

## Investigating the relationship between body image, deformity and intolerance of uncertainty with emotional regulation of adolescent girls

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### Abstract

**Introduction:** body dysmorphic disorder is an inactive disease with a high prevalence worldwide. The present study was to investigate the relationship between body image, ugliness and intolerance of uncertainty with emotional regulation of adolescent girls.

**Research method:** The research method of this research was correlational and the research population was all female high school students in the 5th district of Tehran, of which 150 students were selected to conduct the research. The research tools include the Intolerance of Indecision Scale (IUS) by Freeston et al. (1994), the Intolerance of Indecision Scale (IUS) by Freeston et al. (1994), the 34-question body shape scale, and a questionnaire on the individual's attitude about his body image (Cash and Mollica, 1990) was the statistical method of the research included parametric tests of Pearson's correlation coefficient and multiple regression (simultaneously).

**Results:** The results showed that the Pearson correlation coefficient between the difficulty of emotional regulation and body image is equal to -0.37 and is significant at the level of ( $P < 0.05$ ). Also, the correlation coefficient between body ugliness and emotion regulation is 0.383 and the correlation coefficient between uncertainty intolerance and emotion regulation difficulty is 0.24 and has a positive and significant relationship at the level ( $P < 0.05$ ).

**Conclusion:** Therefore, in the present study, the degree of indecisiveness in body dysmorphic disorder had a significant difference compared to emotional regulation, and this indicates a very strong relationship between indecisiveness and emotional regulation, and not the lack of relationship between indecisiveness and body dysmorphic disorder.

**Keywords:** emotion regulation, body dysmorphic disorder (BDD), intolerance of uncertainty (IU), body shape image

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## Introduction:

Body dysphoria is a disorder in body image that is characterized by mental preoccupation with one or more defects or defects in physical appearance. These defects are not observable or are unimportant from the point of view of others (1). People suffering from gross body image disorder at some stage of the disorder, repetitive behaviors (such as checking oneself in the mirror, excessive makeup, scratching the skin, seeking reassurance from others) or mental activities (such as comparing oneself with others' appearance) Concerns related to their appearance show themselves (1). In research, it was found that people who have body image disorders, body image and fashion trends are more likely to undergo cosmetic surgery (2).

Intolerance of uncertainty is a transpersonal factor that can help us better understand body image disorder (3). Intolerance of uncertainty is closely related to anxiety, as researchers say that anxiety is a product of intolerance of uncertainty (4). People with intolerance of uncertainty are more likely to perceive ambiguous situations as threatening (4), show more concern (5) and make unreasonable decisions (6). There are also some of these cognitive, behavioral and emotional correlations of impotence intolerance in people suffering from gross body image disorder (5). However, little research has been done on the relationship between impotence and body image disorder. In the research, three studies were conducted, and in the first study, a positive correlation was found between the intolerance of uncertainty and more symptoms of anxiety and depression. In the second study, they found the relationship between intolerance of uncertainty and gross body image disorder higher than the negative effect and intolerance of ambiguity. In the third study, which was conducted in a clinical sample of gross body image disorder, the intolerance of uncertainty was higher than the control group. In fact, higher intolerance of uncertainty predicted functional impairment in the clinical sample (3). In general, research has shown that intolerance of uncertainty and social anxiety are closely related It seems.

Emotion regulation can play an important role by reducing it as adjunctive and rehabilitative treatments in addition to medical treatments. to experience, how to experience and how to express them (8). New researches have found that effective emotion regulation is important for psychological health and difficulty in emotion regulation is associated with a wide range of problematic behaviors and psychological disorders (9). (5). In a research, it was found that there is a significant difference between obese and normal-weight teenagers in terms of body image and social-physical anxiety. Also, there is a high socio-cultural pressure to lose weight and change the body, which is significant in increasing social-physical anxiety (10). It is an indicator of the influence of social factors on these disorders, and it means that more studies should be done on social factors and body image.

