Investigating the role of attachment in eating disorders: Complex modelling and implications for therapy

PhD Thesis

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Introduction

Eating disorders are among the most frequent, and in terms of their mortality rates, the most severe psychiatric disorders in juveniles. Besides somatic complications and high comorbidity, a quarter of patients become chronic, and relapse rates are high. There is tremendous pressure to explore the new, associated risk factors and create multi-variable models that integrate them in order to optimize the chances of successful intervention. The etiology of eating disorders is multifactorial; personality and family dysfunctions are among the most important factors in their predisposition, the precipitation and maintenance. Certain characteristics of parental bonding and adult attachment can contribute to these dysfunctions and mediate their relationship.

Accordingly, the investigation of attachment features has become an important area within eating disorder studies, with both theoretical and practical relevance. Hundreds of studies have demonstrated the relationship between attachment and eating disorders that can be conceptualized in eight ways: 1. on a neurobiological basis; 2. through transgenerational transmissions of attachment-related mental states; 3. or through mediator personality traits. Further, 4. attachment can mediate between early experiences and adult symptoms, and 5. between intra- and interpersonal experiences. It is also true that, 6. attachment may moderate the relationship between the risk factors of eating disorders and maladaptive eating behaviors. 7. Attachment features may underline the maintaining mechanisms of symptoms, and 8. also display a direct relationship with certain eating disorders.

Furthermore, the relationship between attachment features and eating disorder symptoms may be seen as mediated by a number of other research-relevant psychological factors, including: 1. self-image and self-esteem; 2. body dissatisfaction; 3. personality traits; 4. perfectionism; 5. depression; 6. anxiety; 7. emotion dysregulation; 8. interpersonal sensitivity; 9. alexithymia; 10. mental coherence; 11. the disorders of mindfulness; 12. information processing; and, 13. mentalization or reflective skills. Despite this, several as-yet-unanswered questions are emerging in the light of the studies so far. These may be expressed as follows:

1. Most eating disorder patients are characterized by insecure attachment style, low parental care, high parental overprotection, adult attachment insecurity and preoccupation. It is yet to be answered whether these attachment traits distinguish

individuals with and without eating disorders on the basis of a Hungarian sample including participants of each diagnosed adult eating disorder.

2. Specific relationships between attachment traits and types of eating disorders are inconsistent. In Hungary, attachment features of patients suffering from binge eating disorder, other eating disorders, emotional eating, purging and multi-impulsive symptoms and patients in remission are unexplored. It is to be addressed whether their parental bonding and adult attachment can distinguish these eating disorders?
3. The extent of attachment insecurity is associated with the severity of eating disorder symptoms; the question of whether attachment insecurity would predict eating disorders, when adjusted for age, BMI and depression has yet to be answered.
4. Some results suggest that attachment quality can be related to the intensity, restrictive or impulsive quality of symptoms rather than to the diagnosis. High preoccupation and fearfulness increase the degree of impulsivity. It is to be addressed whether attachment can be related to multi-impulsive eating disorders.
5. Insecure attachment can contribute to emotion dysregulation; and emotional eating is a maladaptive response to negative emotions. It is still to be addressed is how far attachment characteristics might influence the tendency to emotional eating.
6. Patients showing purging symptoms can be characterized by stronger parental bonding and adult attachment dysfunctions. The question whether attachment traits can distinguish purging and restrictive patients has yet to be answered.
7. Dysfunctional parental bonding is in relationship with emotional instability, mood disorders and body dissatisfaction; these factors increase the risk of eating disorders. It is necessary to determine whether the relationship between parental bonding and eating disorder symptoms might be mediated by levels of neuroticism, depression and body dissatisfaction.

A major distorting element of eating disorder studies is the bias towards selectivity in the examined factors. The present study proposes to counterbalance this by conceptualizing the role of attachment within a multicausal framework, using multivariate analyses, and by then integrating the mediator variables into one model. It may be that different attachment features show relationships to certain eating disorder symptoms through diverse paths. Therefore, the study was conducted taking into account several dimensions of paternal bonding and adult attachment.

