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The comparison of dimensions of temperament and character in depressive patients and normal personals

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Abstract

Introduction: Depression is one the most common mental disorders in all the cultures. Depression is a combination of feelings of sadness, loneliness, irritability, worthlessness, hopelessness. Researchers repeatedly have supported the association between dimensions of temperament and character with depressive disorder. The aim of the current study was to evaluate and compares dimensions of temperament and character in individuals with and without depressive disorder.

Materials and Methods: The statistical population of this cross-sectional study in 2011 included all individuals with major depressive disorder aged 24-30 who were referred to clinical center in Ardabil city, as well as the normal population of non-depressive individuals. Participants were 70 persons with major depressive, and 61 non-depressive persons. They were asked to complete demographic questionnaires, Beck depression inventory, and Cloningers temperament and character inventory. The data were analyzed by MANOVA and T multivariate regression using SPSS software version 16.

Results: Depressive individuals have significantly of novelty seeking, harm avoidance and self–transcendence; while, the patients had lower scores mean of persistence, cooperativeness and self-directedness than non-anxious group (P<0.001). Also, multiple regression analysis results showed that dimensions of temperament and character significantly explain 34 percents of the variance of depressive individuals.

Conclusion: It was a significant relationship between temperament and character. Also, the findings suggest that dimensions of temperament and character are variables that influence the severity of depression symptoms.

Keywords: Character, Depression, Normal, Temperament

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Introduction

Major Depression Disorder is one of the most common mental disorders in psychiatry which have plagued about seventy percent of the society in lifetime. The spread of Major Depression Disorder in males was twice as much as that in the women. The average commencement age for this disorder was about fifty and half of these patients was affected by this disorder within the range of twenty to fifty years old(1). In addition, those who experienced a depression disorder are more likely to be affected by disorder in the future life span, within each period the risk of being affected in the forthcoming periods increases significantly (2). In those people hit by depression, different symptoms with different intensity and extent were indicated. According to Long, Sue, Grat, Teesh Tota (3) can have serious affective, cognitive, behavioral, and physiological effects on depression elements (1).

There are many variables which can play role in formation and aggravation of depression. In the current study, however, two main variables of temperament and character were investigated. Clinger has tried to; looking at biological parameters, develop a strong theoretical basis with regard to personality.

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The desired basis can incorporate both normal and abnormal personality traits. According to this framework, personality includes temperamental and character aspects (4). Temperament is the inherent basis of excitements and includes learning that is resulted from excitements behaviors and automatic reactions which can be observed in early childhood and can remain during the life span (5). Cloninger has presented Neurobiological Model to account for different aspects of temperament. (6,7). Temperament centers in brain possess a functionally organized system which has, in itself, distinguished autonomous centers involved in activation, perpetuity, behavior prevention in response to specific group of stimuli. Cloninger has presented four aspects to account for temperament. Novelty seeking (8) is the tendency to active response to new stimuli that, by itself, can lead to seeking reward and shunning punishment. Harm avoidance (9) is the tendency to give preventive response to symptoms evinced from the part of irritable stimulus which can bring about avoidance of punishment and gratuitous factors. Reward Dependency (10) is defined as positive reaction to reward symptoms which can preserve behavior extinguishing or practice perseverance against it. Persistence (11) seems to be somewhat identical to reward (7,8,9). Temperament includes logical attitude about self, others, and surrounding world. It, basically, points to inter-individual performances and individual differences with regard to self topical relationship that can be manifested as non-linear interaction between temperament, disposition, family situation, and individual experiences (7,10,11). Cloninger has considered the aspects for temperament including self-directing, purporting person's ability to order, manage, proper behavior accommodation with respect to environment, goal specification, values. Cooperation, pointing to individual identification accompanied by accepting others in the society self-transcendence is a temperament associated with faith (12).