From the behavioral point of view, several emotion regulation theories are suggested, which theory of emotional eating should be considered as a coping strategy in response to a psychological upset (11). These views describe forms of eating-related behavior such as eating disorders in response

to emotions. In this regard, Atia and Roberto reported that negative emotions such as anxiety, stress and depression can be strong predictive factors for emotional overeating and overweight. As emotional disorders such as depression, obsession, anxiety and social fear are more common in people with obesity and even in some studies, the prevalence rate of these disorders in these people has been reported up to 37% (12) based on the theory of emotional arousal, overeating It is stimulated by emotional arousals or the level of arousal is reduced (13).

Difficulty in emotional regulation refers to the inconsistent use of emotional regulation strategies, so that it does not lead to appropriate and acceptable cognitive, behavioral or emotional consequences. These disorders are especially seen in societies where fitness and thinness are the criteria of beauty. (14) Having an unfavorable body image reduces self-confidence and weakens a person's self-concept (15). Today, different psychotherapy methods are proposed for the psychological treatment of obesity sufferers. In general, according to what has been mentioned, yes, it seems that there is a significant connection between brain systems and difficulty in regulating emotions with social anxiety; However, the point that the problems are unique to these patients or that they exist in other people, therefore, in the present study, the relationship between body image, obstinacy and intolerance of uncertainty with the emotional regulation of teenage girls is examined.

#### **Research method:**

The research method used in the current research is of the correlation type, which is supposed to investigate the relationship between these two groups. The current research is descriptive in terms of the data collection method, which is carried out within the framework of a predictive correlation scheme. In this study, the research population is all female high school students in district 5 of Tehran. Alborz Girls' High School was selected among the high schools in the region. Simple random sampling was used to conduct the research. The method of conducting the research is correlation. There are three variables, for each variable 50 people and a total of 150 students were selected to conduct the research. Research tool:

**Pictorial scale:** This questionnaire contains 69 items that are answered by the individual and is designed to evaluate the individual's attitude about 2 different dimensions of body image structure. According to the definition of Kash and Prozinski (1983), a person's attitude towards body image includes evaluation, cognitive and behavioral parts, and it also includes the person's awareness of health or the feeling of illness. The first edition of this questionnaire was designed in 1983, which included 294 items and was called BSRQ. In the second edition, duplicate sections were removed and some sections were moved based on new owners. In 1985, Cash, Winstead and Janda used this questionnaire for international research on body image. Among the 31111 participants, 2111 were randomly selected and classified according to age and gender. This questionnaire can be used in people over 15 years of age and is not suitable for evaluating children. 4. The validity of the main parts of the questionnaire was examined and confirmed by Bron, Cash and Miolka (1991). Also, its reliability was reported as 0.81. The sub-scales of this questionnaire are: 5 appearance

evaluation, appearance tendency, fit evaluation, fitness tendency, health evaluation, health tendency, disease tendency, physical satisfaction, mental weight, preoccupation with overweight, each of these areas has 5 points. Although the researchers implement all 69 items, parts such as the physical fitness and health assessment scale can be considered together and in one average, the same can be done about the fitness and health awareness scale.

**Intolerance of Uncertainty Scale (IUS):** This scale was designed by Friston et al. (1994) to measure people's tolerance to uncertain and undecided situations. This scale has 27 questions and the questions are answered on a 5-point scale. Bohr and Dagas (2002) reported the obtained Cronbach's alpha coefficient for this scale as 0.94 and its retest reliability coefficient as 0.74 after 5 weeks. In Hamidpour and Andoz's research (final report under preparation), Cronbach's alpha equal to 0.88 and test-retest reliability (within 3 weeks) equal to 0.76 were obtained for this scale.

