setting life goals, picture of the best possible self, processing enjoyable life experiences, and performing religious practices [6]. Noferesti [26] showed that voluntary activities after personality traits were the most important factor affecting the happiness of veterans, and by training these activities, the level of happiness in the veterans and their families can be increased. Ali Akbari [27] showed that positivist interventions can increase hope and psychological well-being in veterans'

spouses. Firoozi [28] also showed that positive interventions can increase the quality of life of veterans. However, little research has been done in this field in Iran.

No research has been done to investigate the effect of interventions on happiness, life satisfaction, and positive and negative emotions of veterans. Therefore, the present study was conducted to promote happiness, life satisfaction, positive emotions, and reducing negative emotions in the population of veterans.

Methods

This quasi-experimental study was carried out on several veterans, veteran's spouses, and martyr's spouses in Tehran in 2019, whose names were on the list of names of the Martyrs and Veterans Affairs Foundation of Tehran province in 2018. First, among the names of martyrs in Tehran, the names of 700 martyrs were randomly provided to the researchers based on their national code number (veterans whose last two digits of the national code are even). Then all these people were called and during the phone call, the purpose of the research was explained to them. They were invited to participate in the initial interview session to review the inclusion and exclusion criteria of the research and to complete the written consent to participate in the research. The veterans participating in these sessions were interviewed by a researcher and two senior experts who had received the necessary training in this field. Then, 64 samples (28 veterans and 36 martyr's spouses and veteran's spouses) were selected by purposeful sampling based on the inclusion and exclusion criteria, the consent of the veterans to participate in the research, and the factors such as distance and motivation. The sample size was selected based on the minimum sample size required for experimental studies [29]. These subjects were then randomly assigned to the control and experimental groups (n=32 in each group). Inclusion criteria were having 40-60 years old. Individuals with symptoms of psychotic disorders and severe personality disorder, drug abuse, major depression, having a suicide plan, receive psychological therapies up to three months before entering the study were excluded from the study.

Data collection tools included the following.

- Oxford Happiness Questionnaire: The questionnaire was developed in 1990 by Argyle and Lou [30] and revised and developed by Argyle *et al* in 1995 [31]. This questionnaire has 29 items and each item has 4 options that are scaled from zero to 3 points. Therefore, the maximum total score of the test is 87. Argyle *et al.* [31] obtained the reliability coefficient of 0.90 for this questionnaire using Cronbach's alpha method for 347 subjects and reported good validity for it. Alipour and Noorbala [32] obtained its reliability

coefficient of 0.93 using Cronbach's alpha method for 132 Iranian samples, they also confirmed the validity of this questionnaire through the content and structure validity. This questionnaire was used in this study to assess happiness.

- Life Satisfaction Scale: This scale was developed by Diner *et al.* [1]. This scale assessed the cognitive aspect of happiness. Indeed, this scale shows how satisfied the subjects are with their lives and how close they are to the ideal life they have set for themselves. This scale has five items, and people rate their life satisfaction on a 7-point Likert scale. The scores of the items are added together and the total level of satisfaction with the individual's life is determined. Therefore, the scores of this scale vary between 5-35. Diner *et al.* [1] obtained a scale interval coefficient of 0.82 over a two-month interval and obtained the internal consistency coefficient of 0.87 for the scale using Cronbach's alpha formula. In a study conducted by Bayani *et al.* [33] on a population of 109 students, the Cronbach's alpha coefficient of the scale was 0.83, and the reliability coefficient using the split half and the one-month test-retest methods was obtained to be 0.75 and 0.69, respectively. The construct validity of the Life Satisfaction Scale was assessed through convergent validity using the Oxford Happiness Questionnaire and the Beck Depression Inventory. This scale showed a positive correlation with the Oxford Happiness Questionnaire and a negative correlation with the Beck Depression Inventory. This scale was used to measure life satisfaction in this study.
- Positive and Negative Emotions Scale: - This scale [34] is a 20-item self-assessment tool designed to assess two dimensions of mood, namely "positive emotion" and "negative emotion". Each subscale has 10 items and the items are rated on a 5-point scale from 1 (very low) to 5 (very high) by the subject. The range of scores for each subscale is 10 to 50. Some of the items related to positive emotion are feeling of interest and desire for things, feelings of excitement, and enthusiasm. Some of the items related to negative emotions are feelings of worry/anxiety, fear, and confusion. The validity of the test by Cronbach's alpha coefficient and test-retest coefficient for positive emotion were 0.88 and 0.87, and for negative emotion were 0.68 and 0.71, respectively [34]. Bakhshipour and Dejkam [4] in a study on 255 students with depressive and anxiety disorders, obtained the validity of both scales by 0.87 using the same Cronbach's alpha method. Also, this scale was able to separate anxious and depressed patients, which indicates the differential validity of this scale. In confirmatory factor analysis, the two-