Interaction among personal factors in depression was investigated by many models (13). On the other side, the relationship among various temperament positions and some characteristics in personality psychology and pathology with the primary focus on depressive temperament was probed into (14). Although the exact explanation of the relationship between personality and depressive temperament has remained unclear, some features of personality have been regarded as risks to the future depression periods (15). Jueis and Merdit (16), for instance, indicated that personality can play a crucial role emotional and psychological function (16). Levenson and Neuringer drew the conclusion that compared to normal group, those who were depressive are less flexible and strict as far as cognitive abilities are concerned. In addition, they are less able in problem solving processes, recognition, creativity, taking divergent actions to solve the cognitive problems (17). Mohaamadkhani, Poorshahbaz, Delavar, and Jehani Tabesh understood the fact that none of the temperament indices was positively associated with depression intensity meanwhile harm avoidance was positively correlated with depression intensity (18). Malayeri, Kaviani, Assadi, Farid Hosseini in a study understood that those participants who attained high scores in harm avoidance and low scores in self-direction, in comparison with their counterpart, are more liable to be exposed to frustration, negativism, castigation, irritating behaviors, anxiety, and pessimism. The patients had, also, indicated more symptoms of depression (19). Kosonki, Tak, Euochida, Camora, Naria, have pointed that in patients exposed to being hypochondriac and basic depression have scored highly in harm avoidance and self-transcend whereas scored lowly in self-direction and cooperation compared with their counterparts in control group (20). Grucza et al. have concluded that depressive patients, compared with their healthy counterparts, experienced difficulty in preserving their positive affection, concentration. They, in addition, have more chance of committing suicide (21). Zeigler-Hill and Abraham in a research drew a conclusion that in those participants who attained high scores in harm avoidance and novelty seeking tests whereas they received low scores in cooperation and persistence are more likely to be exposed to anger, anxiety, and depressive disposition compared with their normal counterparts (22). Ritcher et al. have indicated that the greatest extent of variance for depression was accounted for by variability in harm avoidance and self-direction (14). Gesner et al. have pointed the findings of a study that approved the fact that those people who have problems in maintain interaction and communicating their thoughts and ideas with other people meanwhile face difficulties meeting their belonging, perseverance, novelty seeking, and emotions are more likely to have more chance of loneliness and depression compared with their counterparts (23). Kampman et al. have pointed to the findings of a study indicating that those patients who experienced high levels of depression and anxiety scored lowly in persistence, cooperation, and self-direction whereas score highly in harm

avoidance and self-transcend indices compared with their counterparts in control group (24). Gois et al. have found that in those participants who scored highly in self-transcend are more likely to have sleeping disorders, appetite falling, and indicated more mental symptoms with regard to depression (25). Findings of different studies proved that depressive patients scored highly in harm avoidance tests than their normal counterparts (26).

To sum up, the results of various studies are not identical. Some investigations indicated that depressive patients have scored lowly in self-direction (27), cooperation (26) while scored high scores in reward dependency tests (28). So far, a lot of studies have been done with respect to depression. But there was a dearth of study with regard to the role of temperament and character on depression in Iran. Taking the contradictory findings of different studies into account and the role of temperament and character in pathology and curing necessitates carrying of the current study. Therefore, the current study was done to compare aspects of temperament and character in depressive and normal participants. In addition, it investigated the effects of aforementioned aspects in predicting intensity of depression symptoms.

Materials and Methods

Current study is an ex-post facto research type which is cross-sectional and retrospective. Research population of the study included all people who had basic depression and those who were normal living in Ardabil, North-west of Iran in 1391 Iranian calendar (2012). Research participants included seventy people who had basic depression disorder that referred to clinical center, who were diagnosed by psychiatrists to have depression within the time range from August to January and sixty-one people who were chosen from the participants accompanying patients using convenient sampling. A further point should be made with regard to the fact that in selecting research sample there should be at least fifteen people in cause-effect research design (29). To make certain of representativeness and greater extent of external validity, there were seventy people in depressive group and sixty-one in normal group. Both groups were identical in terms of their age. Entering criteria included the following aspects : age range from 24- 30 years old, educational degree under diploma passing the senior high school , marital status of single , having no history of psycho- cardiovascular , consuming stimulant drugs. Leaving criteria included: age range within 24 to 30 years, educational degree lower than senior high school degree, marital status of married, having history of other mental disorders, using drug stimulants. In depressive patients the main inclusion criteria were having ability to recognize depression disorders based on structural clinical interview. For the sake of ethical consideration, all participants have filled in conscious written endorsement letters to participate in the study and in the case of dissatisfaction they could leave the experiment whenever they desired not to pursue the study. All the information was hold confidential and the study was confirmed in terms of authenticity and novelty by the research and ethical committee of Ardabil province. Having attained the endorsement, the researchers completed the following checklists respectively: demographical and family information, Beck's Depression Inventory, and Clinger's Temperament Inventory.

A) Beck's Depression Questionnaire: This inventory was developed by Beck et al. to measure depression intensity in patients in 1961 and was subsequently revised in 1996. The scale includes twenty – one statements and each statement is assigned a score ranging from zero to three. Beck et al. have computed concurrent validity and test-retest reliability indices of the current scale to be 0.79 and 0.67 respectively (30). As far as Iranian context in concerned, Ghassemzadeh et al. reported the Alpha Corenbach coefficient of 0.87 and test-retest reliability coefficient of 0.74 which mean appropriate indices of validity and reliability to be applied in Iranian context (31).

