



Effectiveness of Transactional Analysis Training on Self-Efficacy and Self-Evaluation among Individuals Referring to Pendar Transactional Analysis Training Center

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Abstract

Background and Objective: Self-efficacy is a concept that refers to a person's beliefs or judgments about his abilities in performing tasks and responsibilities. It affects the choice of behavior, effort, perseverance, and pursuit of goals and determines how to face obstacles and challenges. This research was conducted to investigate the effect of Transactional Analysis training on self-efficacy and self-evaluation.

Materials and Methods: The semi-experimental study was carried out with a pretest-posttest design and a control group. The statistical population consisted of all patients aged 18 to 30 years referring to the Pendar Behavior Analysis Training Center. The samples (n=30) were randomly selected and then completely randomly assigned to the experimental and control groups. The experimental group received the Transactional Analysis package in twelve 90-minute sessions once a week. The control group did not receive any training or counseling package. After the completion of the training course, the research questionnaires were implemented simultaneously among the two groups. The required data were collected through two standard self-efficacy questionnaires and a self-evaluation questionnaire. The gathered data were analyzed in SPSS23 software using MANCOVA and ANCOVA tests.

Results: The results demonstrated that Transactional Analysis training had a positive and significant effect on the linear combination of self-efficacy and self-evaluation. The impact of Transactional Analysis training on self-efficacy and self-evaluation was 41% and 46.8%, respectively. Moreover, the results of the MANCOVA test showed that Transactional Analysis training had a significant effect on the linear combination of self-efficacy and self-evaluation. The effect of transactional analysis training on the linear combination of self-efficacy and self-evaluation was 0.758 ($\eta^2=0.831$, $\Lambda=0.169$, $F(3,25)=53.956$, $P<0.05$).

Conclusions: Transactional Analysis training had an effect on self-efficacy and self-evaluation.

Keywords: Transactional analysis, Self-efficacy, Self-evaluation

Background

Efficacy belief is a significant factor in the constructive system of human competence. Performance of tasks by various people having similar skills in different conditions in a weak, average, or strong manner or by the same person in different conditions depends on the changes in their efficiency beliefs. A sense of self-efficacy empowers people to perform extraordinary tasks using skills while dealing with barriers. Thus, perceived self-efficacy is a key factor for successful performance and employing basic skills [1]. Self-efficacy refers to a person's beliefs or judgments about their abilities in performing tasks and fulfilling responsibilities [2].

Self-efficacy beliefs influence people's way of thinking, dealing with problems, coping with stress and depression, and their emotional health and decision-

making. One of the major aspects of self-efficacy is the belief that a person can affect the consequences of his life by exercising control. A person's special expectations about his own abilities to perform certain actions leave an effect on his effort and stability in carrying out an action and creating appropriate incentives [3]. Based on previous studies, different factors, including extensive competition, evaluations of the reference norm, insufficient attention to progress, and psychological pressures due to academic and occupational activities, can justify the reduction of self-efficacy [4]. Self-evaluation, which is assumed for oneself, can be associated with self-efficacy. Thus, the self and its derivatives, such as self-evaluation, are closely related to a healthy and meaningful life. People with higher self-esteem are more perseverant toward life

issues and problems and are more likely to succeed, compared to those with low self-esteem [5].

Based on the conducted studies, 24% of young people [6] and 36% of adolescents [7] in Iran suffer from low self-efficacy, and 21% of people aged 20-30 years old [8] and 41% of adolescents [9] from low self-evaluation. Different methods have been mentioned for improving self-efficacy and self-evaluation, such as strengthening self-confidence [10], teaching life skills [11], teaching neuro-verbal programming strategies [table1], and cognitive-behavioral therapy [6]. Transactional Analysis is one of the beneficial methods that can promote self-efficacy and self-evaluation [11].