factor model was the most appropriate. This scale was used to assess positive and negative emotions in this study.

Ethical approval was obtained from the Veterans and martyr Research Institute. After selecting the participants, they were assigned into experimental and control groups. Before the first session, the Oxford Happiness Test, the Life Satisfaction, and the Positive and Negative Emotions Scales were performed on both groups. Then, for the experimental group, ten 2-hour sessions (weekly) were performed according to Seligman's Positive Intervention Guidelines, and the control group did not receive any intervention [35] (Table 1). At the end of the training sessions and during the two-month follow-up, the experimental and control groups have received the questionnaires.

Table 1) Summary of content of training sessions of positive-oriented interventions to increase happiness and life satisfaction

Sessions	Description of training content
First	Familiarity with participants and review of their expectations; definition of happiness, components of happiness, the importance and necessity of happiness, factors affecting happiness, and an overview of ways to promote happiness
Second	Familiarity with positive emotions and their necessity in increasing happiness; 3-in-1 strategy in increasing positive excitement and the technique of remembering 3 good events in a day and their reasons.
Third	Familiarity with abilities and its role in increasing happiness, identifying the abilities of oneself and others, and use of the top 5 abilities of the individual in other areas of life.
Fourth	The importance of meaningful and purposeful feels in life, and promoting happiness, recognizing the values of life, and acting on those values.
Fifth	Definition of optimism, characteristics of optimistic people, the importance of optimism in promoting happiness and the technique of open and closed doors, challenging pessimistic thoughts.
Sixth	Familiarity with the concept of "tasting the pleasures of life" and its role in happiness and techniques of enjoying life and coping with negative thoughts.
Seventh	Familiarity with negative emotions and the role of managing these emotions in increasing happiness and cognitive challenging with inefficient thoughts and mindfulness and acceptance techniques.
Eighth	Emphasizing the role of interpersonal relationships in promoting happiness and active and constructive response techniques in interpersonal relationships.
Ninth	Familiarity with the concept of forgiveness and its role in strengthening interpersonal relationships and promoting happiness and familiarity with the 6-step technique of forgiveness.
Tenth	Familiarity with the concept of sacrifice and its role in reducing happiness and how to get out of the sacrifice triangle and enter the circle of capabilities to increase happiness.

Data were analyzed by SPSS 24 software using repeated measures analysis of variance and Bephroni post hoc test. The normal distribution of scores was approved by the Kolmogorov-Smirnov test ($p>0.05$). The homogeneity of variance of the data was investigated by the Levin test which did not show a significant difference in the variance of the variables in the two groups ($p>0.05$). The mean pre-test score of veterans in the scales of happiness, life satisfaction, positive and negative emotions in the experimental and control groups was assessed using the T-test and there was no significant difference between groups in terms of research variables ($p>0.05$). Therefore, there was no need to control the effect of the pretest. The Mauchly sphericity hypothesis was also considered as another presupposition and this assumption was not estimated for the research variables, so the Greenhouse-Geisser test was used.