Objectives

On the basis of these, the aims of this study were:

1. to compare the parental bonding features, adult attachment styles, dimensions and other characteristics between individuals with and without eating disorders;
2. to compare the attachment of each eating disorder type, namely patients suffering anorexia, bulimia, binge eating disorder and other eating disorders, overweight emotional eaters, patients in remission and individuals without eating disorders;
3. to test the predictors of eating disorders;
4. to compare the attachment features of patients with multi-impulsive and classical eating disorders;
5. to test the predictors of emotional eating;
6. to compare the attachment features of purging and non-purging patients;
7. to conduct a path analysis of the relationship between parental bonding and eating disorder symptoms.

Methods

An ethically approved (56922/2015/EKU) cross-sectional online survey was implemented between April 2015 and April 2017. Participants in the eating disorder group were gathered using expert sampling, according to diagnostic interviews with psychiatrists and clinical psychologists of Semmelweis University. Convenience sampling was used in the comparison group.

The survey consisted of sociodemographic, anthropometric and anamnestic data, the Eating Disorder Inventory, the Eating Behavior Severity Scale, the Three Factor Eating Questionnaire, the Relationship Scales Questionnaire, the Parental Bonding Instrument, the 44-Item Big Five Inventory, the CES-D Depression Scale, the Spielberger Trait Anxiety Inventory, and binge eating and multi-impulsive symptom inventories. The "number of eating disorder symptoms" variable was calculated according to those symptoms displayed with at least a weekly frequency, as measured on the Eating Behavior Severity Scale.

The whole sample consisted of 258 females; the mean age was 31.6 years (SD = 11.35 years), and the mean BMI was 23.3 (SD = 6.59). The sample was divided into four groups: 1. *The eating disorder group* (*N* = 95), including 44 patients with anorexia

nervosa, 23 with bulimia nervosa, 11 with binge eating and 17 with other eating disorders. 2. *Individuals without eating disorders* (N = 117). 3. *Overweight emotional eaters* (N = 117; BMI $\geq$ 25; all displaying at least 3 symptoms of emotional eating). 4. *Patients in remission* (N = 18; former eating disorder diagnosis; BMI > 17.5; no significant binge or bulimic symptoms). The multi-impulsive patients (N = 27) displayed at least 3 impulsive symptoms, while purging patients (N = 36) had one purging symptom beside the eating disorder diagnosis at a weekly frequency.

Results

Correlations of the main variables. Higher age correlated with growing BMI to a moderate, and with higher attachment security and lower maternal care to a small extent. Lower levels of attachment security, maternal and paternal care, as well as higher levels of attachment preoccupation, fearfulness and paternal overprotection correlated with stronger drive for thinness, body dissatisfaction, bulimic and other eating disorder symptoms to a small extent.

Comparison of individuals with and without eating disorders. The mean age ($t(210) = 6.922$; $p < .001$; Cohen's $d = .94$) of the eating disorder group was higher than in the non-eating disorders group. Therefore, in cases where age significantly correlated with the measured variables, comparisons were adjusted for age. Their mean BMI was also higher, with adjustment for age ($F(1) = 13.000$; $p < .001$; Cohen's $d = .84$). The personality of patients was characterized by higher neuroticism ($F(1) = 32.971$; $p < .001$; Cohen's $d = .96$), lower extraversion ($t(210) = 4.895$; $p < .001$; Cohen's $d = 0.68$), agreeableness ($t(210) = 2.815$; $p < .01$; Cohen's $d = .39$) and openness ($t(171) = 2.526$; $p < .05$; Cohen's $d = .36$) than in the non-patient group. Levels of depression ($F(1) = 27.704$; $p < .001$); Cohen's $d = .87$) and trait anxiety ($F(1) = 50.865$; $p < .001$; Cohen's $d = 1.1$) were also higher among eating disorder patients.