Berne grouped personality states into three categories of "parent", "adult", and "child", which included a kind of interconnected system of thinking, feeling, and behaving [13]. During the studies conducted in the field of teaching communication skills, including Transactional Analysis, this method has caused a reduction in emotion orientation and an increase in problem orientation while facing stress [14] and has resulted in improvement [15]. People with high self-efficacy are placed at a higher level than those with low self-efficacy in terms of sense of competence, internal motivation, power of choice, commitment to goals, and perseverance against challenging tasks [16]. The results of some studies revealed that the Transactional Analysis affected psychological variables, such as self-concept and source of control; reduced conflicts; increased managers' efficiency; promoted social intimacy and emotional intelligence; improved communication; developed skills and raised awareness among students about personality analysis, communication, self-knowledge, mental health, and self-control, and led to a promotion of their cognitive health; increased self-awareness in intrapersonal and interpersonal relationships, emotional stability, and social courage of managers; increased tolerance; reduced exhaustion; established useful and beneficial communication; and happiness between couples.

Despite extensive studies on the effectiveness of training Transactional Analysis on different personality and psychological variables, researchers have not evaluated the effect of this treatment on improving self-efficacy and self-evaluation. In addition, no study has investigated the impact of Transactional Analysis on self-evaluation and self-efficacy and this is considered a research gap in this field.

Objectives

The present study aimed to answer the question "Does Transactional Analysis training increase self-efficacy and self-evaluation?". So far, this issue has not been investigated, and this study was aimed at this purpose.

Materials and Methods

This applied semi-experimental study was conducted with a pretest-posttest design and a control group. The method of conducting the study was in a group. The population of this study included all individuals at the age of 18 years referring to the Pendar Behavior Analysis Training Center during July-October of the academic year of 2021. The samples (n=30) were selected based on their consent to cooperate with the researcher and using a convenience sampling method. If the subjects had no symptoms of mental disorders based on the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, they were randomly placed in the experimental or control group (n=15 each). The experimental group received the Transactional Analysis package in twelve 90-minute sessions once a week, while the control group received no training or counseling package during this period.

To be included in the study and to comply with ethical principles, a diagnostic interview was first conducted with the subjects of the control group [17], and if they lacked symptoms of mental disorders, they were selected based on the self-evaluation questionnaire of Judge et al. [18] and offered free participation. The General Self-Efficacy Scale was administered to both groups. This is a 17-item questionnaire rated on a 5-point Likert scale (from 1=completely agree to 5=completely disagree). The construct validity of this tool was confirmed by Barati [19] in Iran by calculating the correlation between the scores obtained from this scale with the measures of several personality traits, such as Rutter's Locus of Control Scale, Personal Control Subscale, LE Gurin and Lao Whitney Scale, Marlowe-Crowne Social Desirability Scale, and Rosenberg's Interpersonal Competence Scale. Furthermore, the reliability of the above-mentioned test was reported at 0.75 by Moghimi Fam [20] using Cronbach's alpha test [21]. The reliability of the test was calculated in Iran at 0.78 by Alaei, Abdollahi Adli Ansari, Hashemi, and Beyrami [22, 23]. Judge et al. (18) estimated the reliability of this questionnaire at 0.84 using Cronbach's alpha method and its convergent validity at 0.64. The reliability of this scale was obtained at 0.78 and 0.86 in a study by Arshadi et al. [24] using Cronbach's alpha and split-half methods, respectively. In a study by Hashemi Sheikh Shabani et al. [22], the total Cronbach's alpha coefficient was obtained at 0.71. The mean, standard deviation, and internal consistency of the whole scale were 43.29, 5.93, and 0.70, respectively. In addition, Cronbach's alpha coefficient of the central self-evaluations scale was acceptable. Data analysis was performed in SPSS23 software, and multivariate analysis of variance (MANCOVA) and covariance (ANCOVA)

were applied to analyze the research hypotheses. The limitations of this study included the limited studied population to a specific group, the use of questionnaires in data collection (the answers might have been distorted because of low accuracy), and the lack of time to follow up on the results.

