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# Predicting pathological eating patterns based on the primary object-relations and personality organization

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***Abstract***

**Introduction:** The present study was conducted to predict pathological eating patterns based on primary object relations and personality organization.

**Materials and Methods:** The statistical population of this descriptive-correlational study consisted of Bachelor and Master undergraduate students of Payame Noor University and Islamic Azad University of Qom who were studying in the second semester of the academic year 2016-2017. So, 888 students were selected using multi-stage cluster random sampling method. To collect data, Object Relations Inventory, Kernberg's Inventory of Personality Organization and Garner's Eating Attitudes Test (EAT-26) were used. Data analysis conducted through multiple regression analysis.

**Results:** The primary object relations and personality organization explained 0.23 and 0.17 of the variance of the pathological eating patterns, respectively. The regression coefficient for the primary object relations in the dimensions of inadequacy and insecurity were β=0.29 and β=0.28 respectively. Regression coefficient for primary mental defenses, identity confusion and borderline personality disorder (BPD), with beta coefficients were 0.70, 0.16 and 0.18, respectively that they are predicted positively and suggest the pathological eating patterns at level of 0.01.

**Conclusion:** It is concluded that primary object relations and personality organization can predict pathological eating patterns.

**Keywords:** Pathological eating patterns, Personality, Prediction.

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## Introduction

Eating disorder is one of the most common psychiatric disorders occurring mainly in the early adolescence and youth. Some genetic, psychological, behavioral and environmental factors that vary in different people, contribute to the development of obesity. Nevertheless, the presence of obesity and some psychiatric disorders (such as Binge eating disorder, depression, bipolar disorders, and schizophrenia) are correlated (1). Some patients report eating symptoms that are reminiscent of the condition in people with substance abuse (2).

People with eating disorders generally have a high mortality rate. For example, anorexia nervosa probably has the highest mortality rate among psychiatric disorders (3). Various types of eating disorders are reported in 4% of teenage

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and young students (4). Other determined and undetermined nutrition and eating disorders, not otherwise specified (EDNOS), are the most commonly diagnosed eating disorder (currently about 75% of all cases of eating disorders in the population). Nevertheless, there are few studies and literature about the causative factors of the disorders that include this diagnosis (5). Anorexia nervosa symptoms usually begin at age of 10-30 years, and after age of thirteen, the rate of conversion of these symptoms and patterns to anorexia nervosa increases rapidly. This trend reaches its maximum at the age of seventeen (6). Usually, signs and symptoms of nervous overeating syndrome are more common than anorexia nervosa (3). It is estimated that prevalence of nervous overeating, in its pure form, is 1 to 4% in young women. About 20% of female students at universities show a nervous overeating syndrome over several years at college (7). Some researchers have shown a relationship between anorexia nervosa syndrome and depression, obsession, anxiety and low self-esteem (8).

According to some others, eating disorder is associated with the development of mental illnesses, such as substance abuse, and psychological and behavioral symptoms are more common in these people (9). The mediating role of shame and guilt in eating disorders (10), the prediction of overeating in men and women in the UAE showed that overeating with maladaptive coping styles increases negative emotions, and feeling of loneliness and fatigue. Also, feelings of guilt and excessive concern about body shape and body weight associated with body mass index are considered very important in overeating behavior (11).

Bulimia nervosa symptoms are followed by feelings of guilt and conscience-stricken, depression or hatred. In some sources, anorexia nervosa is reported to be associated with major depressive disorder (50-70%) and with anxiety disorders (65%) (13). The WHO annual report also showed a rising number of patients with eating disorder (14). Eating problems have been raised increasingly over the past 30 years, and have been doubled in the United States over the past four decades (11). Some studies in western societies indicated that 80% of 18-year-old girls with a normal body mass index (BMI) tend to lose weight and develop abnormal eating behaviors that increase their susceptibility to eating disorder (15).