The frequency of various adult *attachment styles* differed between individuals with and without eating disorders ($\chi^2(3) = 23.783$; Cramer's V = 0.335; $p < .001$). Only 15.8% of patients with eating disorders showed secure attachment, while 25.3% had fearful, 40.0% had preoccupied and 18.9% had dismissive attachments. While 44.6% of the latter had secure attachment styles, while 22.3% had fearful, 17.0% had preoccupied and 20.1% had dismissive styles. With regard to *adult attachment dimensions*, eating

disorder patients displayed lower security (F(1) = 32.933 = 6.210; $p < .001$; Cohen's *d* = .86), higher preoccupation (t(172) = -3.092; $p < .001$; Cohen's *d* = .44) and fearfulness (t(210) = -3.105; $p < .001$; Cohen's *d* = .43) than in those without eating disorders. Levels of *parental care and overprotection* did not differ in the two groups.

Attachment characteristics in each eating disorder subtype. The level of adult attachment security was higher in the individuals without eating disorders than in the anorexia, bulimia, binge eating, other eating disorder and emotional eater subgroups (F = 6.427; df = 6; $p < .001$); it did not, however, differ from that of the patients in remission. Bulimic patients displayed higher degrees of attachment preoccupation (F = 3.570; df = 6; p = .005) and fearfulness (F = 3.090; df = 6; p = .006) than individuals without eating disorders. Maternal care was lower in the case of overweight emotional eaters (χ = 12.711; df = 6; p = .048), while maternal overprotection was higher in the case of emotional eaters and in patients in remission than in individuals without eating disorders (F = 3.695; df = 6; p = .004). Levels of paternal care and overprotection and adult attachment dismissal did not differ between the subgroups.

Predictors of eating disorders. Adult attachment features explained 20.9% of the variance of eating disorders, among these, only a lower level of security proved to be a significant predictor of eating disorders (OR = .37; $p < .001$) – just as well as younger age (OR = .92; $p < .001$), lower BMI (OR = .89; $p < .001$) and higher trait anxiety (OR = 1.11; $p < .001$). The whole model explained 50.9% of the variance of eating disorders.

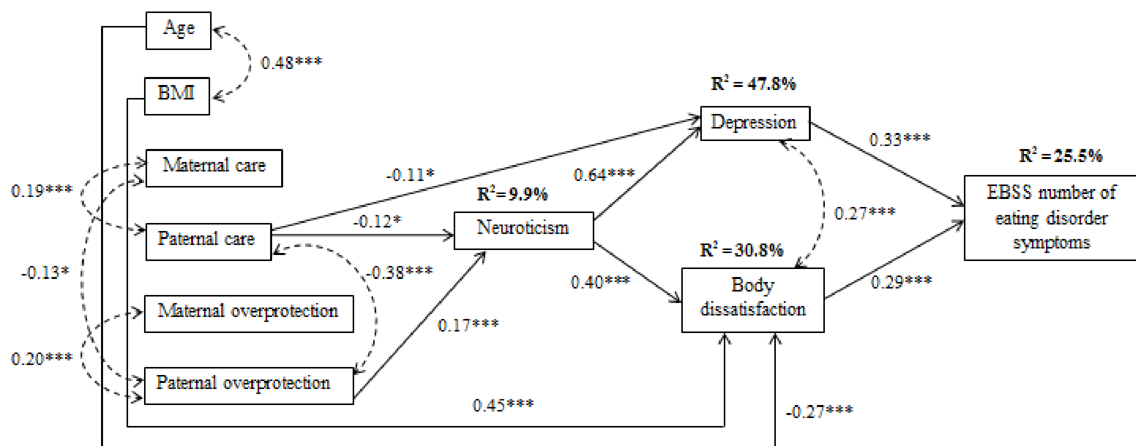
Attachment in multi-impulsive eating disorders. The frequency of multi-impulsivity was 28.4% in the patient group. Dysfunctional attachment traits correlated to a smaller extent (r_s = .25-.38; $p < .001$), while levels of depression and trait anxiety correlated to a large extent (r_s = .60-.62; $p < .001$) with the degree of impulsivity. Besides stronger eating disorder symptoms (Z = 2,373; $p < .05$; Cohen's *d* = .51) and higher trait anxiety (t(71) = -3,125; $p < .01$; Cohen's *d* = .61), lower levels of maternal (Z = -2.710; $p < .01$; Cohen's *d* = .54) and paternal care (t(93) = 2.529; $p < .05$; Cohen's *d* = .58) distinguished multi-impulsive eating disorder patients from classical ones.