Demographic profile

The criteria for entering this study were being in the age range of 18-30 years. Considering marital status, 40% of the subjects were married, while 60% were single. Moreover, the participants were either students or university graduates, and 60% of them were women.

Training protocol

The principles applied in group counseling sessions were implemented based on the interaction analysis approach in the Transactional Analysis classes as well as the use of Jones and Stewart's interaction analysis book.

The behavior analysis training was conducted by a researcher based on the article from which the procedure was extracted. This researcher carried out a research course supervised by Mr. Navidreza Tayebi and was guided by him throughout the research implementation and training program.

Results

In the control group, the mean self-efficacy was 51.60 in the pre-test and 53.40 in the post-test, while that score was 52.27 and 59.47 in the experimental group. The mean values of self-evaluation were obtained at 34.93 and 36.13 in the control group and 34.60 and 42.73 in the experimental group in the pre-test and post-test, respectively (Table 1). Table 2 shows the variable of self-efficacy and self-evaluation for two groups before and after the test and the mean and standard deviation.

Multivariate analysis of covariance (Table 5) was used to study the effect of Transactional Analysis training on self-efficacy and self-evaluation. The assumptions of multivariate covariance analysis, including the correlation between dependent variables, homogeneity of variance and covariance

matrix, equality of variances, as well as the normal distribution of the scores of independent variables were evaluated. The results of the MANCOVA test indicated that Transactional Analysis training had a significant effect on the linear combination of self-efficacy and self-evaluation. In addition, the effect of Transactional Analysis training on the linear combination of self-efficacy and self-evaluation was 0.758 ($\eta^2=0.831$, $\Lambda=0.169$, $F_{(3,25)}=53.956$, $P<0.05$).

Table 1. Content of training sessions

Sessions	Training
1	Purpose of forming the group, theory of Transactional Analysis
2	Ego states
3	Rejection states and toxic people
4	Caresses
5	Life drafts
6	Four basic situations
7	Relationships and types of relationships
8	Organization of time
9	Counter-inhibitors and drives
10, 11	Inhibitors
12	Process of change

There was a significant difference between the control and experimental groups in the post-test of self-efficacy ($\eta^2=0.416$, $F_{(1,26)}=12.542$, $P<0.05$) and self-evaluation ($\eta^2=0.476$, $P<0.05$, $F_{(1,26)}=14.283$), indicating a significant effect of Transactional Analysis training on each dependent variable (Table 3).

Since the MANOVA test failed to obtain the adjusted mean of the linear combination for the dependent variables, three covariance analyses were performed to obtain the adjusted mean for the dependent variables after controlling the effect of the predictor variables. After adjusting the effects of pre-test scores, it was found that the Transactional Analysis training had a significant effect on self-efficacy ($\eta^2=0.41$, $F_{(1,27)}=18.77$, $P<0.05$), and the effect of Transactional Analysis training on self-efficacy was 41%. Further, the Transactional Analysis training had a significant effect on self-evaluation ($\eta^2=0.468$, $F_{(1,27)}=74.23$, $P<0.05$), and the effect of Transactional Analysis training on self-evaluation was 46.8% (Table 4).

Table 2. Descriptive statistics of pre-test and post-test results in control and experimental groups

Variable	Time Group	Pre-test		Post-test	
		Mean	SD	Mean	SD
Self-efficacy	Control	60.51	19.9	40.53	72.8
	Experimental	27.52	87.9	47.59	99.7
Self-evaluation	Control	93.34	03.5	13.36	98.4
	Experimental	60.34	47.6	73.42	24.6

Table3. Results of the MANCOVA test examining the effect of transactional analysis training on self-efficacy and self-evaluation

	Effect	Value	F-value	Hypothesis df	Error df	P-value	η^2
Group	Pillai's Trace	0.758	39.219	3	25	0.001	0.758
	Wilks Lambda	0.242	39.219	3	25	0.001	0.758

