The Relationship between Emotion Regulation and Intuitive Eating in Young Women

Leila Shateri (1)
Abbas Masjedi Arani (2)
Hamid Shamsipour (3)
Elnaz Mousavi (4)
Leila Saleck (5)

(1) Ph.D. student in Clinical Psychology, Department of Clinical Psychology, Medicine Faculty, Shahid Beheshti University of Medical Sciences, Tehran, Iran.
(2) Assistant Prof. Department of Clinical Psychology, Medicine Faculty, Shahid Beheshti University of Medical Sciences, Tehran, Iran.
(3) Assistant Prof. Department of Clinical Psychology, Medicine Faculty, Shahid Beheshti University of Medical Sciences, Tehran, Iran.
(4) Ph.D. student in Clinical Psychology, Department of Clinical Psychology, Medicine Faculty, Shahid Beheshti University of Medical Sciences, Tehran, Iran.
(5) Ph.D. student in Clinical Psychology, Department of Clinical Psychology, Medicine Faculty, Shahid Beheshti University of Medical Sciences, Tehran, Iran.

Corresponding Author Email:
Abbas Masjedi Arani
Department of Clinical Psychology, Medicine Faculty,
Shahid Beheshti University of Medical Sciences,
Tehran, Iran
Email: doctormasjedi@yahoo.com

Abstract

This study was designed to clarify the relationship between emotion regulation and intuitive eating in 60 obese women (BMI<30) and 60 normal-weight women. There is some significant correlation between the two groups. There is association between unconditional permission to eating subscale and non-acceptance subscale (r= 0.26), strategies subscale and unconditional permission for eating subscale (r= 0.31), Physical emotional eating subscale and strategies subscale (r= 0.30), and also two negative connections between permission for unconditional eating subscale and awareness subscale (r= -0.31), and awareness subscale and Suitable foods election subscale (r= -0.39) in obese women. Other associations are between physical emotional eating subscale and goals subscale(r= 0.29), awareness subscale and Trust in hunger and thirst cues subscale (r= -0.39), and clarity subscale and Trust in hunger and thirst cues subscale (r= -0.35) in normal-weight women. Findings show when obese women have some emotional problems, they cannot accept the situation and do something additional to regulate emotions in the form of unconditional eating.

Key words: Eating, Emotion Regulation, eating disorders, obese

Please cite this article as: Abbas Masjedi Arani et al. The Relationship between Emotion Regulation and Intuitive Eating in Young Women.
World Family Medicine. 2018; 16(2): 179-186.
DOI: 10.5742/MEWFM.2018.93259

Introduction

Nowadays we know that over one-third of adults in the United States are obese (Ogeden, Carroll, Kit &Flegal, 2013) and the rate of overweight and obesity have risen (World Health Organization, 1999) and it increases some disease probability such as heart disease, stroke, certain cancers and type 2 diabetes (National institutes of health, 1998). Adaptive behaviors play an important role in maintaining overall psychological health (Seligman & Csikszentmihalyi, 2000). Up to now, research on positive eating behaviors has been sparse and much remains unknown. The focus of the research is on adaptive eating endeavours rather than pathological aspects, predominantly (Tylka, 2006). Adaptive eating behaviors have been investigated both in unrestrained eating (Kahan, Polivy, & Herman, 2003) and in eating disorders (Tylka & Subich, 2004). Primary definition of adaptive eating was the absence of eating disorder symptoms (Garner, 2004), but adaptive eating is wider and not limited to the absence of symptoms (Hawks, Madanat, Hawks, & Harris, 2005; Tylka, 2006; Tylka & Wilcox, 2006).

Extensive research shows that weight loss strategies that promote the restriction of food intake are largely ineffective for long term weight loss and weight maintenance (Mann et al., 2007). Moreover, restrictive eating practices have been associated with a higher body mass index (BMI) (van Strien, Herman, & Verheijden, 2014); weight gain (Mann et al., 2007); an increased risk of disordered eating (Appleton & McGowan, 2006); and psychological problems such as emotional difficulties, body image concerns and reduced cognitive functioning (Appleton & McGowan, 2006; Altuntas et al., 2016).