Findings

Data related to 64 veterans were analyzed in the intervention and control groups. The two groups of intervention and control were homogeneous in terms of demographic variables. The mean age of the veterans in the experimental and control groups were 52.46 ± 4.25 and 52.37 ± 5.83 years, respectively. 14 and 18 subjects (43.75%) in the experimental and control groups were male and female (56.25%), respectively. Other characteristics of the martyrs were shown in Table 2.

Table 2) Results of demographic characteristics of the subjects

Groups	Experimental group N (%)	Control group N (%)	p
Marital status			
Single	5(15.6)	10(31.2)	0.23
Married	27(84.4)	22(68.8)	
Education status			
High school	5(15.6)	3(9.4)	0.71
Diploma	14(43.8)	17(53.1)	
Masters	5(15.6)	3(9.4)	
Postgraduate education	8(25)	9(28.1)	
Occupation status			
Employed	7(15.6)	12(15.6)	0.36
Retired	6(15.6)	6(15.6)	
Housekeeper	19(15.6)	14(15.6)	

In the post-test stage, a significant difference was observed between the experimental group and the control group on the scale of happiness, positive and negative emotions. In other words, positivist interventions were able to differentiate between happiness, positive and negative emotion scores in the pre-test, post-test, and follow-up. Therefore, due to the change in the scores in post-test and follow-up, positivist interventions caused a significant increase in happiness and positive emotions scores

and a significant decrease in negative emotion scores. Life satisfaction scale scores also increased in the post-test phase, but this change was not statistically significant so that the positivist interventions could not significantly increase the life satisfaction of veterans in the pretest and follow-up stages (Table 3).

A significant difference was observed between pretest and follow-up in the two scales of happiness

and negative emotions ($p < 0.05$). Therefore, the effect of the intervention in the follow-up phase remained stable for the two scales of happiness and negative emotions, and this effect was not stable for positive emotions in the follow-up phase. However, none of the scales showed a significant change in the follow-up stage compared to the post-test stage ($p > 0.05$; Table 4).

Table 3) Comparison of the statistical average scores of the veterans in the research variables in the pre-test, post-test and follow-up stages

Variables	Pre-test	Post-test	Follow up	F value	Significance level
Happiness					
Experiment	39.34±14.49	46.03±14.24	45.90±13.02	9.54	0.001
Control	40.18±14.94	41.40±14.74	41.09±14.54	0.42	0.54
Life satisfaction					
Experiment	21.25±6.33	23.21±5.86	22.75±5.27	3.35	0.055
Control	21.71±7.13	20.62±7.21	20.96±7.04	1.67	0.20
Positive emotion					
Experiment	32.75±7.16	35.46±7.94	35.06±6.70	5.49	0.006
Control	31.81±5.10	32.65±6.50	31.50±7.88	1.49	0.23
Negative emotion					
Experiment	24.25±7.06	20.03±7.19	19.18±7.63	18.87	0.001
Control	23.40±9.95	23.65±10.05	24.31±10.03	4.37	0.052

Table 4) Results of the Bonferroni post hoc test to determine the effect of the intervention on research variables in different stages of the test

Variables	Difference between pre-test & post-test	Significance level	Difference between pre-test & post-test	Significance level	Difference between pre-test & post-test	Significance level
Happiness	-6.68±2.07	0.009	-6.56±2.05	0.009	0.12±0.83	0.99
Life satisfaction	-1.96±0.91	0.11	-1.50±0.87	0.28	0.46±0.54	0.99
Positive emotion	-2.71±1.04	0.04	-2.31±0.97	0.07	0.40±0.55	0.99
Negative emotion	4.21±0.95	0.001	5.06±1.01	0.001	0.84±0.62	0.56

Discussion

The findings revealed that positive interventions had a significant effect on increasing happiness, positive emotions and reducing negative emotions in the experimental group of veterans. These results are in accordance with the findings of the previous studies [13, 16, 18, 22, 36-39]. Thus, it seems that positivist psychotherapy can reduce negative emotions and increase happiness and positive emotions without emphasis on negative symptoms and only by increasing the feeling of pleasure, strengthening the abilities and positive characteristics of the individual and use of them in daily life and increase the sense of meaning and purpose in life.

