

## ORIGINAL RESEARCH

### The role of difficulty in emotion regulation and body image disorder in prediction unhealthy eating behavior and attitude in adolescent girls

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#### Abstract

**Objective:** One of the most important traumatic problems among adolescent girls is unhealthy eating behaviors and attitudes among them, which can increase stress in normal relationships and also damage their physical and mental health. Therefore, the present study aims to determine the role of difficulty in emotion regulation and body image disorder in prediction unhealthy eating behaviors and attitudes in adolescent girls in Kermanshah.

**Materials and Methods:** The method of the present study was descriptive of correlation type and the statistical population included all adolescent girls in Kermanshah in 2019. By available sampling method and based on Morgan table, 350 people were selected as a sample. Research instruments included the Unhealthy Eating Behaviors and Attitudes Scale, the Grater and Roemer emotion regulation scale, and the Lillton body image anxiety questionnaire, all three of which were valid and reliable. To analyze the data, Pearson correlation and stepwise regression analysis were used simultaneously, which the data were finally analyzed by SPSS-22 software.

**Results:** the components of difficulty in emotion regulation and body image disorder have a significant effect on unhealthy eating behaviors and attitudes. The predictor variables of both can accurately explain 9% of unhealthy eating behaviors and attitudes.

**Conclusion:** The results showed that unhealthy eating behaviors and attitudes in adolescent girls could be a challenge in the mental and physical health of this group. Therefore, it is suggested that health counselors and therapists pay attention to this important issue.

**Keywords:** Unhealthy eating, Emotion regulation, Body image, Girls

## Introduction

Eating behaviors play the main role in sensing mental well-being and preventing chronic diseases such as heart disease, diabetes, high blood pressure, stroke, cancer, and asthma (1). Eating disorders are one of the most challenging diseases of adolescence (2). The incidence of this disorder has increased in the second half of the twentieth century and the average age of onset is 18 to 25 years. The main symptoms of eating disorders include anorexia nervosa, bulimia nervosa, and binge eating disorder (3). The prevalence of eating disorders in adolescent girls has been reported to be 6.6% (4). Over the years, identifying the factors that influence the persistence and development of unhealthy eating behaviors has become the focus of further research (5). Unhealthy eating behaviors are on the rise among adolescents, especially girls (4). Unhealthy eating behaviors are abnormal behaviors associated with eating disorders (6). Eating attitudes also include beliefs, thoughts, feelings, behaviors, and nutritional factors (7). How people perceive eating attitudes and nutrition-related factors can help them better understand what is related to eating, such as food choices and types, as well as their perceptions, attitudes, and behaviors toward eating (8). In the research of Hatamian and Moradi (2017) which was conducted to compare unhealthy eating behaviors and attitudes and negative repetitive thoughts in nurses, the results showed that these behaviors and eating attitudes are influenced by various factors (9).

One of the variables that in research shows that people with disordered eating behaviors show deficiency is emotion regulation (10). In recent years, a large body of research has focused on the use of emotion regulation strategies in people with eating disorders. This research interest stems from empirical findings that show that negative emotions are a constant precursor to eating disorders (11). Neuro-biological processes in the regulation of eating, including the control of eating behaviors, indicate that eating is strongly influenced by emotions. Therefore, if emotion regulation is impaired, regulation in other areas such as controlling eating behaviors can be affected (12). Lehar et al. (2015) found in a study that overweight and obese women were less aware of their emotions compared to the

healthy group and had difficulty modulating their emotions (13). Such findings highlight the importance of the role of emotion regulation.

Another psychological variable that can play a role in the disorder of unhealthy eating behaviors and attitudes is body image disorder. The lifetime prevalence of a complete diagnosis of eating disorder is relatively low (around age 12) but a significant proportion of adolescents, especially adolescent girls, report the signs of eating disorders (such as weight and body shape concerns) and behaviors (such as overeating and extreme exercise). (14). Body image is an image of the body that a person forms in his/her mind, the feeling that a person has about his/her body and is satisfied with it is influenced by how the person compares these criteria (15). In Iran, the research of Mohammadzadeh, Ghavami, and Mahmoudi (2014) which was conducted to link eating disorders, physical dissatisfaction with the stages of behavior change in physical activity showed that there is a positive and significant relationship between eating disorders and dissatisfaction with body image (16).