Intuitive eating which has a powerful connection with internal physiological hunger and satiety signs, is an adapted form of eating (Appleton & McGowan, 2006; Tylka, 2006; Tylka & Wilcox, 2006). The 1980s saw the evolving anti-dieting movement, and the meaning of intuitive eating was based on the claim which restrained dieting is not tolerable and it may have inverse responses such as, negative results as weight cycling, dysfunctional relationships with food, and increasing risk of eating disorders (J. A. Gast & Hawks, 2000). It has continued from those times up to now replacing dieting (J. A. Gast & Hawks, 2000; Tylka, 2006). As argued there is a natural mechanism that good nutrition at a healthy weight is the result of its function (Hawks et al., 2005). It has been suggested that individuals pay attention to their inner body guide and identify their body's physical needs to eat in a good way, and support health, sufficient body weight, and nutrition and it avoids overeating, obsessive food consumption and inadequate dieting (Tribole & Resch, 1996). This type of eating is more reliable than diet plans, environmental cues and emotional states, due to responding to internal physiological needs of hunger and satiety signs (Tylka, 2006).

Intuitive eating has been proposed as an eating style that encourages a positive relationship with food, body, physical activity (Tribole & Resch, 2012). The principles of intuitive eating include: focusing on physical cues for hunger and satiety giving an unconditional permission to eat; making food choices for both health and eating satisfaction; not using food to cope with emotions; respecting the body regardless of weight and shape; and being physically active for the enjoyment and health rather than calorie-burning for weight loss (Tribole & Resch, 2012). This approach discourages a focus on weight control, though the emergence and maintenance of an individual's natural weight and shape is acknowledged as a potential outcome (Tribole & Resch, 2012).

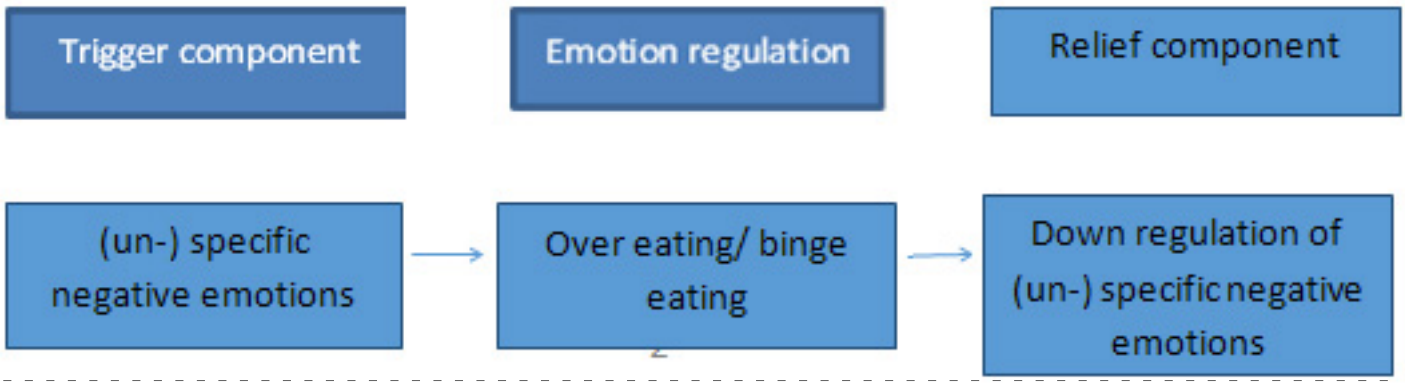
Moreover, it is assumed that disordered eating behaviors are performed as an attempt to regulate or escape from the negative effects (Stice et al., 2001). Studies indicate that many individuals who suffer from excess weight or have an eating disorder show termed emotionally-driven eating which is describe as eating in response to emotions (Goossens, Braet, Van Vlierberghe, & Mels, 2009). It is even suggested that pathological eating behavior may result from maladaptive emotion regulation (Racine & Wildes, 2013). Neurobiological processes concerning self-regulation, including control over one's own eating behavior, are known to be strongly influenced by emotions (Heatherton & Baumeister, 1991). Emotion regulation is defined as the "attempt to influence which emotions we have, when we have them, and how these emotions are experienced or expressed" (Gross & Levenson, 1997). If emotion regulation fails, self-regulation in other areas, like control over eating behavior, can fail as well.

Hence, it seems plausible that explanation models of binge eating behavior in BED and overeating in obesity trace back to self-regulation failure caused by intense emotions. The term emotion can comprise many different meanings ranging from depicting a specific (negative) emotion (e.g. anger or sadness) to simply describing an unspecific emotional state like emotional stress.

From a more behavioral perspective, several emotion regulation theories have been proposed. The theory of emotional eating understands eating as a coping strategy in response to emotional distress (Bennett, Greene, & Schwartz-Barcott, 2013), hence describing a sub-clinical form of disordered eating behavior in response to emotions, especially in terms of obese and normal weight individuals, emotional eating has been investigated (Rommel et al., 2012). There are several theories regarding a more disordered pattern of emotional eating, like overeating (eating a large amount of food) and binge eating (eating a large amount of food and experiencing loss of control). The escape theory (Heatherton & Baumeister, 1991) presumes an alleviation of aversive affects while bingeing, whereas other theories, like the effect regulation theory (Polivy & Herman, 1993), assume an improvement of effect after binge eating.