**Emotion Regulation Difficulty Scale:** The Emotion Regulation Difficulty Scale (Gertz and Roemer, 2004) is a 36-item instrument that assesses the level of emotional regulation deficits in a five-point scale from 1 (almost never) to 5 (almost always), it measures in six areas as follows: non-acceptance of emotional responses, lack of emotional awareness, difficulty in using purposeful behaviors, difficulty in impulse control, limited access to emotion regulation strategies and lack of emotional clarity. From the total score of the six subscales of the test, the total score of the person is calculated for the difficulty of emotion regulation. A higher score in each of the subscales and the whole scale is a sign of more difficulty in regulating emotions. In previous studies, Cronbach's alpha coefficient for the whole scale was reported as 0.86. The mentioned questionnaire was translated into Farsi and again into English while keeping the main concept and using simple sentences. The translation of the problematic items was re-checked. Then, preliminary studies were conducted to check the accessibility and comprehensibility of the Persian version. For this purpose, preliminary sampling was done three times, and each time the questions that had a low clean coefficient or were conceptually different were revised.

**Body shape questionnaire:** Body dissatisfaction is caused by the feeling of being fat, which has been used in many studies for damaged body image. Body shape questionnaire is generally used to evaluate eating pathology in clinical situations. Evaluations of the 34-item versions show test-retest reliability, internal consistency, construct validity, concurrent validity, discriminant validity, and sensitivity to treatment-related changes. The short forms of the body shape questionnaire include two 16-item short forms and 4 8-item short forms. Each of the body shape questionnaire items is graded based on a Likert scale that ranges from never = 1 to always = 6. The overall score is calculated from the total scores of the items. The cutoff scores for normal and non-normal people are as follows. Also, due to the lack of previous use of this questionnaire in Iran, the reliability and validity of this scale was calculated in this research.

**Results:**

Examining the demographic characteristics of the sample members in this part, after collecting the data and information, using descriptive statistics that include central and dispersion indicators such as frequency percentages and tables, the sample is described.

**Table 1: gender status of the respondents**

Variable	Abundance	Abundance percentage
gender	Boy	0
	Girl	150
	Total	150

In table (1), the gender status of the respondents is given. As observed, all the respondents were girls. In total, high school girls were examined in this study.

**Table 2: Age status of the respondents**

Variable	Ages	Female	
		Abundance	Percent
Age	16 years	126	52/7
	15 years	24	17/3
	Total	150	100

As can be seen in table (2), among the respondents, the highest frequency is related to the age of 16 years and the lowest frequency is related to the age of 15 years.

**Table 3: Descriptive indicators related to body dissatisfaction**

Indicator	Abundance	Percent	Average
No worries about body shape (less than 19)	13	8/7	14/33
Mild anxiety 19 to 25	45	30	23/22
Moderate anxiety (26 to 33)	67	44/7	28/19
Specific concern about body shape (more than 33)	25	16/7	35/48
Total	150	100	26/56

As can be seen in table (3), out of 150 subjects, 13 people, equivalent to 8.7%, had no concern about body shape, 45 people, equivalent to 30%, had mild concern, 67 people, equivalent to 44.7%, had moderate concern, and 25 people the equivalent of 16.7 percent had specific concerns about body shape. The average body dissatisfaction in general was calculated as 26.56 in the average level.

**Table 4: Descriptive indices related to the components of uncertainty intolerance**

<b>Components</b>	<b>Average</b>	<b>standard deviation</b>
Inability to act	3/09	0/105
Stressful without uncertainty	3/21	0/14
Negativity of unexpected events and avoiding them	3/37	0/2
Uncertainty about the future	3/31	0/21
Intolerance of uncertainty (total)	3/34	0/198

As can be seen in Table 4, the component of the negativity of other expected events and their avoidance with an average of 3.37 and the component of inability to perform an action ... with an average of 3.09 had the highest and lowest values, respectively. The maximum and minimum standard deviations belonged to the components of uncertainty about the future (0.21) and inability to act (0.105), respectively.

**Table 5: Descriptive indicators related to body image**

<b>Components</b>	<b>Average</b>	<b>standard deviation</b>
The scale of the body itself	3/26	0/154
The scale of satisfaction with different body parts	3/22	0/164
A scale related to a person's attitude about weight	3/24	0/149
body image	3/24	0/38

As can be seen in table (5), the mean and standard deviation of the scale component related to the body itself is 26.3 and 0.154, the mean and standard deviation of the satisfaction scale for different body parts is 22.3 and 0.164; The mean and standard deviation of the scale related to the person's attitude about weight were calculated as 3.24 and 0.149, and the mean and standard deviation of body image as a whole were calculated as 3.24 and 0.38. Meanwhile, the component of the scale related to the body itself had the highest average and the component of the satisfaction scale of different body parts had the lowest value.