Regarding the Iranian population, Nobakht concludes in his study that the prevalence of eating disorders in Iranian adolescents is consistent with many studies conducted in western populations and is higher than that in most of the studies conducted in the eastern populations (16). Those diagnosed with eating disorder have symptoms overlapping psychiatric disorders such as emotional and mood disorders and personality disorder. For example, there are relationships between cognitive distortions and eating disorders (17), attachment and eating disorders (18), quality of object relations and its correlation with personality disorders, negative affection, impulse control disorder (19), low self-esteem and depression and its role in eating disorders (20). Also, the mediating role of personality traits, family function and attachment styles in eating disorders (21), impulse control and emotional adjustment (22), quality of life, defense mechanisms and ego coordination (23) is identified. The role of low self-esteem in women in relation to eating disorders and alcohol consumption (24), separation from object and self-representations of object and affection between the units of object relations in its formation are considered very important (25). The assessment of object relations as one of the key concepts in psychoanalytic views has attracted the attention of many researchers in recent decades. However, Freud first introduced the term "object" as a mean of satisfying the impulse. Other theorists had a different opinion about object and object relations.

Object relations theory believes that personality is the result of the internalization of the initial relationships that a person has had during the growth. They also regard the initial motivation of human being as object search. They regard object relations as a context in which all of my other functions grow rather than one of my functions. It seems that individual's representations of oneself and others as well as the emotions associated with these representations are common in many definitions of psychoanalytic views. Object relations can be

considered the capacity of individuals for human relationships that are formed in the early years of life (25). From the perspective of object relations, the ability to establish satisfactory mutual relations is partly related to the introjection pattern resulted by initial interactions with parents or other important people (26).

Patients with this disorder will substitute obsessive compulsive eating disorder and weight gain for other natural adolescent issues. Factors such as childhood neuroticism, conflicts with parents, lack of self-empowerment and self-being (26-30), lower intimacy among family members, more intra-psychic conflicts and usually neglected and rejecting parents (31,32). Many of these patients had a history of separation from their caregivers, which manifests itself in the absence of transitional objects in early childhood. These patients use their body as a transitional object (33), and their efforts to separate from the mother's image are expressed in skepticism about food (34). On the other hand, psychological pathology is comprehensible based on the developed conflicts and Ego's inability to make balance between personality levels and could be also understood through identifying the way in which the person controls the conflict (27). In fact, personality structures can be regarded as one of the most effective causes of pathological eating disorder and pathological profile. Kernberg proposed three levels of personality pathology, based on the level of motivation, structure, objet relations and the growth process. He has shown the organization of the normal, borderline, and abnormal personality within a continuum and in a theoretical model (32). He emphasized the function of normal and abnormal personality, personality pathology and the psychological structures of personality. He portrays the organization of the normal, borderline, and abnormal personality within a continuum, in which the interactive role of environmental and biological factors in shaping personality disorders is considered important (32). Kernberg conducted various studies on different diseases and on personality organization, and in some of them he showed a great instability of affection, mood, behavior, and problems related to object relations (33). In his regard, the results showed that these people have negative emotions, including high aggression and neuroticism, obsessive-compulsive thoughts and social anxiety (34-37), serious mental disorder (38), obsessive compulsive disorder, anxiety, depression, extreme anger, low self-control and high readiness for substance abuse (39). The researchers concluded that mental disorders such as depression, anxiety and high levels of conflict, anger, hostility and incompatibility are observed more in families of people with eating disorder compared to the others (40-42). The purpose of this study was to investigate the relationship between personality organization and primary object relations and pathological eating patterns. Therefore, further investigation in this area is necessary to answer the relevant questions.