According to the emotional arousal theory, overeating is evoked by emotional arousals in order to reduce the level of arousal (Pine, 1985). Each of the emotion regulation theories mentioned above includes at least one of the following components:

Figure 1



1) specific or unspecific negative emotions as a trigger for binge eating (i.e. trigger component) and **2)** down-regulation of specific or unspecific negative emotions (i.e. relief component) through binge eating in the short-term (while bingeing) or long-term (after a binge episode). To subsume both components, the "emotion regulation model", which includes the whole emotion regulation process (Figure 1), is proposed.

The components of the emotion regulation model as an account of binge eating have also been addressed in previous reviews. (Ganley, 1989) gave an overview of studies investigating the relationship between emotion and eating in obesity; however, he did not differentiate between populations with or without BED. Another more current narrative review investigated capacities in emotion and impulse regulation, considering possible differences between obese people and people with binge eating (BED and BN) (Fischer & Munsch, 2012). Thus, based on previous research, the present study explores the relationship between emotion regulation and intuitive eating in obese and normal-weight young women.

Materials and Method

Data was collected through the cross-sectional method. Participants were selected through accessible sampling. For the first step all participants provided written informed consent. They completed screening questionnaire (included age and educational status), the difficulties in emotion regulation subscale (DERS) and intuitive eating subscale (IES-II).

Participants

The population studied comprised 120 volunteer women aged 18 to 30 who were assigned to two groups according to their BMI score (Normal-weight (BMI<30) and obese (BMI>30)).

Measures

The intuitive eating subscale (IES-T), a subscale developed by Tylka (Tylka, 2006), was used to assess the principles proposed by Tribole and Resch (Tribole & Resch, 2012). The subscale assesses three key features: 1) relying on internal hunger and satiety cues to guide food intake; 2) permitting oneself to eat unconditionally; and 3) eating for physical rather than emotional reasons. Tylka and Kroon Van Diest (Tylka & Kroon Van Diest, 2013) developed a revised version of the subscale and identified a fourth feature: making food choices to enhance body functioning. An alternative measure is the Intuitive Eating Subscale (IES-H) (Hawks et al., 2005; Tylka & Kroon Van Diest, 2013) which also assesses four features: intrinsic eating (i.e. motivation to eat based on internal cues of hunger); extrinsic eating (i.e. lack of eating based on external cues); anti-dieting (i.e. disagreement with dieting behaviors); and self-care (i.e. focus on health/ fitness rather than appearance). A review of the literature conducted by Van Dyke and Drinkwater (Van Dyke & Drinkwater, 2014) has shown that intuitive eating (defined as any eating approach based on hunger and satiety that does not restrict food type, unless for medical reasons) is associated with a lower BMI; weight maintenance but not weight loss; and factors such as body image, self-esteem, affect, optimism, and life satisfaction. The relationship between intuitive eating and health behaviors such as physical activity and dietary intake was less clear (Van Dyke & Drinkwater, 2014).

The difficulties in emotion regulation subscale (DERS) was developed by Gratz (Gratz & Roemer, 2004) to assess the problems in emotion regulation. This subscale has 36 questions and 6 sub subscales that assess difficulties in emotion regulation. These subscales are: 1) Non-acceptance of emotional responses (NON-ACCEPTANCE); 2) Difficulties with engaging in goal directed behavior (GOALS); 3) Impulse control difficulties (IMPULSE); 4) Lack of emotional awareness (AWARENESS); 5) Limited access to emotion regulation strategies (STRATEGIES); and 6) Lack of emotional clarity (CLARITY). The reliability of test-retest was 0.88 and the internal comparison based on Cronbach's alpha was 0.93 and 0.8 for the sub subscales.

Statistical Analysis

Bivariate Pearson correlations were computed to explore the relationship between emotion regulation, intuitive eating and obesity. Table 1 shows means and standard deviation of research variables: the mean of total score of intuitive eating is 3.23 and in permission for unconditional eating subscale the mean is 19.98, and in physical emotional eating subscale the mean is 3.06; the mean of trust in hunger and thirst cues subscale is 3.49, the mean of suitable foods selection is 3.72, the mean of vice scores is 20.31. In the emotion regulation variable, the mean of strategies subscale is 92.78, the mean of non-acceptance subscale is 15.74, the mean of goals subscale is 14.58, the mean of impulse subscale is 12.96, the mean of awareness subscale is 16.44 and the mean of clarity is 12.45.