**Table 6: Descriptive indices related to the difficulty of emotion regulation**

Components	Average	standard deviation
Not accepting emotional responses	3/152	0/895
Difficulty engaging in goal-directed behavior	3/144	0/926
Difficulty controlling impulses	3/136	0/895
Lack of emotional awareness	3/077	0/8
Limited access to emotional regulation strategies	3/179	0/760
Lack of emotional clarity	3/105	0/784
Emotional regulation difficulty (general)	3/132	0/734

As can be seen in table (6), among the components of emotional regulation difficulty, the component of limited access to emotional regulation strategies with an average of 3.179 and the component of lack of emotional awareness with an average of 3.07 have the highest and lowest values, respectively. allocated the minimum and maximum standard deviation are respectively related to the components of lack of emotional clarity (0.784) and difficulties in engaging in purposeful behavior (0.926).

According to the results of table (7), if the value of the significance level (sig) is greater than the error value (5%), we conclude the null hypothesis, and if the value of the significance level is smaller than the error value, the hypothesis We conclude one.

As can be seen, according to the results extracted from table (7), the value of sig (significance level) of each of the variables of body dissatisfaction, intolerance of uncertainty, body image and difficulty in cognitive regulation of emotions is greater than the error value (5 percent). ), as a result, the H0 hypothesis is accepted. Therefore, the assumption of normal distribution is accepted and parametric tests are used to test the assumptions.

**Table 7: Kolmogorov-Smirnov test results to check the normality of the variables**

Variable	body dissatisfaction	Intolerance of indecision	body image	Cognitive difficulty regulating emotion	
Number of data	150	150	150	150	
Normal parameters	Overall average	203.86	103.73	177.94	112.91

	standard deviation	6.58	7.91	4.37	5.59
most deviation	Absolute value	0.037	0.062	0.052	0.09
	Positive	0.037	0.062	0.052	0.090
	negative	-0.035	-0.049	-0.079	-0.048
Regression defaults	crookedness	1.02	0.575	0.433	0.750
	Elongation	-1.089	-0.434	-0.388	-1.284
	Variance inflation	2.47	2.66	2.21	2.11
Kolmogorov-Smirnov Z statistic value		0.052	0.264	0.095	0.041
Sig value (two amplitudes)		0.058	0.07	0.12	0.2

There is a relationship between body image, ostracism, and intolerance of uncertainty with emotional regulation. Considering that there was a significant relationship between the predictor variables of body image, ugliness and intolerance of uncertainty with emotional regulation, stepwise regression was used to investigate the role and contribution of each of these variables in emotional regulation, the results of which are shown in the table below. It is observed. Regression analysis provides the possibility for the researcher to predict changes in the dependent variable through independent variables and to determine the contribution of each of the independent variables in explaining the dependent variable. In this research, multiple regression has been used to investigate the main research hypothesis.

Here, body ugliness, body image and intolerance of uncertainty are considered as predictor variables and emotional regulation as a variable (criterion). Table (7) shows the included independent variables, excluded variables and the method used in determining the regression. As this table shows, in order to estimate the equation of the prediction line (regression) for predicting emotional regulation based on the dependent variables of body shapelessness, body image and intolerance of uncertainty from the stepwise regression model. ) has been used, and the results have been tracked in three steps.