## Materials and Methods

The statistical population of this correaltional study consisted of undergraduate students of Payame Noor University and Islamic Azad University of Qom who were studying in the second semester of the academic year 2016-2017. To this end, 888 BA and MA students were selected using multi-stage cluster random sampling method. The inclusion criteria included the age of 18 to 30 years, studying at university at the time of research, students' willingness to participate in the research, non-dependency to substances and alcohol, and Persian dialect. The exclusion criteria included the use of prescribed and non-prescribed drugs for weight loss, having certain diseases such as diabetes, thyroid disorders, cardiovascular disease, various types of cancer, central nervous system diseases such as MS, having depression, anorexia nervosa or nervous overeating and incomplete research questionnaires. For data analysis, multiple regression analysis was used. The existence and absence of the above mentioned criteria were assessed through a researcher-made questionnaire. Three questionnaires used to collect data.

Research instrument

*A) BORRTI Form Inventory:* Bell designed BORRTI (Bell Object Relations and Reality Testing Inventory) in 1995. In this inventory, 45 questions address object relations and 45

questions address reality testing or the functions of "Ego", which totally includes 90 questions. The questionnaire includes 4 subscales of social incompetence, egocentricity, insecure attachment and alienation. For the scoring in the questionnaire, two options of yes and no are presented for each question. Bell has reported the reliability coefficient of the object relations scale to be between 0.58 to 0.90 within interval of 2 weeks and between 0.65 and 0.81 within interval of 13 weeks. In this study, the reliability measured by Cronbach's alpha coefficient for incompetence, egocentricity, insecure attachment and alienation variables as 0.74, 0.68, 0.77 and 0.81, respectively (43).

*B) Kernberg's Inventory of Personality Organization (KOI):* It was used in the form of 37 questions of Kernberg's Inventory of Personality Organization (2002). This inventory has three dimensions of reality, primary psychological defenses, and identity confusion. In Kernberg's Model of Personality Organization, the total score for the three factors of primary psychological defenses, identity confusion, and reality testing, expresses the general vulnerability of the personality (pathological personality) and the total scores for the two dimensions of primary psychological defense and identity confusion is considered a general criterion for the borderline personality. Validity and reliability of this questionnaire in Iran were determined by al-Behbahani (44).

The concurrent validity of Inventory of Personality Organization was measured through concurrent implementation of the Buss–Perry questionnaire and the comparison of the positive and negative affections. Correlation coefficients between the Inventory of Personality Organization, subscales of physical aggression, verbal aggression, anger and hostility, and criterion for positive and negative affection were determined to be 0.57, 0.18, 0.39, 0.44, 0.21, 0.40 (16). In this study, the reliability of the test was also measured by Cronbach's alpha coefficient for the variables of primary psychological defenses, identity confusion, reality testing and borderline personality and reported to be 0.58, 0.77, 0.70 and 0.83, respectively.

*B) Earning Attitude Questionnaire (Garner et al., 1982) (EAT-26):* It was used to measure eating disorder patterns (45). Nobakht in 1998, quoted by Meloni et al., showed that this self-assessment tool evaluates a wide range of symptoms related to eating attitudes and behaviors and seems to be the best available questionnaire for assessing the behaviors and attitudes of the pathological eating. It reviews three components of diet: Avoiding high-fat foods and obsession with weight loss. 2. Overeating and food obsession as well as high appetite. 3. Oral control. Controlling the eating and pressure perceived by others to gain weight. Each item is scored on a Likert scale of 6 options (always, most often, very often, sometimes, rarely and never). The answer "always" is scored 3, "most often" is scored 2, "very often" is scored 1, and the three other options, including "sometimes", "rarely" and "never" are scored zero. So, the scores are ranging between zero and 78. The cut-off score of 20 and above for EAT-26 shows the probability of an eating disorder. The content validity of the Persian version of EAT-26 was reported to be desirable and its reliability was measured through test-retest method to be 0.91 (46). In this study, Cronbach's alpha coefficient for overeating, food obsession and oral control were determined to be 0.72, 0.69, and 0.52, respectively.