Table 1: Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Strategies	120	55.00	130.00	92.7833	16.13816
Non acceptance	120	6.00	29.00	15.7417	4.82204
Goals	120	7.00	25.00	14.5833	3.30669
Impulse	120	6.00	25.00	12.9667	3.79281
Awareness	120	8.00	26.00	16.4417	3.99957
Methods	120	10.00	33.00	20.8500	4.88636
Clarity	120	5.00	23.00	12.4500	3.24840
Intuitive eating	120	31.54	72.54	54.0057	8.78597
Permission for unconditional eating	120	11.00	27.00	19.9833	3.20971
Physical emotional eating	120	1.75	5.00	3.0687	.59181
Trust in hunger and thirst cues	120	1.83	6.00	3.4994	.72839
Vices scores	120	9.00	32.00	20.3167	4.92632
Total score	120	1.86	4.21	3.2347	.48295
Suitable foods election	120	1.33	5.00	3.7217	.83303
BMI	120	1.00	2.00	1.5000	.50210
Valid N (list wise)	120				

Results

Pearson correlation coefficient and Fisher Z were used to obtain the results. The results of the bivariate Pearson's correlations between emotion regulation and intuitive eating are shown in Table 2. The results show significant correlation between the two variables. It is worth to note that Fisher Z is not more than 1.96; thus, there is no significant correlation.

Table 2: Comparison of Correlation coefficients between the two groups

		Permission for unconditional eating	Physical emotional eating	Trust in hunger and thirst cues	Suitable foods selection
Non acceptance	obese	0.26*	0.14	0.03	0.08
	Normal weight	0.12	0.22	-0.09	0.22
	z	0.78	0.44	0.32	0.77
Goals	obese	0.23	0.09	-0.002	0.18
	Normal weight	0.07	0.29*	0.05	0.14
	z	0.88	1.11	0.08	0.22
Impulse	obese	0.25	0.21	-0.002	0.16
	Normal weight	0.19	0.20	0.02	0.18
	z	0.34	0.06	0.1	0.11
Strategies	obese	0.31*	0.30*	-0.13	0.09
	Normal weight	0.12	0.02	0.06	0.15
	z	1.07	1.55	0.38	0.33
Awareness	obese	-0.31*	-0.22	-0.12	-0.39**
	Normal weight	-0.16	0.02	-0.39**	-0.16
	z	0.85	1.09	1.55	1.34
Clarity	obese	-0.07	0.10	-0.25	-0.25
	Normal weight	-0.12	0.24	-0.35*	0.11
	z	0.27	0.77	0.59	0.77

There is an association between unconditional permission for eating subscale and non-acceptance subscale in obese women.

Moreover, there is an association between Physical emotional eating subscale and goals in normal-weight women. Also, there is an association between strategies subscale and Unconditional permission for eating subscale in obese women. In addition, there is a relation between Physical emotional eating subscale and strategies in obese women. Moreover, there is a negative correlation between Permission for unconditional eating subscale and awareness in

in obese women. Also, there is a negative association between awareness subscale and Trust in hunger and thirst cues subscale in normal-weight women. In addition, there is a negative significant association between awareness subscale and Suitable food selection subscale in obese women. Another negative association is between clarity subscale and Trust in hunger and thirst cues in normal-weight women.

Discussion

The results indicate an association between unconditional permission for eating subscale and non-acceptance subscale in obese women. This means that when obese women have some emotional problems, they cannot accept the situation and do something additional to regulate emotions in the form of unconditional eating. From a neurobiological viewpoint, hormonal influences and neurotransmitter circuits play a significant role in the explanation of why or how aversive emotional states can trigger binge eating and overeating. Cortisol secretion increases during stress and cortisol also regulates appetite and ingestion (Gluck, 2006). Two studies, one of which is also included in the review, investigated cortisol, hunger, and the desire to binge in BED relative to non-BED women after exposure to stress. Results were contradictory, showing in one study (Gluck, Geliebter, Hung, & Yahav, 2004) a tendency for a higher cortisol level after a painful stressor in BED women as compared to non-BED women, whereas in the other study a blunted cortisol response was obtained (Rosenberg et al., 2013). This finding is in line with previous findings that means when the women are under stress they try to eat more and regulate their emotions and have a sense of control in distressing situation.

