Journal of Fundamentals of Mental Health

Mashhad University of Medical Sciences

Psychiatry and Behavioral Sciences Research Center

Original Article

The relationship between the anxiety and depression with the mediation of referential thinking and perfectionism: Structural equation method

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Abstract

Introduction: This study investigates the relationship between anxiety and the depression by the mediation of referential thinking and perfectionism.

Materials and Methods: In this study, 240 female students in secondary high schools were selected through multi-stage sampling procedure. Participants completed the Beck Depression Inventory (1996) Anxiety scale Spitzer and colleagues (2006) and the referential thinking scale, Erring and colleagues (2010) multidimensional perfectionism scale Felt and Hewitt (1991). The collected data were analyzed using structural equation modeling.

Results: The results showed that there is no significant direct relationship between anxiety and depression, instead, their indirect relationship with the mediation of referential thinking and dimensions of perfectionism at 0.01 was significant. Referential thinking also showed a significant effect on depression at 0.01. Among dimensions of perfectionism, social-oriented perfectionism and other-oriented perfectionism positively and at a significant level of 0.01 and self-oriented perfectionism negatively at a significant level of 0.01 affect depression.

Conclusion: The results showed that other-oriented perfectionism and social-oriented perfectionism and referential thinking mediate the relationship between anxiety and the depression. In total, according to data, we can conclude that by controlling the referential thinking and modifying unhealthy dimensions of perfectionism into healthy and efficient ones, it can be prevented from converting depressive disorder into generalized anxiety disorder.

Keywords: Anxiety, Depression, Perfectionism, Thinking

Please cite this paper as:
Zare Bargabadi M, Taghiloo S, Kakavand AR. The relationship between the anxiety and depression with the mediation of referential thinking and perfectionism: Structural equation method. Journal of Fundamentals of Mental Health 2016; 18(Special Issue): 475-484.

Introduction

Depressive disorder is a recurring disease with many social, economic, physical, and psychological consequences (1) regarding the importance of this disorder, it can be said that currently, depression is considered the fourth

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Received: Aug. 22, 2016
Accepted: Sep. 29, 2016

most common disease in the world and based on the announced statistics According to the World Health Organization, 3400 million people suffer from depression, and according to the estimates, it is predicted that this disease will become the second most common disease in the world by 2020 (2). On the other hand, it is estimated that almost one fifth of the population suffers from major depressive disorder (3). Likewise, in the repetition of the national comorbidity study that was carried out in 2001-2002, it was shown that depression has an interesting comorbidity with anxiety disorders (3).Anxiety can be considered as an adaptive and normal response to a threat that prepares the organism to escape or fight. Anxiety is a common disease. Reasonable estimates of its one-year prevalence are in the range of 3 to 8 percent. The ratio of women to men in this disorder is two to one, and almost 25% of patients who refer to mental disorders clinics are suffering from generalized anxiety disorder (4). Anxiety is a part of every human's life and exists in all people to a moderate extent, and this level is considered as a compromised response, but to the extent that anxiety becomes a cause of clinical concern when it reaches such a level. It may disturb the ability to act in daily life, so that the person has an incompatible state, which is characterized by severe physical and mental reactions (5). Perfectionism is one of the other psychological characteristics that many psychologists in the world are interested in (6). Perfectionism is defined as a person's persistent desire to be perfect and unattainable and trying to achieve them, and it is associated with critical self-evaluations of personal performance (7). The noteworthy point is that cognitive and metacognitive processes have a moderating effect on the relationship between perfectionism and other psychological distress. One of these processes is negative-repetitive thinking or referential thinking (8). Researches have confirmed the relationship between various forms of referential thinking and metacognitive beliefs, and the results have shown that metacognitive intervention that directly challenges metacognitive beliefs, which directly challenges positive and negative metacognitive beliefs, by reducing Referential thinking and symptoms of anxiety and depression have been associated (9).