Table 4. Results of the MANCOVA test comparing post-tests of self-efficacy and self-evaluation in control and experimental groups

	Dependent variable	Sum of squares	df	Mean square	F-value	P-value	Impact factor η^2
Group	Self-efficacy	232.151	1	232.151	12.542	0.001	0.416
	Self-evaluation	337.22	1	337.22	14.283	0.001	0.476
Error	Self-efficacy	326.08	26	12.542	-	-	-
	Self-evaluation	371.368	26	14.283	-	-	-

Table 5. Analysis of covariance results

Effect of Transactional Analysis training on self-efficacy							
Source of changes	Sum of squares	Degrees of freedom	Mean square	F	Significance	Impact factor η^2	
Pre-test	1627.394	1	1627.394	133.175	0.001	0.831	
Group	229.383	1	229.383	18.771	0.001	0.41	
Error	329.939	27	329.939	-	-	-	
Effect of Transactional Analysis training on self-evaluation							
Source of changes	Sum of squares	Degrees of freedom	mean square	F	Significance	Impact factor η^2	
Pre-test	493.856	1	493.856	33.435	0.001	0.553	
Group	350.739	1	350.739	23.745	0.001	0.468	
Error	398.811	27	771/14	-	-	-	

Discussion

Based on the obtained results, Transactional Analysis training had a significant effect on self-efficacy. The impact of Transactional Analysis training on self-efficacy was 41%. These results were consistent with the findings reported by Fonouni [25], Kazemi et al. [26], Darvishi et al. [27], Mahmoudpour et al., Lawrence (288), Wills and Dishion [29], and Yahyai et al. [30]. Principled, correct, and planned training in Transactional Analysis can play an effective and decisive role in self-efficacy. In this regard, providing group training on Transactional Analysis in people makes them have an appropriate and favorable relationship with others. A person grows socially and finds out that the better and healthier his relationships with others are, the higher his success and satisfaction are [31]. A person adjusts his behavior intentionally and unintentionally to fit into the existing culture by observing habits and customs as well as imitating. Transactional Analysis training helps people show appropriate reactions to comply with the social environment and provides them a basis for their behavior because of their harmony with the standards of society [32]. This type of training makes the person confidently control his behavior and become more motivated by gaining a sense of ability to establish appropriate relationships and love with others. Eventually, people who receive group training on Transactional Analysis can easily adapt themselves to different and sometimes conflicting conditions and indicate maximum flexibility in social and personal behaviors [32]. Self-efficacy helps people to use their abilities and talents appropriately for academic and career success. Self-efficacy beliefs are the basis of human activity. People's perceptions of their abilities or the feeling of self-esteem and the sense of efficiency and sufficiency in dealing with problems form the

feeling of individual self-efficacy. Individuals with low self-efficacy are not confident in their abilities and fail to apply them to improve performance or solve problems. However, those who have confidence in their abilities and have high self-confidence adapt better to their environment and indicate appropriate behavior in coping with the issues of the surrounding environment. Furthermore, people's belief in self-efficacy makes them see their surroundings as a single system and make efforts to improve performance to achieve goals. Evidence indicates that high self-efficacy has a positive and significant relationship with positive thoughts, self-esteem, higher goals, increased motivation, improved mental performance, and adaptability. Nevertheless, low self-efficacy is related to anxiety, depression, and burnout. Those with high self-efficacy have high expectations for successful results. On the contrary, those who doubt their own abilities decrease their chances of success. People with high self-efficacy believe that they can effectively cope with different events and situations. Since they expect success in dealing with problems, they attempt to perform tasks, often at higher levels. Compared to those with low self-efficacy, these people have more confidence in their abilities and have little self-doubt. They consider problems a challenge rather than a threat and actively search for new situations and such traits make them powerful.