Another association is the association between Physical emotional eating subscale and goals in normal-weight women. Intuitive eating is viewed as promoting a healthy relationship with food by discouraging restrictive eating, emotional eating, and eating in response to external cues (Tribole & Resch, 2012). More specifically, intuitive eating is viewed as promoting eating in response to bodily cues for hunger and satiety and permits women to eat unconditionally, thus removing rules for what, when and how much to eat. Regarding goals, it is worth to note that it is associated with goal setting behavior in taught situations. As observed, this association is in normal-weight women which can be accounted for by the differentiation between obese and normal-weight women in emotion regulation and the normal-weight women's ability in responding to internal cues of thirst or satiety. The Eating for Physical Reasons subscale and the reliance on hunger/satiety cues subscale demonstrated small to medium correlations with disordered eating, while the Body-Food Choice Congruence subscale was unrelated with disordered eating (Tylka, 2006; Tylka & Kroon Van Diest, 2013; Tylka & Wilcox, 2006). This finding is in line with the previous findings.

Another finding is about the association between strategies subscale and unconditional permission for eating subscale in obese women. Strategies in DERS subscale have been defined as bounded strategies for emotion regulation. And as observed, obese women have problems with strategies. Examination of the IES-T subscales, the Unconditional Permission to Eat subscale demonstrated the highest correlation with disordered eating (Tylka, 2006; Tylka & Kroon Van Diest, 2013; Tylka & Wilcox, 2006) thus, suggesting that this feature of intuitive eating is less conceptually distinct from disordered eating (Tylka & Kroon Van Diest, 2013; Tylka & Wilcox, 2006). This finding is in line with previous findings that mean obese women have some problems in permission for eating because of their emotion regulation problems.

The other result of the present research is the association between Physical emotional eating subscale and strategies in obese women. Previous studies showed that intuitive eating correlated with positive emotional functioning in women. This is consistent with not using food to cope with emotions, another principle of intuitive eating (Tribole & Resch, 2012). This contrasts with the studies demonstrating that restrictive and disordered eating practices are associated with depressive symptomatology and poor emotional regulation (Gillen, Markey, & Markey, 2012; İlgün et al., 2016). In intuitive eating, emphasis is placed on being able to distinguish between biological and emotional hunger and regulate emotions with alternative strategies. In the study conducted by Bruce & Ricciardelli(2016), it is also possible that the relationship between intuitive eating and emotional functioning may be bidirectional that is, women may eat more intuitively in the absence of negative emotions but they may also experience more positive emotions as a consequence of intuitive eating. This finding is one of the questions that Lauren J. et al. recommended for further research that can be answered in this research: because of their weak strategies, obese women cannot select better strategies and just use eating for calming themselves.

Moreover, there is a negative correlation between permission for unconditional eating subscale and awareness in obese women. As mentioned in the last paragraph, it can be observed that because of their lack of awareness of their own emotions, they think that sadness and anxiety and any other negative emotions means they should do something, that is eating. Therefore, they use eating to escape their negative emotions. In the Sairanen et al (2015) this hypothesis claimed that mindfulness improves permission for unconditional eating and this approves our result.

Also there is a negative association between awareness subscale and Trust in hunger and thirst cues subscale in normal weight women. The psychosocial correlations of intuitive eating that were found included awareness and responsiveness of women towards bodily states (e.g., sensations, emotions, hunger and satiety) and motivation to engage in physical activity. Greater awareness and responsiveness to bodily states is related to that feature of intuitive eating that focuses on eating based on internal cues for hunger/satiety (Tribole & Resch, 2012; Ur Rehman, 2016). In addition, intuitive eating encourages an attitude towards physical activity that is not focused on calorie-burning for weight control. Instead, the approach

is focused on body's response to exercise and enjoyment of being physically active (Tribole & Resch, 2012). In line with this principle, studies showed that intuitive eating correlated with greater motivation to engage in physical activity when focused on feelings of pleasure (J. Gast, Campbell Nielson, Hunt, & Leiker, 2015), and less motivation when focused on feelings of pressure or guilt (J. Gast et al., 2015) or appearance (Tylka & Homan, 2015; Bilir et al., 2016). Shouse and Nilsson (Shouse & Nilsson, 2011) demonstrated that higher levels of intuitive eating were associated with greater emotional awareness and less self-silencing of emotions. Shouse and Nilsson (Shouse & Nilsson, 2011) demonstrated that higher levels of intuitive eating were associated with greater emotional awareness and less self-silencing of emotions. Schoenefeld and Webb (Schoenefeld & Webb, 2013) found a positive association between intuitive eating and distress tolerance. The finding of the present research is not in line with findings of the previous studies.