**Table 8: Summary of the prediction model of emotional regulation scores based on the scores of the research variables**

Model	independent variable	Correlation coefficient multiple	Coefficient determination	Adjusted determination coefficient	Standard error estimate	Watson camera
1	Body shapelessness	0/383	0/146	0/141	12/29	2/26
2	Body image	-0/37	0/136	0/129	12/12	

3	Intolerance of indecision	0/24	0/057	0/054	11/17
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**Table 9: Regression coefficients for predicting the emotional regulation score based on the scores of the studied variables**

Model	Unstandardized coefficient		Beta	t value	meaningful	Collinearity detection	
	B	standard error				Tolerance	VIF
fixed	34/78	3/22	-	10/78	0/001	-	-
Body shapelessness	0/74	0/15	0/31	4/71	0/001	0/23	4/32
fixed	33/42	4/15	-	8/04	0/02	-	-
Body shapelessness	0/71	0/16	0/30	4/23	0/05	0/44	2/27
Body image	0/12	0/24	-0/13	0/52	0/001	0/28	2/68
fixed	34/15	4/31	-	7/91	0/001	-	-
Body shapelessness	0/65	0/19	0/28	3/37	0/05	0/52	1/92
Body image	-0/17	0/34	-0/05	-0/05	0/001	0/63	1/57
Intolerance of indecision	0/19	0/31	0/07	0/63	0/05	0/33	2/98

As can be seen in Table 9, among the standard coefficients, the highest beta value belongs to the variable of physical deformity (Beta = 0.31). As can be seen, among the predictor variables, the uncertainty intolerance variable is at low levels. A larger VIF value and a tolerance of 0.01 or less indicate multiple collinearities. Since all VIFs in Table 11-4 are less than 10, there is no problem of multiple collinearities.

According to the correlation matrix table between variables, the correlation coefficient between body image and emotional regulation is equal to 0.25. The obtained correlation coefficient is positive and significant at the error level of 0.05 ( $P < 0.05$ ). Therefore, there is a direct and meaningful relationship between the two variables of body image and emotional regulation. Therefore, the first hypothesis of the research will be confirmed.

According to the correlation matrix table between the variables, the correlation coefficient between physical deformity and emotional regulation is equal to -0.18. The correlation coefficient obtained at the error level of 0.05 is negative and significant ( $P < 0.05$ ). Therefore, there is an inverse and significant relationship between the two variables of disorientation and emotional regulation. Therefore, the second hypothesis of the research will be confirmed.

According to the correlation matrix table between the variables, the correlation coefficient between uncertainty intolerance and emotional regulation is equal to -0.213. The correlation coefficient obtained at the error level of 0.05 is negative and significant ( $P < 0.05$ ). Therefore, there is an inverse and significant relationship between the two variables of uncertainty intolerance and emotional regulation. Therefore, the third hypothesis of the research will be confirmed.

### **Discussion and conclusion:**

The purpose of the present study was to investigate the relationship between body image, ugliness and intolerance of uncertainty with emotional regulation in adolescent girls. The results showed that there is a relationship between body image, ostracism and intolerance of uncertainty with emotional regulation. The variance analysis test shows the significance of the regression model for predicting emotional regulation based on the scores of the research variables. As can be seen, the value of F calculated in the first step is 22.47 and in the last step it is 5.89, which is significant at the  $P < 0.01$  level. So it can be concluded that the scores of the studied variables can predict emotional regulation. The results of this finding are in line with the results of Regents and Bolen's research. The results of their research (16) showed that intolerance of uncertainty is an important factor for body image and body image is aligned with emotional regulation. In line with this research, we can refer to Najarkakhi's research, which investigated and compared the lack of indecision in people with disordered emotional order and normal people, and in people with disordered emotional order, intolerance of uncertainty had a higher average.

In explaining this finding, it can be said that intolerance of uncertainty can be considered as a personality trait. Inability to accommodate the unknown is a powerful factor in the vulnerability associated with many psychological disorders (17). Intolerance of uncertainty is defined as a cognitive construct and when events are indescribable, it tends to receive and interpret them negatively (4) People who have a high intolerance of uncertainty tend to perceive ambiguity as a threat. evaluate and experience more physiological arousal (3).