After arranging the necessary coordination with the universities, obtaining the required letters and permit for action, we referred to the universities. Initially, notifications were made on the notice boards. Moreover, specific days were determined and announced to explain the implementation and the objective of the research in a proper location. During the several group meetings, a brief explanation was provided about the research and its objective, explaining the fact that participation in the research would be optional for all individuals, and no name or address would be asked from them. Meanwhile, to observe ethics, all participants were asked to inform their email address in order to get the results. At first, participants answered the questions in the researcher-made questionnaire based on the inclusion and exclusion criteria and those taking the drug associated with a slimming or obesity diet were excluded. Subjects were then selected over a period of 3 months. Afterwards, researcher-made questionnaire on object relations, personality organization and

eating disorder patterns were distributed among the students. The time required to complete the questionnaire was 30 minutes.

## Results

In the present study, 845 subjects participated. The sample size ratio for each measured parameter was at least 5 (47), of which, 558 ones were female and 287 ones were male, with an average age of 24 years. Of these subjects, 558, 206, 67, and 57 ones were selected from the Faculty of Humanities, Faculty of Engineering, Faculty of Basic Sciences and Faculty of Medical Sciences and Nursing, respectively.

Of these, 631 participants were undergraduate students and 214 ones were post-graduate students. Meanwhile, 345 ones were married and 444 ones were single. In addition, 150 of them reported their fathers have BA degrees. While 49 ones, 138, 441, 45 and 22 ones have fathers with master's degree, school diploma, associated degree, and PhD. have bachelor's degree, and mothers of 27, 142, 476, 28 and 14 ones have master's degree, illiterate, guidance school diploma and high school diploma, associated degree and 14 ones have PhD, respectively. The mean and standard deviation of the research variables are presented in Table 1.

**Table 1.** Descriptive statistics of mean and standard deviations of research variables in the sample group

| Variable | Component | Mean | Standard deviation | Skewness | Cronbach's alpha coefficient |
|---|---|---|---|---|---|
| Pathological eating patterns | Diet Obsession | 9.36 | 2.89 | -0.326 | 0.69 |
| | Overeating | 4.98 | 2.64 | -0.6316 | 0.72 |
| | Oral control | 2.47 | 2.74 | 0.552 | 0.59 |
| Primary object relations | Incompetence | 10.19 | 2.71 | -0.821 | 0.74 |
| | Egocentricity | 12.35 | 2.63 | -0.611 | 0.68 |
| | Insecure attachment | 6.36 | 2.56 | -1.20 | 0.77 |
| | Alienation | 3.62 | 0.941 | 0.756 | 0.81 |
| Personality organization | Primary psychological defenses | 28.87 | 4.45 | 5.04 | 0.58 |
| | Identity confusion | 20.92 | 6.34 | -1.34 | 0.76 |
| | Borderline personality | 48.79 | 8.46 | 0.516 | 0.83 |
| | Reality | 44.98 | 8.14 | -0.228 | 0.70 |

Table 1 shows descriptive statistics of mean and standard deviations of research variables in the sample group. These findings indicate that in the variable of pathological eating pattern (according to the degree of skewness), diet obsession component is higher than the other components, while overeating and oral control are in the second and third positions. In the variable of primary object relations, the components of insecure attachment, incompetence, and egocentricity indicate values higher than the mean in the sample group, but the degree of alienation component is less than the mean. In the variable of personality organization, the components of identity confusion and reality testing show values higher than the mean in the sample group, respectively, but the primary psychological defenses and borderline personality represent low values in the sample group, respectively.