B) Temperament and Character Questionnaire: This questionnaire was developed by Cloninger et al. to measure acquired temperament and character. It consists of one- hundred and one statements which require participants to check mark true or false statements. Different aspects of temperament including novelty seeking, harm avoidance, reward dependency, Perseverance and various faucets of character such as self-direction, cooperation, and self-transcend were measured. Alpha Corenbach coefficient of 0.68 was reported for the scale (26). In an identical study carried out on 1212 participants in Tehran, Alpha Corenbach coefficient within the range of 0.55 to 0.84 was reported for the study. Correlation coefficient of self-direction and harm avoidance was above 0.40. The only aspects with the correlation exceeding 0.40 among triple aspects of temperament were related to self-direction and cooperation (32).

c) Structural Clinical Interview: The interview was used to diagnose psychological abnormalities in the Axis I, on the Fourth edition of the Diagnostic and

Statistical Manual of Mental Disorders. It is an open-ended interview that was developed by Ferrets et al. (1). In this interview, unlike un-structured interviews, the agenda includes previously planed topics prior to interview and interviewer only directs the process in a planed direction. Having collected the completed checklists and interviews, the researchers analyzed the veracity of the basic statements to confirm the correctness of collected data. Descriptive statistics including measures of central tendency and measures of variability were used to describe the characteristics of the research groups. To compare quantitative variables between groups, the researchers made use of Multi-analysis of Anova (MANOVA) and Multiple-Regression.

Results

Age mean scores and (standard deviation) for depressive and normal participants were 26.17 years (3.10 years) and 25.12 years (2.85 years) respectively. In the studied research sample 88.3 percent of depressive patients consisted of females and 11.70 percent of males. In addition in normal group, 90 percent included females while only 10 percent was made up of males. Education level in depressive and normal were 25 and 5 percent with diploma degree, 16.2 and 23.30 associate diploma, 58.80 and 71.70 with MA and higher degrees respectively. In depressive and normal groups 46.70 percent and 28.80 percent of the participant were fist-born child of the family whereas 25 percent of normal participants and 23.80 of the depressive participants was second- born child of the family respectively. Finally 28.3 percent of normal children and 47.4 percent of depressive participants were the third or later child the family. Employment status of depressive and normal participants was 75 percent unemployed depressive and 61.7 percent unemployed normal participants whereas 1.2 percent of those who were depressive and 16.70 percent of normal participants were employed in governmental professions.

Table 1 shows mean and standard deviation of temperament and character aspects in depressive and normal patients.

Prior to running parametric test of multiple-analysis of variance (MANOVA), the researchers made of Levene's test of variance equality to make sure that its underlying assumptions are fulfilled in the study. According to Levene's test and its non-significant extent for all variables, equality of variances between groups was fulfilled.

The results of Lambadi and Wilkes indicated that the effect of grouping on interaction of aspects of temperament and character was meaningful. (P<0.001, Wilks, F(347, 97) =0.162). Above-mentioned test made the use of MANOVA permissible. The findings of study indicated that there exists a significance difference between two groups in at least variable studied in the current study.

Table1. Mean and standard deviation of temperament and character aspects in depressive and normal patients

	Variable	Depressive (M± SD)	Normal (M± SD)
Temperament	Novelty seeking	8.6 ±1.57	7 .24±2.88
	Harm-avoidance	20.77 ± 6.58	5.93 ± 1.10
	Reward dependency	7.69 ± 2.24	7.99 ± 2.17
	Perseverance	1.90 ± 1.32	2.50 ± 1.30
Character	Self-direction	6.12 ± 3.69	18.1 ± 1.74
	Cooperation	13.7± 4.55	20.94 ± 1.65
	Self-transcend	13.57 ± 2.44	9.13 ± 3.93
	Depression Symptoms	12.66 ± 5.53	4.45 ± 2.32

Partial Eta Square, which is in fact the correlation coefficient between dependent variable and grouping squared, showed that there was a significant difference between two groups as far as temperament and character are taken into account. The extent of difference was eighty-four percent meaning that 84 percent of variance related to difference groups can be accounted for by independent variables.

The result of Multiple Analysis of Variance indicated that mean score for novelty seeking (F=12.997), cooperation (F=138.103), harm avoidance (F=300.032), self- direction (F=539.824) were higher significantly in depressive participants the their counterparts in normal group (P<0.001) (Table 2).

In addition mean score for perseverance (F=7.151) and self-transcend (F=67.036) were significantly lower in depressive compared with their normal counterparts (P<0.001).