It is clear that adolescence and puberty is one of the most sensitive periods of life, especially in adolescent girls, that is, it is a time when, given the changes in appearance, their perception of themselves becomes important, so it can be said that because of this mental occupation, they cultivate a sense of shame in themselves and paying attention to this issue causes the person to avoid situations and as a result, the academic and social performance of the person is disrupted. Considering the physical, psychological, and social consequences of unhealthy eating beliefs and attitudes, it is important to identify the components related to this issue. Therefore, considering that no comprehensive research has been done in this direction so far and even the researches that have been done in this regard are very limited and incomplete, so according to the existing problem that leads to a vacuum in this field, this research aimed to investigate the role of difficulty in emotion regulation and body image disorder in predicting unhealthy eating behaviors and attitudes among adolescent girls.

## Materials and Methods

The present study design is descriptive in correlation type. The statistical population of the present study included all adolescent girls in Kermanshah, which according to Morgan's table, 350 people were selected by available sampling method (by referring to places where such a community could be present). After selecting adolescent girls and giving a brief explanation and involving them, research questionnaires on unhealthy eating behaviors and attitudes, difficulty in regulating emotion, and concern about body image were given to them and to observe research ethics and individual's rights they were asked not to participate in the questionnaires if they did not wish to do so. Finally, it was explained that the questionnaires are confidential and anonymous, the results of which are for research work. After collecting the questionnaires, they were analyzed by the required statistical tests and by the statistical program SPSS-22.

**Emotion Regulation Difficulty Questionnaire:** The scale introduced by Grits & Roemer (2004) was used to assess the difficulty of emotion regulation (17). This questionnaire consists of 36 items and 6 subscales. The subscales of this questionnaire include not accepting emotional responses, difficulty in performing purposeful behavior, difficulty in controlling impulse, lack of emotional awareness, limited access to emotion regulation strategies, and lack of emotional clarity. Total internal reliability is 93% and for each subscale expressed, respectively, 85%, 89%, 80%, 88% and 84% (18). According to the internal reliability study conducted by Alavi, the total internal consistency is reported to be 86%. The higher the person's score, the lower the emotion regulation (19).

**Body Image Concern Questionnaire:** This 19-item questionnaire was developed by Littleton et al. (2005) which examines a person's dissatisfaction and concern about his appearance. The score of this questionnaire is 5-point Likert and the total score of the questionnaire varies between 19 and 95. A higher score indicates a higher level of dissatisfaction with the body image or appearance. Littleton et al. Evaluated the reliability of this questionnaire by internal

consistency method and obtained a Cronbach's alpha coefficient of 93% (20). Entezari and Alavizadeh (2013) also reported 89% internal consistency using Cronbach's alpha method (21).

**Unhealthy Eating Behavior and Attitude Scale:** The Eating Feedback Test is used as a tool for eating disorders and morbid behaviors developed by Williamson (1990) (22). A 40-item or 26-item form can be used. The correlation between the 26-item form and the 40-item form is 0.98. The 26-item form has three subscales, which include the slimming subscale, the overeating subscale, and the mental preoccupation with food, and the oral restraint subscale. The score of this test is graded on the Likert scale. For each phrase the answer "always" gets 3 points, "most of the time" 2 points, "very often" 1 point, and the remaining three options including "sometimes", "rarely" and "never" get zero points. So, the 26-item form scores can be from zero to 78. Materials for the weight loss diet subscale are 1, 6, 7, 10, 11, 12, 14, 16, 17, 22, 23, 24 and 25, materials for the overeating scale are 3, 4, 9, 18, 21, 26 and materials for Oral restraint subscales are 2, 5, 8, 13, 15, 19 and 20. A score of 20 or higher for the 26-item form indicates the possibility of eating disorders. The validity of the alpha coefficient is 0.94 and validity is 0.67 (22).

Finally, correlation coefficient, stepwise regression analysis were used to analyze the findings while examining descriptive statistics, which were analyzed using the SPSS-22 statistical program.

## Results

The sample of the present study included 350 people. Table 1 shows the mean and standard deviation of research variables in the sample.

Table 1 - Mean and standard deviation of the studied variables

Variable	Minimum	Maximum	Mean	Standard deviation
Difficulty in emotion regulation	42	149	91.52	20.258
Body image disorder	19	91	43.66	14.424
Unhealthy eating behaviors and attitudes	0	44	14.08	8.812

The Pearson correlation coefficient test was used to examine the correlation between the difficulty of emotion regulation and body image disorder with unhealthy eating

behaviors and attitudes, and the results of the analysis are shown in Table 2.