**Table 2.** Pearson correlation test to examine the relationship between variables

| Component | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Diet obsession | 1 | | | | | | | | | | |
| 2. Overeating | 0.466 | 1 | | | | | | | | | |
| 3. Oral control | -0.079 | -0.401 | 1 | | | | | | | | |
| 4. Incompetence | 0.616 | -0.253 | 0.053 | 1 | | | | | | | |
| 5. Egocentricity | 0.639 | 0.248 | -0.025 | 0.891 | 1 | | | | | | |
| 6. Insecure attachment | 0.732 | 0.346 | 0.026 | 0.719 | 0.712 | 1 | | | | | |
| 7. Alienation | 0.470 | -0.228 | 0.017 | 0.598 | 0.659 | 0.447 | 1 | | | | |
| 8. Primary psychological defenses | 0.290 | 0.167 | 0.093 | 0.269 | 0.259 | 0.262 | 0.232 | 1 | | | |
| 9. Identity confusion | 0.197 | -0.091 | 0.037 | 0.165 | 0.217 | 0.228 | 0.156 | 0.203 | 1 | | |
| 10. Borderline personality | 0.300 | 0.156 | 0.021 | 0.265 | 0.299 | 0.309 | 0.239 | 0.679 | 0.857 | 1 | |
| 11. Reality | -0.177 | 0.135 | 0.001 | 0.168 | 0.198 | 0.218 | 0.158 | 0.533 | 0.895 | 0.952 | 1 |

Table 2 of Pearson correlation test shows that all research variables are significantly correlated, except for the oral control with other research variables. The oral control variable is only significantly related with the primary psychological defense variable. Other variables of research have shown a significant relationship at the level of P<0.01. In this research, regression analysis was used to analyze the data. The missing data/complete data ratio in each variable was analyzed separately, which determined that the missing data for each variable was less than 5%. The use of the scatter plot diagrams method confirmed the linearization hypothesis. In this analysis, there was no deviation from the linear multiplication hypothesis in any of the values for tolerance statistics and VIF calculated for research variables. In this section, multiple regression analysis was used to test the pathological eating patterns based on primary object relations and personality organization.

**Table 3.** The results of multivariate regression analysis in predicting pathological eating patterns based on object relations and personality organization

| Variables | B | SE | B | T | Significance level |
|---|---|---|---|---|---|
| Object relations- Incompetence | 0.304 | 0.702 | 0.292 | 4.231 | 0.0001 |
| Object relations- Egocentricity | -0.054 | 0.078 | -0.050 | -0.692 | 0.489 |
| Object relations- Insecure attachment | 0.310 | 0.049 | 0.282 | 6.297 | 0.0001 |
| Object relations- Alienation | -0.040 | 0.121 | -0.013 | -0.334 | 0.739 |
| P ≤0.0001 MS= 391.219 F=(63,486) | adj$R^2$=0.232 | | $R^2$=0.482 | | |
| Personality organization- Primary psychological defenses | 0.444 | 0.034 | 0.701 | 13.035 | 0.0001 |
| Personality organization- Identity confusion | 0.074 | 0.034 | 0.166 | 2.164 | 0.031 |
| Personality organization- Reality Testing | 0.032 | 0.027 | 0.092 | 1.201 | 0.230 |
| Personality organization- Borderline personality | 0.060 | 0.011 | 0.180 | 5.308 | 0.0001 |
| P ≤0.0001 MS= 393.934 F=(59,593) | adj$R^2$=0.175 | | $R^2$= 0.419 | | |

The results of Table 3 showed that the primary object relations at the significant level of 0.01 predicted pathological eating pattern (P<0.0001, F (486.63). The squared multiple correlation coefficient obtained (R2) was equal to 0.23. The regression coefficient for the primary object relations in the dimension of incompetence and insecurity, with beta coefficients (β=29) and (β=0.28), positively predicted pathological eating pattern at level of 0.01. The results also showed that personality organization predicted pathological eating pattern at level of 0.01 (P<0.0001, (F 59.593). The squared multiple correlation coefficient obtained (R2) was equal to 0.17, which means that the personality organization explains 0.17 of the variance of pathological eating patterns. A review of the regression coefficients showed that the regression coefficient of primary psychological defenses, identity confusion and borderline personality with beta coefficients (β=0.70), (β=0.16) and (β=0.16) respectively, positively predicted pathological eating pattern at level of 0.01.