In addition, there is a significant association between awareness subscale and Suitable foods selection subscale in obese women. Tylka and Kroon Van Diest (Tylka & Kroon Van Diest, 2013), who found no association between the Body-Food Choice Congruence subscale of the revised IES-T (assessing the extent to which individuals match food choice with body's needs) and disordered eating among university students. The finding of the present research shows that obese women can be aware of their body signals and needs and can choose suitable food based on this need. But with regard to this ability there are other reasons such as emotion regulation that interfere and they eat and choose food based on emotions and circumstances.

Another negative association is between clarity subscale and Trust in hunger and thirst cues in normal-weight women. In addition, Denny et al. (Denny, Loth, Eisenberg, & Neumark-Sztainer, 2013) showed that women who trusted their body to tell them how much to eat reported that they were less likely to engage in unhealthy weight loss practices (i.e. fasting, starvation, food supplementation, skipping meals, smoking) and extreme weight loss practices (i.e., diet pills, laxatives and diuretics). Intuitive eating is viewed as promoting a healthy relationship with food by discouraging restrictive eating, emotional eating, and eating in response to external cues (Tribole & Resch, 2012). More specifically, intuitive eating is viewed as promoting eating in response to bodily cues for hunger and satiety and permits women to eat unconditionally, thus removing rules for what, when and how much to eat. This review also showed that intuitive eating correlated with positive emotional functioning in women. This is consistent with not using food to cope with emotions, another principle of intuitive eating (Tribole & Resch, 2012). This contrasts with research demonstrating that restrictive and disordered eating practices are associated with depressive symptomatology and poor emotional regulation (Gillen et al., 2012; Yılmaz et al., 2016). In intuitive eating, emphasis is placed on being able to distinguish between biological and emotional hunger and regulate emotions with alternative strategies. In our view, it is also possible that the relationship between intuitive eating and emotional functioning may be bidirectional that is, women may eat more intuitively in the absence of negative emotions but they may also experience more positive emotions as a consequence of intuitive eating. The finding of the present research is not in line with findings of previous studies.

Limitations

A limitation of this study is its cross-sectional design. Thus, no conclusion about the cause-effect relationship between intuitive eating and psychosocial correlates is possible. Another limitation is its small population.

Discussion

- Altuntas, B., Aydin, Y., Eroglu, A. (2016). Tracheobronchial Foreign Bodies Aspirations in Adults: A 25-Years Experience. European Journal of General Medicine;13(2):94–99
- Appleton, K. M., & McGowan, L. (2006). The relationship between restrained eating and poor psychological health is moderated by pleasure normally associated with eating. Eat Behav, 7(4), 342-347. doi: http://dx.doi.org/10.1016/j.eatbeh.2005.11.008
- Bennett, J., Greene, G., & Schwartz-Barcott, D. (2013). Perceptions of emotional eating behavior. A qualitative study of college students. Appetite, 60(1), 187-192. Doi: http://dx.doi.org/10.1016/j.appet.2012.09.023
- Bilir, B., Altıntaş, N., Aydın, M., Oran, M., Özsu, S., Tutar, U. (2016). The Predictive Role of Neutrophil to Lymphocyte ratio in Chronic Obstructive Pulmonary Disease. European Journal of General Medicine;13(2):105–110
- Bruce, L. J., & Ricciardelli, L. A. (2016). A systematic review of the psychosocial correlates of intuitive eating among adult women. Appetite, 96, 454-472. Doi: http://dx.doi.org/10.1016/j.appet.2015.10.012
- C.L. Ogden, M.D. Carroll, B.K. Kit, K.M. Flegal, Prevalence of obesity among adults: United States, 2011–2012, NCHS Data Brief (131) (2013) 1–8.
- Denny, K. N., Loth , K., Eisenberg, M. E., & Neumark-Sztainer, D. (2013). Intuitive eating in young adults. Who is doing it, and how is it related to disordered eating behaviors? Appetite, 60(1), 13-19. Doi: http://dx.doi.org/10.1016/j.appet.2012.09.029
- Fischer, S., & Munsch, S. (2012). Self-regulation in eating disorders and obesity implications for treatment. Behav Ther, 22(3), 158-164.
- Ganley, R. M. (1989). Emotion and eating in obesity: A review of the literature. Int J Eat Disord, 8(3), 343-361. Doi: http://dx.doi.org/10.1002/1098-108X(198905)8:3<343::AID-EAT2260080310>3.0.CO;2-C
- Garner, D. M. (2004). Eating disorder inventory-3 manual. Odessa, FL: Psychological Assessment Resources.
- Gast, J. A., & Hawks. (2000). Examining intuitive eating as a weight loss program. Health Weight J, 14(3), 42-44.
- Gast, J., Campbell Nielson, A., Hunt, A., & Leiker, J. J. (2015). Intuitive eating: associations with physical activity motivation and BMI. Am J Health Promot, 29(3), e91-99. doi: http://dx.doi.org/10.4278/ajhp.130305-QUAN-97
- Gillen, M. M., Markey, C. N., & Markey, P. M. (2012). An examination of dieting behaviors among adults: links with depression. Eat Behav, 13(2), 88-93. doi: http://dx.doi.org/10.1016/j.eatbeh.2011.11.014