The evidence indicates that perfectionists complain of more physical pains and discomforts (10). Perfectionism, as one of the personality factors, is an important predictor for negative psychological outcomes such as anxiety (11). Burns defines perfectionism as a cognitive model of a person's expectations, whose main feature is the formulation of firm and inflexible goals for performance and the setting of unrealistic and high standards (12). They are known for their behavior (13). Research have confirmed the relationship between various forms of referential thinking and metacognitive beliefs, and metacognitive intervention directly challenges positive and negative metacognitive beliefs, by reducing referential thinking and symptoms of anxiety and depression has been accompanied (9). Ehring defined referential thinking as a type of thinking about a person's problems or negative experiences, which is characterized by three key features: repetitiveness, spontaneity, and difficulty in interrupting thoughts. Referential thinking is precisely defined by rumination (which is a major feature of depression) and worry (which is a major feature of anxiety), which is highly correlated with emotional disorders. Therefore, referential thinking has been proposed as a meta-diagnostic process that shows the same characteristic in most disorders (13). Attention and the dimensions of referential thinking have shown a unique correlation with the dimensions of emotional disorders including general anxiety, social anxiety, and depression (14). As a risk factor, increased ruminative thinking may increase the comorbidity of affective disorders (9). According to the high importance of anxiety control and prevention of depression and intervention in these disorders and paying attention to the cognitive and metacognitive processes involved in these disorders and on the other hand, paying attention to comorbid disorders with these disorders that can somehow be effective in controlling and better identifying the nature of this disorder, and considering that no research has been done in this field in the country, the researcher seeks to create a model that measures the direct relationship between anxiety and depression with regard to the mediating effects of referential thinking. Based on this, by using structural equation modeling, the researcher seeks to fit the proposed

theoretical model regarding the relationship between these factors.

Materials and Methods

This research is correlational. In this research, according to the nature of the hypotheses, the correlation research can be considered as a type of structural equation modeling (path analysis), in which it will examine the internal relationships between variables in the form of model discovery and explanation, and the goal It is the examination of the relationship between latent, exogenous and endogenous structures in the model. Therefore, structural equation modeling technique was used in this research.

In this research, the statistical population includes all the female students of second secondary public high schools in Karaj city who are studying in the academic year 2014-2015. The sampling method is multi-stage. From the four educational districts of Karaj city, two districts and three schools from each district and two classes in each school were randomly selected, considering 15 cases for each variable in the multiple regression analysis of standard least squares. It counts. Because SEM is completely related to multivariate regression in some aspects, the number of 15 items for each measured variable in SEM is reasonable. As a result, the present sample size is determined to be 20 people for each measurement variable. In this research, we have 8 variables, the sample size is 160 people, which according to the dropout and principle, the more, the better in modeling. 300 students were selected. Finally, data analysis was done on 240 subjects due to some of the answer sheets being missing, incomplete, or distorted.

Research instruments

A) Beck Depression Inventory-2 (BDI-II): This questionnaire was introduced for the first time in 1961 by Beck, Ward, Mendelson, Mok and Abag and was revised in 1971 (15). This questionnaire has 21 items that are scored from zero (sign of mental health) to three (sign of acute and deep depression). In other words, there are four sentences in front of each of the substances that characterize one of the symptoms of depression, which are arranged from the mildest to the most severe state of depression. The range of the total score is between zero and 63. A score of 0-9 is a sign of no depression, 10-18 is a mild depression, 19-28 is a moderate to severe depression, and 30-63 is a sign of severe depression. The main symptoms of depression include feelings of sadness, pessimism, past failures, lack of pleasure, guilt, feelings of punishment, self-loathing, self-blame, suicidal thoughts or desire to commit suicide, crying, excitement, It measures apathy, indecisiveness, feeling of worthlessness, weakness, change in sleep pattern, irritability, change in appetite, problems in concentration, fatigue and feeling of helplessness and lack of interest in sexual affairs. Its retest reliability has been reported from 0.48 to 0.86 with an average of 0.86 (16). The results of the meta-analysis to determine the internal consistency have reported the range of this coefficient between 0.73 and 0.92 and the correlation between the two revised and original forms is equal to 0.89 (17). Fathi, Birshak, Atef Vahid and Dobson (17) reported Cronbach's alpha 0.91, retest coefficient 0.81 after one week interval, and correlation coefficient with Beck's anxiety questionnaire 0.61. Also, in a research with a sample of 354 people who were diagnosed with nominal depression and were in recovery, an internal validity of 0.91 was obtained (18).