Predictors of emotional eating. The frequency for an inclination to emotional eating was 27.5% over the whole sample. Of attachment features, a higher degree of preoccupation (OR = 2.00; p = .001) and a lower one maternal care (OR = .95; p = .006)

predicted emotional eating, just as was the case with lower BMI and a higher level of depression. The model explained 29.4% of the variance of emotional eating.

Attachment in purge-type eating disorders. The frequency of at least weekly purging was 37.9% in eating disorders. The frequency of purging was higher (52.3%) in the case of preoccupied attachment than those with other styles ($\chi^2(3)$ = 12.779; p =.005; Cramer's V = .229). Purging patients were distinguished exclusively by three attachment characteristics, namely by higher preoccupation (t(93) = 2.265; p < .05; Cohen's *d* = .48), lower maternal care (Z = -2.996; p < .01; Cohen's *d* = .72), and paternal care (t(93) = -2.940; p < .01; Cohen's *d* = .63) from non-purging ones.

Path analysis of the relationship between parental bonding and eating disorder symptoms. According to the saturated model (χ2(30) = 373.41; p < .001; CFI = 1.000; TLI = 1.000; RMSEA = 0.000; RMSEA CI90: 0.000-0.000; SRMR = 0.000), two dimensions of parental bonding showed indirect relationships to eating disorder symptoms. A lower degree of paternal care was associated with a higher number of symptoms through 1. depression (β = -.04; p = .067); 2. neuroticism mediated by depression (β = -.03; p = .075); and 3. neuroticism mediated by body dissatisfaction (β = -.01; p = .088). A higher degree of paternal overprotection was associated with the symptoms through 1. neuroticism mediated by depression (β = .04; p = .039); and 2. neuroticism mediated by body dissatisfaction (β = .02; p = .030). The model explained 9.9% of the variance observed in neuroticism, 47.8% of that in depression, 30.8% in body dissatisfaction, and 25.5% of the variance in eating disorder symptoms.



Conclusions

This is the first study to make a simultaneous investigation of paternal bonding and adult attachment characteristics in more than five eating disorder subtypes, including the almost unexplored attachment of overweight emotional eaters, purging and multi-impulsive patients, as well as patients in remission. A multifactorial, interactional approach to the relationship of parental bonding to eating disorder symptoms was applied. The results of the study and the related conclusions can be summarized in 11 points:

1. **With regard to attachment styles** eating disorder patients were characterized by a much lower frequency of secure adult attachment and a higher frequency of preoccupied attachment than those without eating disorders. However, as every attachment style was present in each eating disorder subtype, the relationship of attachment styles and eating disorder subtypes can be nonspecific.
2. **The adult attachment of eating disorder patients** was distinguished by lower degree of security and higher preoccupation compared with those without eating disorders. However, divided into subgroups, only lower attachment security distinguished the anorexia, bulimia, binge eating, other eating disorder and emotional eater subgroups from ones without eating disorders. Attachment preoccupation and fearfulness were exclusively higher in bulimic patients than in the non-patient group. Instead of general conclusions about eating disorders, attachment characteristics of distinct eating disorders subgroups shall be differentiated. Longitudinal studies are required to test the efficiency of increasing attachment security and decreasing preoccupation.
3. **The degree of maternal and paternal care and overprotection** did not in itself distinguish individuals with or without eating disorders, but was associated with the intensity of various symptoms. Divided into subgroups, maternal care was lower in the emotional eater and the remission groups; whilst, maternal overprotection was higher in latter ones. Therefore, the quality of parental bonding is not a general distinguishing feature of eating disorders, but is more dysfunctional in certain subgroup of patients and rather associated with symptomatic features, such as the intensity of impulsive symptoms. The perceived characteristics of parental bonding can be rather important for patients, than the objective degree of parental care and

overprotection. This suggests a parent-child the interaction in the development of symptoms.

