



## Structural equation modeling of eating attitude based on self-differentiation with the mediation of emotion regulation difficulty in college students

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### ABSTRACT

**Background and Aim:** Today, eating disorders are one of the most common mental disorders that cause many problems in physical health, mental functioning, and quality of life. This research was conducted with the aim of modeling structural equations of eating attitude based on self-differentiation with the mediation of emotion regulation difficulty in students of Islamic Azad University, Zanjan branch. **Method:** The method of conducting the research was correlational using the SEM structural equation modeling method and the statistical population of this research included all undergraduate students in the number of 4730 people. 399 people were selected by cluster sampling method. The research tools included Garner and Garfinkel's (1979) eating attitude test, Drake, Murdock, Marszalek and Barber's (2015) short form of differentiation inventory and Gratz and Roemer's (2004) emotion regulation difficulty scale. To collect data, descriptive and inferential statistics and structural equations were used using SPSS26 and AMOS24 software. Bootstrap method was used in MACRO program to analyze mediating relationships. **Results:** The findings showed that the relationship between the structural model of eating attitude based on self-differentiation with the mediation of students' emotion regulation difficulty has a good fit. Differentiation relationship with negative and inverse eating attitude ( $\beta=0.33$ ;  $P<0.001$ ), the relationship of emotion regulation difficulty with direct and positive eating attitude has been estimated ( $\beta=0.23$ ;  $P=0.010$ ). **Conclusion:** The findings of this study emphasize the effective role of differentiation and emotion regulation in students' eating disorder attitude. Therefore, the necessary training to regulate and control emotions should be done in this important segment of the society, in order to prevent the complications and consequences of disordered eating attitude, which is eating disorders.



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## Introduction

Eating disorders are a group of syndromes characterized by eating behaviors and psychological disorders accompanied by weight changes or social disorders that significantly impact the quality of life and social functioning (Kian et al., 2021). The prevalence of eating disorders and related problems has increased significantly over the past thirty years (Stice, Shaw, & Marty, 2007). Disturbed attitudes towards eating include abnormal attitudes and views about the current and ideal weight, eating behaviors such as dividing food into small pieces (mental occupation with the contents of food and their metabolism in the body and using the method Special measures to eliminate food from the body) such as vomiting. Entering university can be considered a high-risk environment for eating disorders due to the high prevalence of dieting, body dissatisfaction, and disordered eating among students' peers. Longitudinal studies have shown that undiagnosed eating disorders often increase eating pathology (Landro & Short, 2010). In this regard, recent models of the etiology of eating disorders have focused on the role of "emotion regulation" as a key factor along the continuum of eating disorders (Sovaldi, Grippenstro, Tochen-Kafir, & Ehring, 2012). Emotional regulation, including the use of behavioral and cognitive strategies, is used to change the duration or intensity of the experience of an emotion and includes any coping strategy that people use when facing intense emotions. do

Another important factor that can affect eating attitude is self-differentiation. According to Bowen (1978), self-differentiation refers to a person's ability to differentiate themselves from their original family on an emotional and intellectual level. There are two levels of differentiation: intrapersonal and interpersonal. At the intra-individual level, self-distinction refers to a person's ability to distinguish emotions from thoughts and refers to logical or rational thinking and includes emotional reactivity (i.e. the degree to which a person responds to an environmental stimulus with excessive sensitivity or with emotional variability) gives) and my position (means having specific opinions and beliefs in life).

Differentiated people have a strong personal identity or strong self-esteem and do not change their behavior and opinions in order to gain the approval of others. At the interpersonal level, self-distinction indicates a person's ability to express his own views, values, and limitations, maintain independence while maintaining close and meaningful relationships with others, and include emotional separation (fear of intimacy and feeling hurt). It is excessive receptivity in relation to others) and in mixing with others (meaning involvement in excessive emotional relationships with others) (Lam & Chan-Su, 2015).

## Method

The method of conducting the research was correlational using the SEM structural equation modeling method and the statistical population of this research included all undergraduate students in the number of 4730 people. 399 people were selected by cluster sampling method. The research tools included Garner and Garfinkel's (1979) eating attitude test, Drake, Murdock, Marszalek and Barber's (2015) short form of differentiation inventory and Gratz and Roemer's (2004) emotion regulation difficulty scale. To collect data, descriptive and inferential statistics and structural equations were used using SPSS26 and AMOS24 software. Bootstrap method was used in MACRO program to analyze mediating relationships.