B) Anxiety Questionnaire: This scale was created by Spitzer et al. This scale has seven main questions and one additional question that measures the level of interference in individual, social, family and occupational functions. The subject answers the questions by choosing one of the options of never, a few days, more than half of the day, and almost every day, and the options are scored as 3, 2, 1, 0 respectively. Cronbach's alpha coefficient of the mentioned scale is 0.92, which indicates its excellent internal homogeneity in the external sample, and its retest coefficient after two weeks is 0.83, which indicates the good reliability of the scale. Its convergent validity has been reported by calculating its correlation with two Beck anxiety questionnaires and the anxiety subscale of the Clinical Symptom List (SCL-90), respectively, 0.72 and 0.74, which shows the existence of appropriate convergent validity of the scale. Also, in a research that was conducted in order to check the reliability and validity of the scale by Nayinian, Shairi, Sharifi and Hadian in 1988, it showed that this scale has high reliability and validity in the Iranian sample (19).

C) Perfectionism Questionnaire: The Multidimensional Perfectionism Scale (Felt and Hewitt, 1991) is a 45-question scale that measures 15 self-oriented perfectionism questions, 15 other-oriented perfectionism questions, and 15 community-oriented perfectionism questions. . Respondents grade the questions based on a 7-point Likert scale from completely agree to completely disagree. The score of the subscales is between 15 and 105, and high scores indicate more perfectionism. Internal consistency using Cronbach's alpha method has been reported as 0.79 to 0.89 for the subscales, and the test-retest reliability of the scale has been reported as 0.88 and 0.75 for the subscales. The standardized and validated version of this scale in the Iranian sample by Besharat has 30 questions, 10 questions of self-oriented perfectionism, 10 questions of other-oriented perfectionism, and 10 questions of community-oriented perfectionism. This version has high reliability and validity in the Iranian sample (20).

D) Referential Thinking Questionnaire: This questionnaire was prepared in 2010 by Ehring et al. This scale is a self-report tool including 15 statements. This test consists of a general scale of referential thinking and three subscales: the main characteristics of referential thinking, perceived inefficiency, and the capture of mental capacity by repeated negative thoughts. Subjects should indicate their agreement or disagreement with each of the statements in a 5-point Likert scale (from never = 0 to always = 4). To get a total score, the score of 15 statements must be added. The range of changes of referential thinking questionnaire scores is between 0 and 60. High scores indicate a high volume of negative-repetitive thoughts in a test. The results of Ering et al.'s research show that this scale has good internal consistency. They found Cronbach's alpha coefficient of 0.95 for the whole test, for the subscale of the main features of referential thinking, 0.94, for the subscale of perceived inefficiency, 0.83, and for the whole test, 0.69, for the subscale of the main features of perception inefficiency, 0.66. 0.68 and capture of mental capacity is reported as 0.69. The significant correlation of this scale with other scales for measuring referential thinking, such as the response style questionnaire, the anxiety state questionnaire, the Beck depression questionnaire, the trait and anxiety state questionnaire, and the depression syndrome questionnaire, indicates the convergent validity of this scale (21).

Results

the demographic characteristics show that 47 case, 127, 60, and 4 cases were 16 years, 17 years, 18 years, and 19 years old, respectively.

Table 1. Average, standard deviation and Cronbach's alpha coefficient including dimensions of perfectionism, referential thinking, anxiety and depression

Field of the study	Frequency	Percentage
Humanities	54	22.6
Natural science	125	52.3
Mathematics	60	25.1
Total	239	100

Table 1, shows the Cronbach's alpha coefficient of the variables of the current research is higher, close to 0.70. Table 2 shows the correlation coefficients between research variables.