The other results of this study revealed that Transactional Analysis training had a significant effect on self-evaluation (46.8%). These results were in agreement with the findings of studies by Fotuhi Bonab et al. [33], Mahmoudpour et al. [34], Wills and Dishion [29], indicating that Transactional Analysis training had a significant effect on self-evaluation, self-awareness, and self-control. The overall goal of Transactional Analysis training is to

help people feel good about themselves, which is not a new concept and makes it easy to talk about it. Patients get familiar with its concepts in the first session of the interview because of its simple language. However, although each of these elements can be appropriate if the method has nothing new to present, all of them can be worthless. In general, Transactional Analysis is a middle point lying in the spectrum of the analytic tradition with a focus on psychological mechanisms, drives, and transference relationships on the one side, and an inclination to focus on the deep resolution of patient conflicts, as well as behavior- and communication-oriented approaches on the other. The Transactional Analysis emphasizes the analytical approach to understanding the relationships between the person's inner psychological realities and his current interactions with others, often family members. Accordingly, when people receive the required training, they should be able to recognize the latent and real incentives in their behavior and that of others. In addition, they should know what behaviors were passed on from their childhood or parents and what behaviors are based on rationality. When people receive the required and sufficient training in the field of analyzing and understanding the Transactional approach, it makes them comprehend the main incentives of their behaviors, better analyze the behaviors that were passed down from their parents, and make the required modifications in their behavior. Consequently, they can consider themselves in charge of their behavior and increase their self-evaluation ability significantly. Transactional Analysis has a strong psychotherapy system and is used in the treatment of all types of mental disorders, from daily problems to very deep psychoses. This theory provides therapeutic methods for individual, group, and family therapy, and since Berne's method of analysis first appeared in group situations, it is regarded as the best group therapy method from a practical perspective. The general philosophy of Transactional Analysis begins with the basic assumption that all people are good and every person has a core personality that is popular and lovable and has also a kind of potential desire for growth and development. According to this theory, all people are basically good and deserve to receive positive caress just for being. The other assumption is that people are responsible for their life choices and do not need to be connected to the initial negative decisions of their lives about themselves and others. The nature of the Transactional Analysis is such that the therapist attempts to help the client to come to the decision "I am good - you are good". The treatment is successful when the

insignificant amount of energy related to one's states increases and a harmonious balance is created between these states.

Limitations

The sample of this research was limited to one segment of society (applicants aged 18 to 30 years referring to the Pandar Behavior Analysis Training Center). Therefore, caution should be taken in generalizing the findings of this research to other groups.

The questionnaire was only used to collect information; therefore, factors such as the lack of accuracy of the subject might have distorted the accuracy of the answers.

Conclusions

The results showed that Transactional Analysis training had an impact on improving self-efficacy and self-evaluation. As an efficient, effective, and modern method, Transaction Analysis training can be incorporated into school and college curricula to aid self-awareness, career choice, occupation, and marriage.

Compliance with ethical guidelines

All ethical principles were considered in conducting the present study.

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Authors' contributions

Conceptualization, Methodology, and Investigation: Erfan Elahitabar and Mohammadkazem Zarabian.

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Conflicts of Interest

The authors declare that there is no conflict of interest.

References

1. Mohammad Amini Z, Narimani M, Barhamand T. The Relationship between Emotional Intelligence With Self-Efficacy and Mental Health in Successes and Non-Successes Students. *Journal of Knowledge and Research in Psychology*. 2013; 35(10):107-22.
2. Pirkamali MA, Momeni Mahmoei H, Pakdaman M. Review of the relationship between self-efficacy of science teachers on motivation, attitude and academic achievement of fifth grade elementary school students. *Journal of Research in Curriculum Planning*. 2013;2(10):123-34.
3. Masoudnia A. The effect of training coping strategies on perceived effectiveness in stressful situations. *Iranian Journal of Psychiatry and Clinical Psychology*. 2007; 13(4):405-15.
4. Zimmerman BJ. Self-regulated learning and academic achievement: An overview. *Educational Psychologist*. 1990; 25(1):3-17. [DOI:10.1207/s15326985ep2501_2]
5. Hosseini MA, Dejkam M, Mirlashari J. Correlation between academic achievement and self-esteem in rehabilitation students in Tehran university of social welfare & rehabilitation.