- Gluck, M. E. (2006). Stress response and binge eating disorder. Appetite, 46(1), 26-30. doi: http://dx.doi.org/10.1016/j.appet.2005.05.004
- Gluck, M. E., Geliebter, A., Hung, J., & Yahav, E. (2004). Cortisol, hunger, and desire to binge eat following a cold stress test in obese women with binge eating disorder. Psychosom Med, 66(6), 876-881. doi: http://dx.doi.org/10.1097/01.psy.0000143637.63508.47
- Goossens, L., Braet, C., Van Vlierberghe, L., & Mels, S. (2009). Loss of control over eating in overweight youngsters: the role of anxiety, depression and emotional eating. Eur Eat Disord Rev, 17(1), 68-78. doi: http://dx.doi.org/10.1002/erv.892
- Gratz, K. L., & Roemer, L. (2004). Multidimensional assessment of emotion regulation and dysregulation: Development, factor structure, and initial validation of the difficulties in emotion regulation scale. J Psychopathol Behav Assess, 26(1), 41-54. Doi: http://dx.doi.org/10.1023/B:JOBA.0000007455.08539.94
- Gross, J. J., & Levenson, R. W. (1997). Hiding feelings: the acute effects of inhibiting negative and positive emotion. J Abnorm Psychol, 106(1), 95-103. Doi: http://dx.doi.org/10.1037/0021-843X.106.1.95
- Hawks, S., Madanat, H., Hawks, J., & Harris, A. (2005). The relationship between intuitive eating and health indicators among college women. J Health Educ, 36(6), 331-336. Doi: http://dx.doi.org/10.1080/19325037.2005.10608206
- Heatherton, T. F., & Baumeister, R. F. (1991). Binge eating as escape from self-awareness. Psychol Bull, 110(1), 86-108. Doi: http://dx.doi.org/10.1037/0033-2909.110.1.86
- İlgün, E., Akyürek, O., Kalkan, A.O., Demir, F., Demirayak, M., Bilgi, M. (2016). Neutrophil/Lymphocyte Ratio and Platelet/Lymphocyte Ratio in Fibromyalgia. European Journal of General Medicine;13(2):100–104
- Kahan, D., Polivy, J., & Herman, C. P. (2003). Conformity and dietary disinhibition: A test of the ego-strength model of self-regulation. International Journal of Eating Disorders, 33(2), 165-171. Doi: http://dx.doi.org/10.1002/eat.10132
- Mann, T., Tomiyama, A. J., Westling, E., Lew, A. M., Samuels, B., & Chatman, J. (2007). Medicare's search for effective obesity treatments: diets are not the answer. Am Psychol, 62(3), 220-233. doi: http://dx.doi.org/10.1037/0003-066X.62.3.220
- National Institutes of Health, Clinical guidelines on the identification, evaluation, and treatment of overweight and obesity in adults—the evidence report. National Institutes of Health, Obes. Res. 6 (Suppl. 2) (1998) 51S–209S.
- Pine, C. J. (1985). Anxiety and eating behavior in obese and nonobese American Indians and white Americans. J Pers Soc Psychol, 49(3), 774-780. Doi: http://dx.doi.org/10.1037/0022-3514.49.3.774
- Polivy, J., & Herman, C. (1993). Etiology of binge eating: psychological mechanisms. In C. Fairburn & G. Wilson (Eds.), Binge Eating – Nature, Assessment, and Treatment (pp. 173-205). New York: The Guilford Press.
- Racine, S. E., & Wildes, J. E. (2013). Emotion dysregulation and symptoms of anorexia nervosa: the unique roles of lack of emotional awareness and impulse control difficulties when upset. Int J Eat Disord, 46(7), 713-720. doi: http://dx.doi.org/10.1002/eat.22145
- Rommel, D., Nandrino, J. L., Ducro, C., Andrieux, S., Delecourt, F., & Antoine, P. (2012). Impact of emotional awareness and parental bonding on emotional eating in obese women. Appetite, 59(1), 21-26. doi: http://dx.doi.org/10.1016/j.appet.2012.03.006
- Rosenberg, N., Bloch, M., Ben Avi, I., Rouach, V., Schreiber, S., Stern, N., & Greenman, Y. (2013). Cortisol response and desire to binge following psychological stress: comparison between obese subjects with and without binge eating disorder. Psychiatry Res, 208(2), 156-161. doi: http://dx.doi.org/10.1016/j.psychres.2012.09.050