Table 2. Correlation matrix of research variables

Variable	Mean	Standard deviation	Cronbach's Alpha
Self-oriented perfectionism	81.65	11.29	0.721
Other-oriented perfectionism	49.82	9.28	0.683
Society-oriented perfectionism	50.89	10.15	0.721
Inferential thought–repeated negative thought	17.03	8.21	0.881
Inferential thought–perceived infectiveness	3.69	2.30	0.690
Inferential thought-captured mental capacity	3.68	2.31	0.684
Anxiety	10.69	5.03	0.821
Depression	20.89	12.09	0.890

Self-controlled perfectionism is negatively correlated with depression and the other two dimensions of perfectionism are positively correlated with depression at a significance level of 0.01. All dimensions of referential thinking are positively correlated with depression and anxiety at a significance level of 0.01. Also, as expected, the anxiety variable had a positive correlation with depression and was significant at the 0.01 level. In order to check the assumption of normality of univariate distribution, skewness and skewness values and to evaluate the assumption of collinearity of variance inflation factor (VIF) and tolerance coefficient were investigated. Table 3-4 shows the elongation, skewness, tolerance factor and variance inflation (VIF) of the research variables. The indices related to skewness and tension of none of the factors have crossed the border of ±2. It is necessary to explain that Garson believes that skewness and skewness should be between +2 and -2 for the data to be normally distributed at the 0.05 level. Some others consider this range between +3 and -3 (22). Therefore, it can be said that the distribution of data for each of the research variables is normal. Also, the results of Table 5 show that the issue of collinearity did not occur in the research variables. The tolerance coefficient, which is equal to 2R-1, means the ratio of the total standardized variance that is not explained by other variables. A tolerance coefficient of 0.1 or less indicates collinearity. Variance inflation factor is another method of detecting collinearity, which is equal to (2R-1)/1 and shows the ratio of total standardized variance to single variance. If the value of the variance inflation factor is higher than 10, it indicates collinearity (23). In the present research, the values obtained from the calculation of the variance inflation factor and the tolerance coefficient showed that the phenomenon of collinearity did not occur in the research variables. In order to test the independence of errors among the predictor variables, the value of Durbin-Watson's index was examined, the value of said index was 1.229. Although the SPSS test does not have a criterion to determine the significance and non-significance of Durbin-Watson's index, despite this field, it believes that a value higher than 2 indicates non-independence of errors. Therefore, according to the calculated Durbin-Watson index value, it can be said that the assumption of independence of errors is also established among the research data. Another assumption of structural equation modeling is the linearity of relationships between research variables. In order to test this hypothesis, the matrix of the scatter diagram was used (one of the most common methods of investigating the hypothesis of linear relationships between variables). It can be inferred from the analysis of the two-by-two distribution of the variables that it showed that the variables of the current research have created a two-by-two scatter diagram, which is in the shape of an oval. Therefore, none of the relationships between the variables shows an obvious deviation from linearity. This issue indicates the establishment of the assumption of linear relationships between variables among research variables.

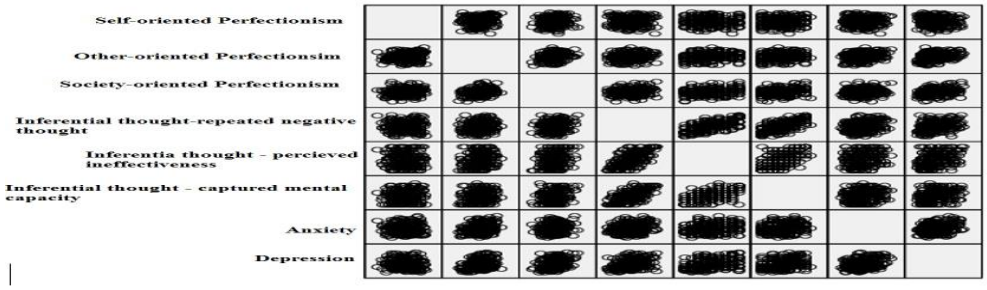

Figure 1. The matrices of the scatter diagram of research variables

Another assumption of structural equation modeling analysis is the normality of multivariate distribution, the use of the "Mehlenbauis distance (D)" method and the drawing of its distribution curve showed that the combination of predictor variables in the explanation of the criterion variable is normal. Figure 2 shows the distribution diagram of the data related to the Mahlen-Bais distance.