Positive psychological interventions help people turn their attention, memory, and expectations from negative and catastrophic events to positive and hopeful ones. For example, when the subjects does a "reminder of three good events" exercise before going to bed (write down three good things and why they happened), the rumination depression error is challenged about what happened badly. So it is very likely that the person will start the day by remembering the positive events and daily affairs instead of focusing on problems and unfinished affairs. The appreciation meeting may also focus the memory from the bitter aspects of the subject's past relationships to preserving the positive aspects

created by friends and family. Thus, gratitude creates positive behaviors and emotions that increase happiness and life satisfaction. Familiarity with individual abilities causes turn the attention of people to the positive dimensions of their existence. The use of these capabilities in daily life also increases self-confidence in the subjects. Increasing clients' awareness of their personality traits is likely to encourage them to use their abilities to perform their duties in the workplace and thus be more effective in their workplace. Feeling overwhelmed at work and doing the job in the best way, can lead clients to positive attraction, meaning and excitement. When clients use their abilities in different situations, such as interpersonal or workplace situations, they can be more effective in those situations. This process creates positive excitement and a sense of meaning and ultimately leads to increased well-being and happiness in subjects. Training subjects to respond to news actively and constructively to friends, colleagues, and family can improve their social skills.

Mindfulness and acceptance exercises help the person to describe unpleasant situations instead of judging when faced with unpleasant and frustrating situations, and prevent the increase of negative emotions. Not increasing negative emotions gives an opportunity to problem-solving processes of the

clients, which leads them to use effective methods to dealing with unpleasant situations. This process breaks the negative cycle and thus reduces the negative psychological aspects and increases the positive aspects. Determining the life values of the subjects and then turning these values into objective goals, and committing them to perform behaviors, that lead them to achieve the goals derived from the values of their life, can give a special meaning to the life of the subjects and cause positive emotion in them, which in turn helps to increase happiness in them. Enjoying life by increasing confidence in doing everyday life creates positive excitement in subjects, and this positive excitement increases happiness.

Seligman^[35] values positive psychological interventions in psychotherapy for two reasons; first, positivist interventions by definition create pleasure, attraction, and meaning. Therefore, their use in psychotherapy is justified. Second, creating positive emotion, attraction, and meaning can counteract the disorder. People who experience positive emotions are more likely to find positive meaning in negative events, and it can create more positive excitement. However, the findings of this study showed that positivist interventions did not have a significant effect on increasing the life satisfaction of veterans. There are several explanations for this finding: the most important explanation that the researcher can make about this finding is that the tools used in this study were not suitable tools for assessing life satisfaction in the veteran population, due to the nature of pencil and paper tools used in this study. Due to the special circumstances of the veteran population and their value, many of them tended to show a favorable picture in the pre-test. However, in the training sessions, it was found that the level of happiness and life satisfaction of most of them was not appropriate. Many of them admitted that they experience more happiness and satisfaction in their life, and more relationships with others, and are less prone to rumination during the intervention sessions. They believed that if one day something unpleasant happened to them, they could use the things they have learned to change their spirit. Also, they believe that they have gained more self-confidence. They believed that they have gained more self-confidence, abilities, and more confidence in their IQ and their attitude towards life has changed. They stated that today they do not wait for good things to happen to them for happiness, but they create good things for themselves. Many of them had increased their relationships and were looking for a job to earn more. However, their post-test scores did not show much progress. Therefore, it seems that the tools used have not been able to measure all the positive changes.