There was no significant difference between mean scores of two groups as far as reward dependency is concerned.

As it is shown in Table 3 above, the analysis of the results of multiple regressions indicated that about thirty-four percent of depression variance can be accounted for by variables of harm avoidance, self-direction, perseverance, and cooperation. Taking Beta extent into consideration, the variables of harm avoidance (Beta=-0.296), self-direction (B=-0.401), perseverance (Beta=0.47), and cooperation (Beta=0.282) were the strongest predictors of depression intensity

Table 2. The result of multiple analyses of variance on mean scores of temperament and character aspects in depressive and normal patients

	Dependent Variable	SS	df	MS	F	*P*
Temperament	Novelty seeking	64.038	1	64.38	12.997	0.000
	Harm-avoidance	7552.288	1	7552.288	300.032	0.000
	Reward dependency	3.001	1	3.001	0.616	0.434
	Perseverance	12.343	1	12.434	7.151	0.008
Character	Self-direction	4902.917	1	4902. 917	53.824	0.000
	Cooperation	1793.876	1	1793.867	138.103	0.000
	Self-transcend	672.601	1	672.601	67.036	0.000

Table 3. Results of multiple-regression for temperament and character factors on depression intensity

Predicting Variable	R2	SE	B	Beta	T
Harm avoidance	0.088	0.162	-0.244	-0.296	-2.74
Self-direction	0.193	0.287	-0.958	-0.401	3.17
Perseverance	0.267	0.614	1.697	0.407	2.76
Cooperation	0.336	0.127	0.355	0.292	2.80

Discussion

The current study aimed at comparing the role of temperament and character in predicting the depression intensity in normal and depressive participants. The results of study indicated that mean scores for harm avoidance and novelty seeking were significantly greater in depressive participants than their counterparts in normal group. These findings confirmed the findings of the previously carried studies (20-22) in this regard purporting that depressive participants are more likely to be vulnerable and harm stricken. To elucidate the findings better, the conclusion can be drawn that harm avoidance is only one aspects of temperament reflecting the fact that pessimism, negativism, duplicity can bring about more chance of being exposed to depression and emotional reactions. On the other hand, those who score highly in harm avoidance were usually timid, emotional, anxious, shy, dubious, disappointed, inactive, negative, pessimistic and insecure. As the depressive people encounter many problems in their daily lives and develop negative attitude toward future events, and at the same time lacking enough abilities to control and preventing these undesirable behaviors, they are more likely to have harm avoidance meaning that they have more tendency to respond to stimulating and irritating stimuli severely through which they learn how to avoid punishment and novel cases. These people cannot attain a healthy growth, encounter great problems in accommodating to new situation, commencing new behaviors, and producing active behaviors in new environment (33,34). In a Cloninger's character psycho-biological model, harm avoidance means innate capability, primary timidity feeling and its association with autonomous behavior which can specified as a deterrent. It can, also, be pointed that attained scores in harm avoidance and novelty seeking can be viewed as distinguishing feature among depressive people, which can accordingly reflect depression intensity and result in permanent change in character through the mediation of character abnormalities (33).

The findings of the study showed that attained mean scores associated with persistence were significantly lower in depressive participants than their normal counterparts. These findings are in the line with the findings of similar studies carried out prior to the current study (22,28,35,36), confirming that those participants who possess less persistence are more likely to be exposed to depression symptoms. These aspects are expected to be associated with depression symptoms since falling in persistence level may bring about increase in the depression in the patients. According to Beck theory, the depressive patients suffer from this abnormality because they have developed negative attitude toward themselves, the future, surrounding world. They have also negative believes and prototypical which are created through unhappy events and active cognitive predilections formed during the lifetime. Our findings function as clear factor and vulnerable one thorough approving contradictory cognitive theory in depressive patients and interfering of early childhood experiences as a determining factor (37).

In addition the findings of the study indicated that means score attained by depressive participants, as far as cooperation and self-direction are concerned, are significantly compared with their normal counterparts. In line with the findings of previously-carried out studies (24,26), the current research confirmed the fact that depressive people are less likely to be cooperative and self-directed learners. However the findings of the study is contradictory to the findings of Hiraror et al. (2008) and Smith et al. (2011) approving the fact that depressive people are less likely to be active in cooperation and self-direction. To expound the findings of the study, the