4. **The personality of eating disorder patients** was emotionally more unstable, more introverted, less agreeable and open, and was characterized by higher levels of depression and trait anxiety than that of individuals without eating disorders. Longitudinal studies are required to test the relevance of attachment in the personality and comorbid traits of eating disorders.
5. Of all adult attachment dimensions, only lower security proved to be a **predictor of eating disorders**; attachment features explained one fifth of their variance. Younger age, lower BMI and higher trait anxiety also increased the risk. This suggests a general, partial role of attachment insecurity in interaction with other factors in increasing the risk of eating disorders. Increasing attachment security and decreasing anxiety may serve as means of targeted prevention in cases of underweight young individuals.
6. Besides higher trait anxiety and more intensive symptoms, **multi-impulsive eating disorder patients** were distinguished form classical ones by lower degrees of maternal and paternal care. Lower parental care can be a relevant point in related case concepts as well as a target for family therapies. Further studies are required to confirm the therapeutic value of multimodal approaches for multi-impulsive patients that also aim to increase parental care and reduce anxiety to tolerable levels.
7. **Overweight emotional eaters** were characterized by more dysfunctional maternal bonding and adult attachment than individuals without eating disorders. Higher attachment preoccupation and lower maternal care predicted a stronger inclination to emotional eating. Thus, dysfunctional attachment may play a role in emotional eating. For overweight emotional eaters, it may be relevant to assess their parental bonding and adult attachment. Developing social skills and increasing the level of perceived care and decreasing attachment preoccupation might be important focal points of stress management methods for emotional eaters, urging efficiency studies.
8. **Purging eating disorder patients** were exclusively distinguished from non-purging ones by lower degrees of maternal and paternal care out of all examined features. Attachment characteristics may distinguish purging and non-purging individuals. The role of low experienced parental care and intimate relationship preoccupation

should be assessed at the level of individual cases, and also urges longitudinal, intervention-based studies.

9. **Bulimic patients** were the only eating disorder group which had more preoccupied and fearful adult attachment than individuals without eating disorders and less secure attachment than patients in remission. This suggests the relevance of attachment dysfunctions such as intense preoccupation and fearfulness in bulimia. The assessment of their attachment features may well be a crucial point of dimensional diagnostics and personalized interventions. As the decrease of attachment insecurity and preoccupation is associated with bulimics' reduced binges and depression, interventions that target the symptom-relevant aspects of attachment may be a frequent and useful treatment component of bulimia.
10. **Patients in remission** had similarly secure adult attachment as individuals without eating disorders, while their degree of maternal overprotection was higher. This suggests the general therapeutic value of developing attachment security and reducing anxiety and dismissal of significant others. Their intense maternal overprotection suggests fixed attention, worries and control over the index patient after the cessation of symptoms. This can be a major intervention point of relapse prevention and aftercare in family treatments. Comparative studies of patients with active symptoms and those in remission may reveal further implications of this.
11. Of the **dimensions of parental bonding** only a lower degree of paternal care and higher overprotection showed indirect relationships with a higher number of eating disorder symptoms. According to the principle of multi-finality, dysfunctional parental bonding as a nonspecific risk factor may be associated with the symptoms via a different path – such as higher trait neuroticism, higher levels of depression and body dissatisfaction, as highlighted in the results. These traits are determining in eating disorders at a transdiagnostic level; thus, they can serve as general intervention points. Results emphasize the relevance of the paternal relationship, and besides that, the interaction of parental bonds and the personality of the patient in the development of symptoms. Studies of the interactive relationship of paternal and maternal bonding and the patients' functioning with specific eating disorder symptoms may offer a novel therapeutic perspective.

The candidate's publications related to the thesis

1. **Szalai TD.** (2019) Review of attachment interventions in eating disorders: Implications for psychotherapy. Mentálhigiéné és Pszichoszomatika 20: 78-102.
2. **Szalai TD**, Czeglédi E, Vargha A, Grezsa F. (2017) Parental attachment and body satisfaction in adolescents. J Child Fam Stud, 26: 1007-1017. IF:1,588
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