## Tools

**1. Demographic information questionnaire.** This questionnaire collected demographic variables (age, gender, marital status, height, and weight) and questions related to entry and exit criteria.

**2. Eating attitude test.** Garner and Garfinkel designed this questionnaire, and its original form contains 26 questions. Each question is graded on a Likert scale. For the "always" option, a score of 3, "most of the time" a score of 2, "many times" a score of 1, and the remaining three options, including sometimes, rarely, and never, are given a score of zero. Therefore, the range of questionnaire scores can be from zero to 78.

**3. Short form self-differentiation list.** The revised Self-Differentiation Questionnaire was prepared in the short form of Drake, Murdock, Marszalek, and Barber (2015) and has 20 questions that measure four subscales of emotional reactivity, my situation, integration with others, emotional avoidance, and integration with others. Grading is done in the spectrum of 6 options, which is very high 6 points, high 5 points, medium 4 points, I don't know 3 points, little 2 points, very little 1 point.

**4. Scale of difficulty in emotion regulation.** This scale was developed by Gratz and Roemer (2004) based on the integrated model of emotion regulation. And it measures the individual's ability to moderate emotional arousal, the level of emotional awareness, understanding and acceptance of emotional arousal, and the capacity to function in daily life despite the individual's emotional states. This scale consists of 36 items that make up a total score and six subscales. The subscale of non-acceptance of emotional responses (6 items), the subscale of difficulty engaging in purposeful behavior (5 items), the subscale of difficulty in impulse control, the subscale of lack of emotional awareness, the subscale of limited access to emotional regulation strategies and the subscale of lack of emotional clarity that People should indicate their answer on a 5-point Likert scale.

### Results

In order to check the normality, the skewness coefficient and kurtosis coefficient were used, and the results showed that the data of the present study were normal. Also, the value of the variance inflation factor and the Durbin-Watson test obtained for the variables are smaller than 10, indicating no multiple collinearities between the variables.

According to the results of the correlation matrix, there is a negative and significant relationship between self-differentiation with the difficulty of emotion regulation ( $r=-0.660$ ) and eating attitude ( $r=-0.220$ ) ( $P<0.001$ ). Also, there is a positive and significant relationship between the difficulty of emotion regulation and eating attitude ( $r=0.197$ ) ( $P<0.001$ ).

Some fit indices such as PCFI=0.648, PNFI=0.627, CMIN/DF=4.873 indicate the appropriate fit of the proposed model with the

data. But the rest of the indicators show that the proposed model needs some modifications to improve the fit. In this section, the measurement model and the structural model of the proposed research model are presented. The coefficients of the eating attitude subscales in the proposed research model for the sample of subjects are relatively medium to high and significant. In this model, the subscales of mental preoccupation with food and overeating, diet and lack of control in eating have a significant role in measuring the structure of eating attitude with factor loadings of 0.43, 0.38 and 0.50, respectively. Also, the coefficients of the emotion regulation difficulty subscales (apart from the limited access to emotion regulation strategies) in the proposed research model for the sample of subjects are relatively high and significant. In this model, the subscales of non-acceptance of negative emotions, difficulty in performing purposeful behaviors, difficulty in restraining impulsive behaviors, lack of emotional awareness, and lack of emotional clarity have factor loads of 0.73, 0.79, 0.83, and 0.88, respectively. 0 and 0.54 have a significant role in measuring the structure of emotion regulation difficulty. The coefficients of the self-differentiation subscales in the proposed research model for the sample of subjects are relatively high and significant. In this model, the subscales of emotional reactivity, my place, emotional escape and integration with others with factor loadings of 0.74, 0.47, 0.52 and 0.76, respectively, have a significant role in measuring the differentiation structure. They have their own findings.

The coefficient of self-differentiation on eating attitude has been calculated as -0.339, whose t value is -6.101, and its absolute value is higher than 1.96. Therefore, the null hypothesis is rejected and the opposite hypothesis is accepted with 95% confidence. Therefore, self-differentiation has a significant and negative relationship with students' eating attitude. The path coefficient of the difficulty of emotion regulation on eating attitude has been calculated as 0.230, whose t value is 2.541 and is higher than 1.96. Therefore, the null hypothesis is rejected and the opposite hypothesis is accepted with 95% confidence.