In addition, the difficulty in tolerating uncertainty may be related to the tendency to believe that uncertainty in itself is disturbing and unfavorable and should be avoided (4). In social situations in which a person is evaluated, one of the characteristics of these situations is usually being vague and unpredictable; Therefore, when a person is placed in such uncertain, ambiguous and unpredictable situations, he gets stressed, and the person is likely to stop what he intends to do in this situation; But this feature cannot be seen in body disfigurement because in this problem, the person feels uncomfortable with their current physical condition. Therefore, in the present study, the degree of indecisiveness in body dysmorphic disorder had a significant difference compared to emotional regulation, and this indicates a very strong relationship between indecisiveness and emotional regulation, and not the lack of relationship between indecisiveness and body dysmorphic disorder. As it was said, Asadi Mujareh et al stated that people with intolerance of uncertainty have a stronger tendency to interpret and interpret ambiguous information as threatening, which may

lead to an increase in the level of anxiety and excitement about the interpretation of the desired concepts.

According to the correlation matrix table between variables, the correlation coefficient between body image and emotional regulation is equal to 0.25. The obtained correlation coefficient is positive and significant at the error level of 0.05 ( $P < 0.05$ ). Therefore, there is a direct and meaningful relationship between the two variables of body image and emotional regulation. Therefore, the first hypothesis of the research will be confirmed. These findings are in line with the findings of previous researches. For example, Shahen et al., Lee, Fikrat et al., and Karimi Dehkordi (17) achieved the same results in their research. Also, the results of the present research report the existence of a positive and significant relationship between body image and emotional regulation. The better a person has a body image, the more balanced emotions he has. Swami et al., Matz and Kahn, Galian et al., and Soleimianian et al. confirm this finding in their research. On the other hand, according to the results of the present study, Otto et al., Burns et al., and Taravat also showed that the higher the emotional regulation skill in a person, the more appropriate his body image is.

According to the correlation matrix table between the variables, the correlation coefficient between physical deformity and emotional regulation is equal to -0.18. The correlation coefficient obtained at the error level of 0.05 is negative and significant ( $P < 0.05$ ). Therefore, there is an inverse and significant relationship between the two variables of disorientation and emotional regulation. Therefore, the second hypothesis of the research will be confirmed. The results of this finding are in line with research (18) that examined and compared the difficulty of emotional regulation in anxious people and people with body dysmorphic disorder. In this context, according to Karvareh and Smith, emotion regulation can play an effective role in social interactions.

According to the correlation matrix table between the variables, the correlation coefficient between uncertainty intolerance and emotional regulation is equal to -0.213. The correlation coefficient obtained at the error level of 0.05 is negative and significant ( $P < 0.05$ ). Therefore, there is an inverse and significant relationship between the two variables of uncertainty intolerance and emotional regulation. Therefore, the third hypothesis of the research will be confirmed. The results of the research by Bahr and Dagas (4) are Sugiura, Friston and colleagues. Also, in the experimental research of Dagas and Ladasser (4), the subjects whose intolerance of uncertainty had increased showed a high level of anxiety in comparison with the participants whose intolerance of uncertainty had decreased, and they acknowledged that intolerance of uncertainty plays a key role in Creating and maintaining concerns. In the explanation of the present research, it can be acknowledged that people with intolerance of uncertainty have a strong tendency to interpret and interpret ambiguous information as threatening, which may lead to increased levels of worry and anxiety about the interpretation of the desired concepts. The uncertainty intolerance model is one of the new perspectives in explaining generalized anxiety disorder, which was proposed by Dagas and colleagues (4).

**Applied results of the research:**

The results showed that in the current study, the degree of indecisiveness in body dysmorphic disorder had a significant difference compared to emotional regulation, and this indicates a very strong relationship between indecisiveness and emotional regulation, and not the lack of relationship between indecisiveness and body dysmorphic disorder.

**Conflict of interest:**

The authors hereby declare that this work is the result of an independent research and does not have any conflict of interest with other organizations and persons.