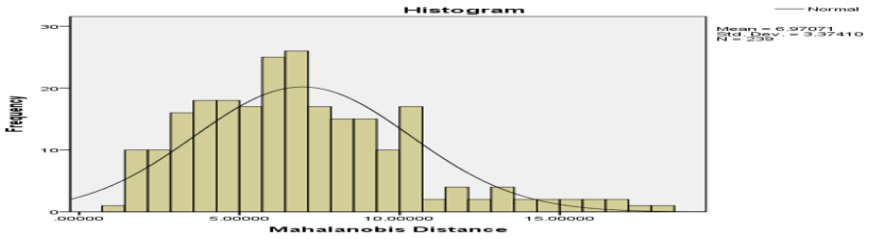

Figure 2. The diagram related to the distribution of Mahlenbauis distance data (D)

As can be seen , in this model it is assumed that anxiety is directly and indirectly through the dimensions of perfectionism (self-oriented, society-oriented and other-oriented) and the underlying variable of referential thinking (which in This research hypothesized that through negative repetitive thinking, perceived ineffectiveness, and mental capacity capture, it affects depression. The use of structural equation modeling analysis method to evaluate the fit of the research model with the collected data showed that the model does not have an acceptable fit with the data. As expected, the chi-square index was significant at the 0.01 level (P<0.01, □=163.69, 2). Because the chi-square index is affected by the sample size, other goodness-of-fit indices were examined. With the exception of the root mean square error index (RMSEA) which was equal to 0.092 (it is said that the root mean square error smaller than 0.08 indicates an acceptable fit and smaller than 0.05 indicates an excellent fit of the model with the collected data has been done), other fit indices indicated the acceptable fit of the overall model with the data. For example, the Goodness of Fit Index (GFI) was equal to 0.948, the Adjusted Goodness of Fit Index (AGFI) was equal to 0.882, and the Comparative Fit Index (CFI) was equal to 0.924 (it is called the Comparative Fit Index Greater than 0.90 indicates an acceptable fit and greater than 0.950 indicates an excellent fit of the model with the collected data). Considering the great importance of the fit index of the root mean square error of approximation (RMSEA) in the model fit, the modification indices were evaluated. The evaluation of the correction indices showed that it is possible to improve the fit indices by creating covariance between the error of other-oriented perfectionism and society-oriented. Therefore, the modified model and indicators were obtained, which showed that the general model fits the collected data (df =15 = 28/926, 239N = 2□, CFI=0.968, GFI=0.972, AGFI=0.934 and RMSEA=0.062).

Table 3. Total, direct and indirect path coefficients between dimensions of perfectionism, referential thinking, anxiety and depression

Variables	1	2	3	4	5	6	7	8
1.Self-oriented perfectionism	–							
2.Other-oriented perfectionism	0.165*	–						
3.Society-oriented perfectionism	0.142*	0.299**	–					
4.Inferential thought-repeated negative thought	−0.03	0.169**	0.220**	–				
5.Inferential thought-perceived infectiveness	−0.048	0.180**	0.226**	0.657**	–			
6.Inferential thought-captured mental capacity	0.017	0.152*	0.233*	0.665**	0.620**	–		
7.Anxiety	0.059	0.163*	0.151*	0.247**	0.178**	0.193**	–	
8.Depression	−0.132*	0.318**	0.338**	0.377**	0.365**	0.311**	0.328**	–

The research questions have been answered based on the findings of the above table: The total path coefficient (sum of direct and indirect path coefficients) related to the effect of anxiety on

depression is significant at the 0.05 level ($P< 0.05$, $\beta= 0.147$). As can be seen in the above table, the path coefficient between perfectionism and depression is negative and significant at the 0.01 level ($P< 0.01$, $\beta= -0.200$). This issue indicates that by increasing one standard deviation on self-oriented perfectionism scores, 0.200 standard deviation of depression scores is reduced. Also, the path coefficient between the other dimensions of the perfectionism orbit and depression is positive and significant at the 0.01 level ($P< 0.01$, $\beta= 0.228$). Finally, the path coefficient between perfectionism and depression is also positive and significant at the 0.01 level ($P< 0.01$, $\beta= 0.223$). In this way, the self-directed dimension of perfectionism affects depression in a negative way and its other-oriented and community-oriented dimensions in a positive way. According to the results of Table 4, the path coefficient between referential thinking and depression is positive and significant at the significance level of 0.01 ($P< 0.01$, $\beta= 0.333$). This finding indicates that referential thinking significantly affects depression scores.Based on the findings presented in Table 4, the indirect effect of anxiety on depression is significant at the 0.01 level ($P< 0.01$, $\beta= 0.146$). This finding indicates that anxiety affects depression by influencing perfectionism and increasing referential thinking.According to the results of Table 5, the coefficient of the indirect path between anxiety and depression through the mediation of another dimension of the perfectionism circuit is significant at the level of 0.05 ($P< 0.05$, $Z= 2.087$), also the coefficient of the indirect path between anxiety and Depression through the mediation of the society-oriented dimension of perfectionism is also significant at the 0.05 level ($P<0.05$, $Z=1.970$) in contrast to the indirect path between anxiety and depression through the self-directed dimension of perfectionism at the 0.05 level. It was not meaningful. Therefore, it was concluded that among the dimensions of perfectionism, other-orientation and community-orientation mediates the effect of anxiety on depression at a significance level of 0.05. Based on the results of Table 5, the indirect path coefficient between anxiety and depression through the mediation of referential thinking is significant at the 0.01 level ($Z=2.989$, $P<0.01$).