## Discussion

The study results showed that pathological eating patterns were positively predicted and reported through primary object relations and personality organization. This finding is consistent with the results of previous studies (11,28,40-42). In other words, primary object relations are positive predictor of pathological eating patterns. In order to explain the results, one can point out the quote by Winnicott, suggesting that deficiencies in child care may not be genuine, spontaneous, or coherent, and in this case, the child will be filled with various anxieties. These results are consistent with the the object relations theorists and the results of previous studies (48-53). According to Wilson, the clinical presentation of the range of eating disorder can be observed in people with very different personality structures such as psychosis

and borderline personality (54). While some people are characterized more with powerful "Ego" and greater "Super-ego", some may be suffering from a general disability to delay impulse because of having a weaker "Ego" and unrestrained "Super-ego". Overeating and slimming obsession are not necessarily the only impulse problems of this pathological eating attitude, but they can be associated with other impulsivity, self-destructive sexual relationships, and misuse of multiple substances. Rich and Sierpka mentioned some disorders in the verbal communication of patients with eating disorders, such as lack of respect for the others' borders and a thoughtless involvement in their privacy (49). Moreover, these patients often use defenses including emotion reversal and inactive-active switching, and experience conflicting needs in "Super-ego". In some cases, they experience decompositional defense as a means of separating their mental state in order to manage their passionate emotions. The factors presented in psychoanalytic theories are accompanied by certain cognitive characteristics, such as misconceptions about their physical image, all or no thought, magical thinking, and obsessive-compulsive thoughts and ceremonies (55,56).

In order to explain the relationship between pathological eating patterns and pathological personality, according to Kernberg's view, obsession with eating can be rooted in an underlying personality disorder with a doubt about who he is, who he wants to be, with whom he wants to be, the emptiness, intense and unstable interpersonal relationships, inappropriate severe anger, and impulsivity (eating). Therefore, people who were pushed by others for obsession with slimming, food and overeating or weight gain had poor object relations during childhood. Object relations theorists mostly consider further problems in one's life to be affected by the abusive parent-child relationships, and some of the main traits of personality, such as low self-esteem and perfectionism, which are observed among the people with this disorder. Moreover, this theoretical field states that eating disorder symptoms satisfy some needs, such as increasing the individual's sense of efficiency by being successful in continuing a healthy diet or avoiding sexually explicit growth through being very skinny and thus not reaching the feminine normal shape (57).

The children, who feel inadequate in the process of growth and development, try to obtain merit and respect and avoid feeling of helplessness, incompetence and disability through anorexia nervosa (46). It is believed that the feeling of inadequacy is developed by a kind of parenting style in which the parent's demands are imposed on the child without consideration of the child's needs or demands. Children who grow in such way do not learn to identify their own inner states and cannot rely on themselves. In the face of adolescence and youth, these children rely on the community's emphasis on weight loss and turn the diet into a tool for achieving control and identity. Additionally, negative self-perception of weight becomes a big lens from which the child sees his/her other aspects, which thereby, contributes to an undesirable inclusive self-assessment. According to Goodist, nervous overeating in women results from failing to achieve proper self-esteem due to the full of conflict mother-daughter relationship. Food becomes a symbol of this unsuccessful relationship, so that the conflict sign is between the mother's need and her desire to reject the child (57). This study had some limitations. The study samples consisted of students who are a special cultural, social and economic group. Therefore, the generalization of results to a larger community should be performed cautiously. Moreover, the use of self-evaluation tools and the impossibility of qualitative evaluation may lead to bias in responses, which should be taken into consideration. Although the present study is just a preliminary study designed to determine and predict the relationship between the primary object relations and the organization of the personality with pathological eating pattern, it will lead to further research on the predictions of pathological eating pattern in the future. It seems that further studies should be conducted in Iran in the future, especially using longitudinal methods.

It is also suggested that non-student samples, such as clinical samples (with various mental disorders), should be examined using clinical interviews. In practical terms, considering the predictive power of the factors of object

relations and personality organization for the pathological eating pattern in the students, they can be used to diagnose early and prevent eating disorder.

## Conclusion

The results of this study indicated the importance of studying object relations and personality organization in people with eating disorder behaviors.

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