Therefore, the difficulty of emotional regulation has a significant and positive relationship with students' eating attitudes. In the final model of the current research, there are four indirect or intermediary paths. The bootstrap method was used to determine the significance of the mediation relationship and the indirect effect of the independent variable on the dependent variable through mediation. The lower confidence interval limit for the difficulty of emotion regulation as a mediating variable between self-differentiation and eating attitude is (-0.1066) and its upper limit is (-0.0719). The confidence level for this confidence interval is 95% and the number of bootstrap resampling is 5000. The indirect relationship between the variables is meaningful because zero is outside this confidence interval. In addition, the results of the bootstrap test also showed that this indirect relationship is significant at the  $P < 0.05$  level. Therefore, the difficulty of emotion regulation through self-differentiation has an indirect relationship with eating attitude.

### Conclusion

This research was conducted to model the structural equations of eating attitude based on its differentiation with the mediation of emotion regulation difficulty in the students of Islamic Azad University, Zanjan branch. The results showed that self-differentiation significantly correlates with students' eating attitudes.

According to the evidence of studies, differentiation patterns have a significant role in the psychological variables of people. In addition, a statistically significant relationship has been seen between low levels of differentiation and a lack of adaptation and coping skills. Therefore, the results of the present study can be justified. In the explanation of the mentioned results, it can be said that people with the need for independence try to distinguish themselves from others; now if the family opposes the individual on this path, the possibility of losing "self" increases and the process of achieving differentiation is disturbed, so they do not deal sensibly with the problems of life, and when problems arise, they try to increase those symptoms while not controlling their

emotions. Therefore, these cases can increase the occurrence of eating behavior in people with low differentiation. People with low differentiation face problems due to low differentiation, they endure high levels of stress and anxiety, they cannot benefit from the guidance of others to solve their problems.

In the context of many mental health problems, there are defects in emotion regulation, and various disorders such as depression, anxiety, and eating are related to defects in emotion regulation. Therefore, it can be said that when people are unable to regulate their emotions, they have difficulty in controlling their eating behavior, that is, they cannot control their eating behavior in negative emotional situations and show more negative emotions such as anxiety and depression in situations with overeating.

Differentiated people clearly define themselves and their opinions, can choose their own direction in life, and do not lose control in extreme emotional situations that lead to abnormal behavior and unsuccessful decisions in many people. Reason and logic make decisions. On the other hand, differentiated people who do not have a defined identity for themselves move along with the emotional wave of interpersonal tensions and issues. As a result, they experience high anxiety and are prone to various physical and psychological diseases. Anxiety is characteristic of differentiated people and systems. Anxiety causes people and the family system inefficiency and issues such as eating behavior. The high level of anxiety in people with a low level of differentiation puts them more at risk of psychological and physical problems. Psychological problems and physical symptoms, including eating behavior, contribute to the absorption function of anxiety. Differentiated people experience higher levels of chronic anxiety and psychological and physical symptoms such as eating behavior.

### Conflict of Interest

According to the authors, this article has no financial sponsor or conflict of interest.

### References

Brockmeyer, T., Skunde, M., Wu, M., Bresslein, E., Rudofsky, G., Herzog, W., & Friederich,