Second, it seems that 10 sessions of 2-hour training of positive interventions are not enough to increase life satisfaction in the veterans. The veterans

expressed the different situations of their lives and their reaction to these situations, and sometimes they expressed some questions, according to the issues raised in the training sessions or while reviewing the assignments of the previous sessions. Their statements and questions indicated their difficult living conditions. For example, they faced situations such as care and maintenance of the veteran spouse, betrayal, spouse irritability, financial, and livelihood problems, feeling lonely, and managing children (for the spouses of martyrs). Each of these factors severely affected their mental health. Findings of the study by Noforesti *et al.*^[26] showed that in general, the level of happiness in the population of the veteran is low and the spouses of martyrs reported the lowest level of happiness. Therefore, it seems that 10 sessions of positive interventions are not enough to increase the life satisfaction of the veterans, and more training sessions are needed to be more efficient concerning their problems. As Sein and Lyubomersky^[16] and Boulter *et al.*^[18] showed, the more intervention sessions, the more effective the treatment in increasing happiness and life satisfaction.

Third, it seems that the content of the interventions outlined in this protocol to create life satisfaction of the veterans may not be proportionate with their problems. Adaptation of interventions based on the problem of individuals in positivist psychotherapy is also important, so that, one of the significant factors in the effectiveness of positive interventions is the proportion between the people performing the intervention and the intervention^[16, 22]. Therefore, the best way for performing the positivist intervention is to choose and perform the effective techniques in a structured and clinical form for clients based on the individual characteristics and the type of problems. Studies show more effectiveness of the treatment protocols^[16, 18]. Lyubomersky and Lewis^[11] designed a questionnaire that shows the most effective techniques for each individual. It is necessary to formulate interventions appropriate to the specific circumstances of the subjects.

Fourth, in the experimental group, veterans and spouses of martyrs and veterans were present. During the sessions, each of the subjects raised different issues and problems. Therefore, it seems that if a more homogeneous group of martyrs were present, the content of the meetings would be in accordance with their problems, and would have a greater impact on increasing their happiness and life satisfaction.

Fifth, the education level of the spouses of veterans and martyrs was lower than that of veterans. According to the findings of Noforesti *et al.*^[26], there was a significant positive relationship between education and life satisfaction; so the higher the level of education, the higher the level of life satisfaction and happiness. Therefore, it seems that

the level of education is also effective in benefiting from positive interventions. Increasing education level can also affect these conditions, given that it can improve other conditions of the veteran's life, including job, income level, and relationships.

Sixth, it seems that more time is needed for these interventions than happiness and positive and negative emotions to affect life satisfaction, which is an overall assessment of one's life. Perhaps if a longer follow-up period was chosen to assess life satisfaction, it could have examined the effect of these interventions on increasing life satisfaction with more precision.

The novelty of this research is that it has investigated the effect of positive interventions on increasing happiness, life satisfaction, positive and negative emotions in the veteran population of the country. However, this study, like other studies, had some limitations. First, the sample size in this study was small due to financial and time constraints. Therefore, it is suggested that this study be repeated to gain more certainty about the effectiveness of this type of intervention in the veteran population. Also, in this study, all the veterans were in a group, while in the sessions it was found that these two groups face different problems in life that require different interventions. Therefore, it is necessary to pay attention to this point in future researches, and separate sessions should be designed according to the problems of each of these two groups. Finally, pencil and paper tools were used to assess happiness, life satisfaction, and positive and negative emotions. While in future studies it is suggested to use a variety of tools such as neuroscience tools for assessing. It is better to create more homogeneous groups in terms of education and veteran's conditions in future studies, which can increase the effectiveness of interventions.

Conclusion

The positivist interventions have increased happiness, positive emotion, and decreased negative emotion in veterans. Accordingly, it seems that positivist interventions through recognizing and enhancing individual capabilities, and controlling and managing weaknesses points can play an important role in increasing the happiness of veterans. Therefore, positivist interventions can be used as a solution to increase happiness, and positive emotion and reduce negative emotions in the target population.

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