- Iranian Journal of Medical Education. 2007;7(1):137-42.
6. Anjam Shoa H. Comparing the effectiveness of teaching neuro-verbal programming strategies and cognitive-behavioral approach on reducing anxiety, depression, stress and increasing students' self-efficacy. [PhD Thesis]. Islamic Azad University, Zahedan branch; 2019.
 7. Hosseini F. The effect of sleep pattern modification on reducing math learning disorder and increasing academic self-efficacy in sixth grade students of Kerman. [PhD Thesis]. Islamic Azad University, Zahedan Branch; 2020.
 8. Kalkali, Z. The relationship between academic self-efficacy and academic engagement with the academic progress of the first-grade students of the girls' secondary schools in Iranshahr. [Master's thesis]. Islamic Azad University, Zahedan Branch; 2018.
 9. Amirian E. The effectiveness of group spiritual therapy on reducing violence, increasing self-evaluation, mental health and spiritual intelligence of aggressive students in secondary boys' schools of Iranshahr. [PhD Thesis]. Islamic Azad University, Zahedan Branch; 2018.
 10. Lee D, Watson SL, Watson WR. The influence of successful MOOC learners' self-regulated learning strategies, self-efficacy, and task value on their perceived effectiveness of a massive open online course. *International Review of Research in Open and Distributed Learning*. 2020; 21(3):81-98. [DOI:10.19173/irrodl.v21i3.4642]
 11. Wang S, Zhao Y, Zhang L, Wang X, Wang X, Cheng B, et al. Stress and the brain: perceived stress mediates the impact of the superior frontal gyrus spontaneous activity on depressive symptoms in late adolescence. *Human Brain Mapping*. 2019; 40(17):4982-93. [DOI:10.1002/hbm.24752] [PMID] [PMCID]
 12. Reichl C, Schneider JF, Spinath FM. Relation of self-talk frequency to loneliness, need to belong, and health in German adults. *Personality and Individual Differences*. 2013; 54(2):241-5. [DOI:10.1016/j.paid.2012.09.003]
 13. Bahrami M. Concepts of Transactional analysis. Tehran: Khate Honar; 2020.
 14. Dasti R, Farhan R, Naqvi TF, Sitwat A, Bokhary IZ. Ethical and moral dilemmas in psychotherapy: Applying a religiously sensitive framework to therapy. In *Working with Muslim clients in the helping professions*; 2020.
 15. Yousefi A, Karimi F. The communication pattern of Isfahan high school principals based on the theory of reciprocal behavior analysis. *Psychology Knowledge and Research Quarterly*. 2000; 6:1-10.
 16. Kamali Zarch M, Kadivar P, Ghazi Tabatabaei S, Kiamanesh A. The role of self-efficacy information sources and personal mediating characteristics in self-efficacy and math performance. *Psychology and Educational Sciences*. 2006; 36(2-1):185-206.
 17. White S, Foster R, Marks J, Morshead R, Goldsmith L, Barlow S, et al. The effectiveness of one-to-one peer support in mental health services: a systematic review and meta-analysis. *BMC Psychiatry*. 2020; 20(1):1-20. [DOI:10.1186/s12888-020-02923-3]
 18. Judge TA, Erez A, Bono JE, Thoresen CJ. The core self-evaluations scale: Development of a measure. *Personnel Psychology*. 2003; 56(2):303-31. [DOI:10.1111/j.1744-6570.2003.tb00152.x]
 19. Ghanji SA, Esmaili M, Anzehai ZH. Correlation between self-efficacy and addiction to social networks with the motivation of academic achievement in high school students in Tehran. *Journal of Health Promotion Management*. 2020; 9(5):72-87.