Therefore, it can be said that the latent variable of referential thinking mediates the effect of anxiety on depression at a significance level of 0.01. But since there are four mediating variables in the current research model (self-oriented perfectionism, other-oriented perfectionism, society-oriented perfectionism, and referential thinking), therefore, the unique mediation contribution of each of the mediating variables in the current research model is not clear. For this purpose, Baron and Kenny's formula (24) was used to determine the contribution of each mediating variable in the relationship between anxiety and depression.

Table 5. The significance test of the mediating role of perfectionism and referential thinking dimensions in the relationship between anxiety and depression

Path	Total effect		Direct Effect		Indirect effect	
	Standard Parameter β	SE	Standard Parameter β	SE	Standard Parameter β	SE
Anxiety-Depression	0.147*	0.065	0.001	0.062	0.146**	0.039
Inferential thought-Depression	0.333**	0.069				
Self-oriented perfectionism - depression	−0.200**	0.061				
Other-oriented perfectionism - depression	0.228**	0.058				
Society –oriented perfectionism - depression	0.233*	0.062				
Anxiety– self-oriented perfectionism	0.059	0.067				
Anxiety– other-oriented perfectionism	0.163*	0.065				
Anxiety – society –oriented perfectionism	0.151*	0.064				
Anxiety – Inferential thought	0.262**	0.064				

*P<0.05, **P<0.01

Discussion

The findings of the present study indicate that anxiety has a significant effect on depression at a significant level of 0.05. Studies have shown that anxiety symptoms have a high correlation with major depression. Also, in Dobston's research (25) about the level of symptoms and signs, the correlation between anxiety and depression was more than percent. In addition, in the study of Clark et al. (26) 35% to 43% of outpatients with a diagnosis of major depressive disorder and 29% to 47% of people with a diagnosis of depression also received the diagnostic criteria of an anxiety disorder as a second diagnosis. Based on this, some researchers consider anxiety and depression as separate diseases with many common symptoms. In addition, a new diagnostic classification, under the title of mixed anxiety-depressive disorder, has been included in the DSM-IV-TR. Other findings of the research showed that the self-directed dimension of perfectionism negatively affects depression and its other-oriented and community-oriented dimensions positively. This result is in line with the background of the research carried out by Hewitt and Felt (27), who have shown that self-centered perfectionism is related to self-criticism and self-blame, and self-centered perfectionism is not necessarily pathological and abnormal, and is consistently associated with Depression is not related, it is aligned. Also, Trishart, Glynn, Slade and Dewey (28) have shown that if self-controlled perfectionists have the ability to reach their standards, the possibility of their depression is much less. This form of perfectionism is the closest dimension. It is a structure that is often known as perfectionism (29). Another finding of the research indicates that reflective thinking significantly affects depression scores. This finding is in line with the findings of Masido et al. (30) who investigated the relationship between perfectionism and other psychological problems with the mediation of referential thinking. They came to the conclusion that perfectionism and referential thinking as predictors are the cause of most mental distress, including depression and anxiety, and Beck (31) has stated that depressed patients tend to have referential thoughts about a perceived disability or its symptoms. It seems that this depressive rumination predicts the continuation of depression. Segerström, Tasso, Alden and Krasek (32) because in depression there is a kind of repeated negative thinking and the person has a feeling of intense sadness, which of course has a negative content, a chronic and stable state, and of course it is uncontrollable, and on the other hand Also, rumination of referential thinking also has all these symptoms; It is possible to predict the existence of a relationship between depression and referential thinking. Also, this research showed that among the dimensions of perfectionism, other-orientedness and social-orientation mediates the effect of anxiety on depression at a significant level of 0.05. As a result, other-oriented perfectionism and social-orientation mediate the effect of anxiety on depression. No research was found to investigate the mediating role of perfectionism dimensions in the relationship between anxiety and depression, but several studies have been conducted in the field of the relationship between perfectionism and depression. In a part of a wider study, Anas and Cox (33) in a clinical sample of patients with major depressive disorder investigated the relationship between the dimensions of perfectionism of identity scale and Flatt and depression symptoms of Beck Depression Inventory and showed that all three dimensions of self-oriented perfectionism, other-oriented and community-oriented with The total scores of the Beck depression questionnaire showed a much stronger correlation. The relationship between perfectionism and depression has also been studied in relation to special vulnerability models. For example, Hewitt and Felt (27) proposed that self-centered perfectionism is related to depression in people who have experienced important events in life. Social perfectionists believe that others have high and sometimes unrealistic expectations and standards from They have and they must provide these standards in order to achieve the acceptance and approval of others. McEvoy and Mahoui (14) designed a model regarding the relationship between uncertainty intolerance and negative metacognitive beliefs as metadiagnostic mediators of referential thinking in a clinical sample with anxiety disorder. They designed a hierarchical model for vulnerability to worry, in which neuroticism and extroversion play a role as higher-order factors, and negative metacognition