Table 2: Correlation coefficient between the components of difficulty in emotion regulation and body image disorder with unhealthy eating behaviors and attitudes

Variables		Unhealthy eating Behaviors and attitudes Correlations	Significance
Components of difficulty in emotion regulation	Not accepting emotional responses	0.304	0.001
	Difficulty in performing purposeful behavior	0.057	0.142
	Difficulty in controlling impulse	0.139	0.004
	Lack of emotional awareness	-0.057	0.143
	Limited access to emotion regulation strategies	0.214	0.001
	Lack of emotional clarity	0.101	0.030
The total score of Difficulty in emotion regulation		0.234	0.001
The total score of body image disorder		0.168	0.001

The results of Table 2 show that there is a correlation between components of difficulty in emotion regulation (except difficulty in performing purposeful behavior and lack of emotional awareness) and the total score of body image disorder with unhealthy eating behaviors and attitudes.

Stepwise regression analysis was used to predict unhealthy eating behaviors and attitudes based on the variables of difficulty in emotion regulation and body image disorder, which is summarized by the results of regression analysis in Table 3.

Table 3: Results of regression analysis to predict unhealthy eating behaviors and attitudes based on stepwise method

Step	R	R 2	F	Sig
2	0.300	0.090	5.957	0.015

As shown in Table 4, the regression model is performed in 2 steps, That in the second step not accepting emotional responses from components of difficulty in emotion regulation and body image disorder can together predict 9% of changes in unhealthy eating behaviors and attitudes.

Table 4: Regression coefficients for predicting unhealthy eating behaviors and attitudes based on stepwise method

step		B	$\beta$	t	sig
2	Not accepting emotional responses	0.085	0.215	3.800	0.001
	body image disorder	0.056	0.138	2.441	0.015

The results of stepwise regression analysis show that in the second step not accepting emotional responses (difficulty in emotion regulation) and body image disorder with impact coefficients of 0.215 and 0.138, respectively, can predict the tendency to unhealthy eating behaviors and attitudes.

## Discussion

This study aimed to investigate the role of difficulty in emotion regulation and body image disorders in predicting unhealthy eating behaviors and attitudes in adolescent girls. The results showed that there is a correlation between the Components of difficulty in emotion regulation and body image disorder with unhealthy eating behaviors and attitudes. The results also showed that not accepting emotional responses and body image disorders can predict unhealthy eating behaviors and attitudes. Such a result is consistent with the research of Lehar et al. (2015); Mohammadzadeh, Ghavami, and Mahmoudi (2014) (13, 16). Also, the results of Pricilla et al. (2016) study conducted among college women showed that the rate of depression and physical dissatisfaction is higher among women who are exposed to eating disorders (23). Also, Maria et al. (2016) study on the relationship between eating behaviors, body image anxiety, and self-esteem conducted in a sample of 750 adolescent girls showed that high scores on eating attitudes are associated with high levels of dissatisfaction with body image and unhealthy eating behaviors with body satisfaction, low self-esteem, and perfectionism in girls (24). Khodapnah et al. (2015) in their study, aimed to mediate the role of cognitive emotion regulation in the relationship between brain-behavioral systems with eating behaviors in overweight and obese people, the results showed that incompatible emotion regulation has a significant relationship with unhealthy eating behaviors (25).

Explaining the findings, it can be said that one of the principles of success in life is the ability to understand, manage, and regulate emotion in life, and failure in emotional regulation can have negative consequences such as eating disorders. That is, if adolescent girls are unable to regulate their emotions promptly, it can lead to unhealthy eating behaviors and attitudes in them.

On the one hand, the growing obesity in developing countries, including Iran, causes effective physical illnesses and on the other hand causes mental and psychological problems, especially since widespread warnings in this regard and widespread propaganda in the field of fitness and some attractiveness had effects on the young

generation and forces them, willingly or unwillingly, to adopt behaviors such as eating disorders, which will cause more and more worries for themselves and their families (26). Therefore, it can be explained and interpreted that if the idealizations of body image anxiety in people (especially adolescent girls) are not studied and considered, it can lead to very negative consequences such as unhealthy eating behaviors and attitudes. Therefore, it is better to consider programs to control and monitor them.

Finally, it can be concluded from the findings that difficulty in emotion regulation and body image disorder can all together predict some changes in unhealthy eating behaviors and attitudes. Certainly, the present study, like any other research, has a series of limitations, since many of the characteristics of unhealthy eating behaviors and attitudes seem to originate from cultural beliefs, so it is suggested that in future research, the role of cultural issues and another

psychological component should be paid to the study of unhealthy eating behaviors and attitudes. Regarding the limitations of the research, it should be said that because the research sample included female adolescents, it was cautious to generalize the results to other communities and age groups, and changes.

#### **Conflict of interest**

Authors declare no conflict of interest.

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