conclusion can be drawn that those who attained lower scores in self-direction are, to a larger extent, weak, sensitive, belittling, unresponsive, undeniable, and have irritating behaviors. It can be concluded that one important feature of those that perform weakly on self-direction tests is that they are more likely to attribute their defeats to others. So they show less tendency to participate in cooperative and social activities, and are regarded as selfish and self-satisfied individuals from the perspective of other people in the community. Also they attain lower scores in self-transcend, cannot tolerate ambiguity, and have lower extent of mental capability. So it can be concluded that these people encounter many problems on social activities and on their job. In addition since these people attain low scores on three aspects they are not satisfied with their own life, and are irresponsible, have a little social accommodations, and they may encounter severe harms in the future. Therefore, lower extent of self-direction in depressive people who are more likely to commit suicide may reflect their precocious personality along with lack of an internal organization to react to stimulating events (8). On the other hand, cooperation acts according to conception of self as a part of human community and society from which the important concepts such as socialization, forbearance, kindness, conscientiousness, and benevolence are derived. Increasing level of cooperation in conjunction with self-accommodation with human community, forbearance, being supportive, being conservative can be manifested as a mechanism to react against depression symptoms which are accompanied with reactions in cognitive and perceptive organizations (38).

The findings also indicated that mean scores for self-transcend were significantly greater in depressive people compared with normal participants. These findings confirm the findings of previous studies (25,39,40) indicating that those participants who score highly in self-transcend are more likely to experience depression. To elaborate the findings conclusion can be drawn that as the features such as utopianism, self-actualization, mingling with environment and experiencing, pietism are very high in depressive people, these positive features that can defend against depression, feeling of having gauche and sin, avoiding others, insomnia, anorexia. Accordingly, this mechanism can lower the risk of depression symptoms in the patients. In other word, when the extent of self-transcend is lower in depressive patients, they are more likely to be functional, realistic, materialistic, self- restraint, and assuming which can result in increase in depression intensity. These findings can be interpreted as follow: character culmination functions as a labyrinth through which people can promote easily. This labyrinth can bring about healthy life and satisfaction (41).

Concerning the fact that depression can be classified as disposition abnormality, it can be concluded that the patients' character in the above-mentioned labyrinth is low and patients are in lower section of health pyramid. In addition the combination of self-direction , cooperation , and self-transcend is exactly what characterize healthy people.(4) So conclusion can be drawn that depressive people have attained lower scores in these dimensions and are less likely to be satisfied with their lives , experience larger extent of depression whereas lesser extent of happiness. On the other side character can play a leading role in decision making, aspirations and tendencies, and meaning of what an individual experience during life time. The differences in terms of character are moderately affected by socio-cultural learning. Cloninger contends that all aspects of personality interact with each other and affect creation of behavioral, dispositional, and emotional abnormalities.

The findings of the study indicated that temperament and character aspects can account for intensity of the depression significantly. The role of this variable in predicting depression intensity was thirty four percent. This finding signifies that 76 percent of variance can be attributed to remaining factors such as biochemical, cognitive, social and motivational factors which can affect intensity of depression symptoms. In addition, because of the dearth of equivalent findings in research literature, it can infer that effect response of temperament and character aspects on depression intensity was to some extent moderate. So to clarify this point it is necessary the additional research need to be done in this regard.

In line with the findings of other researches (14,42,43) the current study approve the fact that harm avoidance, cooperation , and perseverance have the greatest prediction power in predicting depression symptoms which was indicated in previous studies in the same line. To elucidate the claim can be made that unlike novelty seeking and reward dependency which are permanent in depressive patients in long run, it seems that harm avoidance is greatly affected by dispositional dimensions and accordingly depression process continues. These findings indicate that greater extent

of harm avoidance can serve as barrier against depression symptoms (42,43) and can be regarded as distinguishing factor in dispositional patients (33).

Regarding the current research limitations, a point can be made that the study was restricted to investigation of participants in only one province in Iran and some participants did not fill out the developed questionnaire. In addition, collecting the data based on self-reporting scale may increase the likelihood of information incorrectness as some participants may answer incorrectly to the statements because of unconscious defenses, biases, personal introductions methods. A suggestion can be made regarding carrying out the research in other provinces with different gender group and different aging group to enhance the external validity and generalizability of the study. It is also suggested that the data collecting scales that are not of self-reporting kinds be used to collect the desired data

Conclusion

Depressive people show more levels of novelty seeking, harm avoidance, self-transcendence and have problems in cooperating, self-directing, and perseverance. In addition the aspects of temperament and character are among the determining factors in depressive symptom severity. So it is expected that an interference that aims to lower harm avoidance, self-transcendence and at the same time increase cooperation, self-direction, and perseverance is likely to lower the level of depression and help in curing other disorders as well. It can also provide clinicians with useful information regarding the psychopathology, prevention, and treatment of depression.

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