and intolerance of uncertainty play a role as secondary-order factors. In their model, there is a meta-diagnostic measure of rumination and depressive symptoms as outcome variables, to determine whether associations extend beyond worry, which is traditionally studied in the context of generalized anxiety. They concluded that negative metacognitions completely mediate the relationship between neuroticism and referential thinking for the entire sample and for sub-samples with or without generalized anxiety disorder. Also, intolerance of uncertainty mediated the relationship between neuroticism and worry (for the entire sample with generalized anxiety disorder) and between neuroticism and referential thinking (for the entire sample with generalized anxiety disorder). The similarities between worry and rumination and the high correlation of referential thinking with the two dimensions of rumination and worry with many other mental disorders and distress, and the same with most of the central disorders of DSM-IV, including depression, phobia, social anxiety, generalized anxiety And the post-traumatic stress disorder has prompted researchers to state that this style of thinking appears as a transdiagnostic process, since referential thinking plays an important role in maintaining and stabilizing emotional disorders. This phenomenon is of vital importance and a better understanding of it may provide better methods for intervention and treatment of patients suffering from these disorders (34). Due to the fact that the research sample was selected from only one stratum of the society (teenagers aged 16-19), it is not permissible to generalize the results of the research to other cases, especially adults. In this research, there was no opportunity to investigate other factors besides referential thinking and perfectionism that affect the relationship between anxiety and depression; Therefore, the result may be partially caused by other factors. The sample of the current research was selected from high school female students, so the generalization of its results to boys, other educational levels, and other geographical areas should be done with caution. It is suggested to examine the same model with a different statistical population, in different age, educational, occupational and adult groups. Experimental research should be done to determine whether depression can be reduced by reducing referential thinking and training skills to deal with referential thinking, or in better words, depression can be reduced in people suffering from anxiety by training skills to deal with referential thinking. Research should be conducted in which the effect of correcting the dimensions of perfectionism on depression will be determined. Research that will determine that depression can be reduced in anxious people by reducing the individual's perfectionism scores. According to the results of this type of research, it is necessary to implement comprehensive and complete programs to improve and correct the dimensions of perfectionism. Referral thinking control training should be planned and implemented by experts to prevent the transformation of anxiety disorder into depression disorder and emotional and emotional problems of teenagers.

Conclusion

The findings showed that other-oriented and community-oriented perfectionism and referential thinking mediate the relationship between anxiety and depression, and in general, through controlling referential thinking and modifying the unhealthy dimensions of perfectionism into healthy and efficient dimensions. The transformation of anxiety disorder into depression disorder can be prevented.

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