- Sairanen E, Tolvanen A, Karhunen L, Kolehmainen M, Järvelä E, Rantala S, Peuhkuri K, Korpela R, Lappalainen R. (2015). Psychological flexibility and mindfulness explain intuitive eating in overweight adults. Behav Modif. 2015 Jul;39(4):557-79. doi: 10.1177/0145445515576402.
- Schoenefeld, S. J., & Webb, J. B. (2013). Self-compassion and intuitive eating in college women: examining the contributions of distress tolerance and body image acceptance and action. Eat Behav, 14(4), 493-496. doi: http://dx.doi.org/10.1016/j.eatbeh.2013.09.001
- Seligman, M. E., & Csikszentmihalyi, M. (2000). Positive psychology. An introduction. Am Psychol, 55(1), 5-14. Doi: http://dx.doi.org/10.1037/0003-066X.55.1.5
- Shouse, S. H., & Nilsson, J. (2011). Self-silencing, emotional awareness, and eating behaviors in college women. Psychol Women Q, 35(3), 451-457. Doi: http://dx.doi.org/10.1177/0361684310388785
- Stice, E., Agras, W. S., Telch, C. F., Halmi, K. A., Mitchell, J. E., & Wilson, T. (2001). Subtyping binge eating-disordered women along dieting and negative affect dimensions. Int J Eat Disord, 30(1), 11-27. Doi: http://dx.doi.org/10.1002/eat.1050
- Tribole, E., & Resch, E. (1996). Intuitive eating. A recovery book for the chronic dieter. New York: St Martin's Press.
- Tribole, E., & Resch, E. (2012). Intuitive eating: A recovery book for the chronic dieter Rediscover the pleasures of eating and rebuild your body image (3rd ed.). New York: St.: Martin's Press.
- Tylka, T. L. (2006). Development and psychometric evaluation of a measure of intuitive eating. J Couns Psychol, 53(2), 226. Doi: http://dx.doi.org/10.1037/0022-0167.53.2.226
- Tylka, T. L., & Homan, K. J. (2015). Exercise motives and positive body image in physically active college women and men: Exploring an expanded acceptance model of intuitive eating. Body Image, 15, 90-97. doi: http://dx.doi.org/10.1016/j.bodyim.2015.07.003
- Tylka, T. L., & Kroon Van Diest, A. M. (2013). The Intuitive Eating Scale-2: item refinement and psychometric evaluation with college women and men. J Couns Psychol, 60(1), 137-153. doi: http://dx.doi.org/10.1037/a0030893
- Tylka, T. L., & Subich, L. M. (2004). Examining a Multidimensional Model of Eating Disorder Symptomatology Among College Women. J Couns Psychol, 51(3), 314. Doi: http://dx.doi.org/10.1037/0022-0167.51.3.314
- Tylka, T. L., & Wilcox, J. A. (2006). Are intuitive eating and eating disorder symptomatology opposite poles of the same construct? J Couns Psychol, 53(4), 474. Doi: http://dx.doi.org/10.1037/0022-0167.53.4.474

- Ur Rehman, H. (2016). Linezolid-induced Lactic Acidosis. European Journal of General Medicine;13(2):149–151
- Van Dyke, N., & Drinkwater, E. J. (2014). Relationships between intuitive eating and health indicators: literature review. Public Health Nutr, 17(8), 1757-1766. doi: http://dx.doi.org/10.1017/S1368980013002139
- van Strien, T., Herman, C. P., & Verheijden, M. W. (2014). Dietary restraint and body mass change. A 3-year follow up study in a representative Dutch sample. Appetite, 76, 44-49. Doi: http://dx.doi.org/10.1016/j.appet.2014.01.015
- World Health Organization. (1999). Obesity: Preventing and managing the global epidemic: report of a WHO consultation. Geneva, Switzerland: World Health Organization.
- Yılmaz, S., Akça, O.F., Açıkel, B., Bilgiç, A., Kılıç, E.Z. (2016). Sex Differences in the Effects of Anxiety and Anxiety Sensitivity on Visual Perception. European Journal of General Medicine;13(1):1–6