 20. Moghimi Fam, P. The relationship between self-efficacy and personality traits and teaching effectiveness of teachers in Maragheh in the academic year 1999-2000. [Master's Thesis]. Tabriz University; 2000.
 21. Sarchami R, Rajaei S, Aalaei S. Evaluation of the relationship between religious beliefs and academic achievements of dental students. *Journal of Education and Health Promotion*. 2020;9. [DOI:10.4103/jehp.jehp_576_19] [PMID] [PMCID]
 22. Hashemi Sheikh Shabani SA, Bashlideh K, Taghipour M, Neysi A. The psychometric properties of the central self-evaluation scale. *Researches in clinical psychology and counseling*. 2011; 1(1).
 23. Alaei B, Abdollahi A, Hashemi T, Beyrami M. Prediction of learning strategies, self-efficacy and academic progress based on the goals of the second-year high school students of Tabriz city. *New Educational Thoughts Quarterly*. 2011; 7(1):56-86.
 24. Pourteimour S, Yaghmaei S, Babamohamadi H. The relationship between mental workload and job performance among Iranian nurses providing care to COVID-19 patients: A cross-sectional study. *Journal of Nursing Management*. 2021; 29(6):1723-32. [DOI:10.1111/jonm.13305] [PMID] [PMCID]
 25. Balkis M. Academic procrastination, academic life satisfaction and academic achievement: the mediation role of rational beliefs about studying. *Journal of Cognitive & Behavioral Psychotherapies*. 2013; 13(1):57-74.
 26. Kazemi Z, Neshatdoost HT, Kajbaf MB, Abedi A, Aghamohammadi S, Sadeghi S. The Effect of transactional analysis training on: runaway girls' social intimacy in Isfahan A single-subject design research. *Women's Studies Sociological and Psychological*. 2012; 10(3):139-62. [DOI:10.22051/JWSPS.2012.1422]
 27. Darvish H, Shabani F, Qasempour R. The relationship between emotional intelligence and self-efficacy and job satisfaction of nurses in education and treatment centers in Tabriz city. *Scientific-Research Journal of the Faculty of Nursing and Midwifery*. 2011; 21:53-8.
 28. Lawrence L. Applying transactional analysis and personality assessment to improve patient counseling and communication skills. *American Journal of Pharmaceutical Education*. 2007; 71(4):81. [DOI:10.5688/aj710481] [PMID] [PMCID]
 29. Wills TA, Dishion TJ. Temperament and adolescent substance use: A transactional analysis of emerging self-control. *Journal of Clinical Child and Adolescent Psychology*. 2004; 33(1):69-81. [DOI:10.1207/S15374424JCCP3301_7] [PMID]
 30. Yahyaee GA, Nooranipoor R, Shafiabadi A, Farzad V. The effectiveness of transactional analysis group-counseling on the improvement of couples' family functioning. *Archives of Hygiene Sciences*. 2015; 4(2):73-9.
 31. Dani's. Burns N. Woffon school mechanical and manufacturing engineering. *Laugh borough university, Leicester shire, uk*; 2004.
 32. Zarei Z. *Methods of strengthening self-esteem in teenagers*. Ardakan: Department of Education; 2016.
 33. Fotouhi Bonab S, Hosseini Nasab D, Hashemi T. The effectiveness of cognitive-behavioral, Islamic couple therapy and Transactional analysis on the self-awareness of incompatible couples. *Psychological Studies*. 2016; 7(27):37-64.
 34. Mahmoudpour A, Yazdan Panah M, Asayesh M, Ghahremani S, Ahmad Boukani S. The effect of Transactional analysis training on emotional intelligence, self-esteem and psychological well-being of nurses at Milad Hospital, community health. *Community Health Journal*. 2019; 8(3):54-63.