- H.-C. (2014). Difficulties in emotion regulation across the spectrum of eating disorders. *Comprehensive psychiatry*, 55(3), 565-571 .
- Brososof, L. C., & Levinson, C. A. (2017). Social appearance anxiety and dietary restraint as mediators between perfectionism and binge eating: A six month three wave longitudinal study. *Appetite*, 108, 335-342 .
- Doba, K., Berna, G., Constant, E., & Nandrino, J.-L. (2018). Self-differentiation and eating disorders in early and middle adolescence: A cross-sectional path analysis. *Eating Behaviors*, 29, 75-82 .
- Fakhari, N., Latifian, M., & Etemad, J. (2014). Examining the psychometric properties of the short form of self-differentiation questionnaire in Iranian students. *Educational Measurement Quarterly*, 4(15), 35-58.
- Hasking, P., Boyes, M., & Greves, S. (2018). Self-efficacy and emotionally dysregulated behaviour: An exploratory test of the role of emotion regulatory and behaviour-specific beliefs. *Psychiatry research*, 270, 335-340 .
- Hay, P., Mitchison, D., Collado, A. E. L., González-Chica, D. A., Stocks, N., & Touyz, S. (2017). Burden and health-related quality of life of eating disorders, including Avoidant/Restrictive Food Intake Disorder (ARFID), in the Australian population. *Journal of eating disorders*, 5(1), 1-10 .
- Juarascio, A. S., Felton, J. W., Borges, A. M., Manasse, S. M., Murray, H. B., & Lejuez, C. W. (2016). An investigation of negative affect, reactivity, and distress tolerance as predictors of disordered eating attitudes across adolescence. *Journal of adolescence*, 49, 91-98 .
- Lam, C. M., & Chan-So, P. C. (2015). Validation of the Chinese version of Differentiation of Self Inventory (C-DSI). *Journal of marital and family therapy*, 41(1), 86-101 .
- Landrau, E., & Short, J. (2010). The role of relationship attachment styles in disordered eating behaviors. *Colonial Academic Alliance Undergraduate Research Journal*, 1(1), 11 .
- Lu, Q., Tao, F., Hou, F., Zhang, Z., & Ren, L.-l. (2016). Emotion regulation, emotional eating and the energy-rich dietary pattern. A population-based study in Chinese adolescents. *Appetite*, 99, 149-156 .
- Mirzaei, M., Zarei, E., & Sadeghi Fard, M. (2019). The role of self-differentiation and economic factors with the mediation of family conflicts in the prevention of psychological and social injuries. *Counseling and Psychotherapy Culture*, 10(37), 143-170.
- Mohammadzadeh, A., & Rezaei, A. (2014). The role of gender in the factor structure of eating disorder attitudes in the student population. *Behavioral science research*. 12(3): 406-415.
- Qian, J., Wu, Y., Liu, F., Zhu, Y., Jin, H., Zhang, H., . . . Yu, D. (2021). An update on the prevalence of eating disorders in the general population: a systematic review and meta-analysis. *Eating and Weight Disorders-Studies on Anorexia, Bulimia and Obesity*, 1-14 .
- Racine, S. E. & Horvath, S. A. (2018). Emotion dysregulation across the spectrum of pathological eating: Comparisons among women with binge eating, overeating, and loss of control eating. *Eating disorders*, 26(1), 13-25 .
- Rotella, F., Fioravanti, G., Godini, L., Mannucci, E., Faravelli, C., & Ricca, V. (2015). Temperament and emotional eating: A crucial relationship in eating disorders. *Psychiatry research*, 225(3), 452-457 .
- Sahlan, R. N., Taravatrouy, F., Quick, V., & Mond, J. M. (2020). Eating-disordered behavior among male and female college students in Iran. *Eating Behaviors*, 37, 101378 .
- Stice, E., Shaw, H., & Marti, C. N. (2007). A meta-analytic review of eating disorder prevention programs: Encouraging findings. *Annu. Rev. Clin. Psychol.*, 3, 207-231 .
- Svaldi, J., Griepenstroh, J., Tuschen-Caffier, B., & Ehring, T. (2012). Emotion regulation deficits in eating disorders: a marker of eating pathology or general psychopathology? *Psychiatry research*, 197(1-2), 103-111 .
- Tajik, N., & Lotfi Kashani, F. (2019). Correlation of eating attitude with cognitive emotion regulation styles, anxiety sensitivity and attachment style in obese women. *Health Promotion Management Quarterly* 8(6):56-48.

- Tajik, N., & Lotfi Kashani, F. (2019). Correlation of eating attitude with Emotional cognitive regulation styles, anxiety sensitivity and attachment style in women with obesity. *Journal of Health Promotion Management*, 8(6), 48-56 .
- Wilksch, S. M., O'Shea, A., Ho, P., Byrne, S., & Wade, T. D. (2020). The relationship between social media use and disordered eating in young adolescents. *International Journal of Eating Disorders*, 53(1): 96-106
- Yavuz Güler, Ç., & Karaca, T.(2021). The role of differentiation of self in predicting rumination and emotion regulation difficulties. *Contemporary Family Therapy*, 43(2), 113-123.