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**Resources:**

1. Ganji, Mehdi, DSM-5 psychopathology, translator: Ganji. Tehran. Savalan publication. Third edition; 2014.
2. Zoghipaidar MR., Karami A., Nabizadeh S.. Compare body image disorder, body dysmorphic disorder and fashion trends in cosmetic surgery applicants and non-applicants, *J Health Psychology*, 2018; 7(26): 7-24.
3. Summers B.J., Matheny N.L., Sarawgi S., Cogle J.R.. Intolerance of uncertainty in body dysmorphic disorder. *Body Image*; 2016; 16: 45-53.
4. Dugas M.J., Hedayati M., Karavidas A., Buhr K., Francis K., Phillips N.. A. Intolerance of uncertainty and information processing: Evidence of biased recall and interpretations. *Cognitive therapy and research*, 2005; 29(1): 57-70.
5. Buhlmann U., Etkoff N. L., Wilhelm S.. Facial attractiveness ratings and perfectionism in body dysmorphic disorder and obsessive-compulsive disorder. *Journal of anxiety disorders*; 2008; 22(3): 540-547.
6. Bohon C., Hembacher E., Moller H., Moody T. D., Feusner J.D. Nonlinear relationships between anxiety and visual processing of own and others' faces in body dysmorphic disorder. *Psychiatry Research: Neuroimaging*; 2012; 204(2): 132-139.
7. Zakeri M., Hasani J., Esmaeili N. Effectiveness of Processing Emotion Regulation Strategies Training (PERST) in Alexithymia of Patient with Psoriasis. *J Clinical Psychology*, 2017; 9(2): 97-111.

8. Gratz K.L., Rosenthal M.Z., Tull M.T., Lejuez C.W., Gunders J.G. An experimental investigation of emotion dysregulation in borderline personality disorder. *J of Abnormal Psychology*; 2006 115(4): 850– 855.
9. Kun B., Demetrovics Z. Emotional intelligence and addictions: A systematic review. *Substance Use & Misuse*; 2010; 45(7-8): 1131–1160.
10. Poursharifi H., Hashemi nosrat abad T., Ahmadi M. Comparison of body image problems and social physique anxiety between obese and normal weight adolescents: the moderating role of sociocultural influence on weight loss and body change. *Quarterly j health psychology*, 2017; 6(21): 86-103.
11. Mikolajczak M., Petrides K. V., Hurry J. Adolescents choosing self- harm as an emotion regulation strategy: The protective role of trait emotional intelligence. *British J Clinical Psychology*, 2019; 48(2): 181–193.
12. Wilhelm S., Phillips K.A., Steketee G. *Cognitive-behavioral therapy for body dysmorphic disorder: A treatment manual*. New York: Guilford Press; 2018.
13. Jafferany M., Franca K., Vashi N.A. Diagnosis of Body dysmorphic disorder. In N. A. Vashi, (Ed), *Beauty and Body Dysmorphic Disorder*, Switzerland: Springer International Publishing; 2018: 103-113
14. Greenberg J.L., Mothi S.S., Wilhelm S. Cognitive-Behavioral Therapy for Body Dysmorphic Disorder by Proxy. *Behavior Therapy*; 2016; 47(4): 515-526. Doi: 10.1016/j.beth.2016.01.002.
15. Phillips K.A. Body dysmorphic disorder: Clinical aspects and relationship to obsessive-compulsive disorder. *Clinical Synthesis*; 2015; 13(2): 162-174.
16. Kesler S.R., Lacayo N.J., Jo B. A pilot study of an online cognitive rehabilitation program for executive function skills in children with cancer-related brain injury. *Brain Injury*, 2020; 25(1): 101–112.
17. Sadock B.J., Sadock V.A. Kaplan, Sadock S. *Synopsis of Psychiatry/ Behavioral Sciences/ Clinical psychiatry*. 10 th ed. Philadelphia, Lippincott Williams & Willkins; 2007: 110-8
18. Tashke M., Davazdah emami M. H., Bakhtiyari M., Jafari M. Comparison of intolerance of uncertainty and difficulties in emotion regulation in individuals with Body Dysmorphic and Social Anxiety, *Quarterly j health of psychology*, 2018; 7(27): 113-130.