Research Square

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Impulsivity and Trait Anger as Predictors of Binge-Eating Disorder Symptom Intensity in Adult Women

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Abstract

Background

Evidence suggests that impulsivity and anger are associated with eating disorders. However, most research to date has focused either on eating disorders in general or on bulimia nervosa. Studies examining the potential associations of impulsivity and anger with binge-eating disorder (BED) remain limited. The aim of the present study was to investigate these associations.

Methods

A total of 225 women aged 25–50 years who met DSM-5-TR criteria for BED were assessed using an author-developed questionnaire based on DSM-5-TR diagnostic criteria to assess BED symptoms, the *State–Trait Anger Expression Inventory-2* (STAXI-2), and the short version of the *UPPS-P Impulsive Behavior Scale* (S-UPPS-P).

Results

BED symptom intensity showed weak positive associations with trait anger, outward expression of anger, impulsivity, and both positive and negative urgency. Negative correlations were found between BED symptom intensity and both outward and inward anger control. Significant differences emerged between the low- and high-intensity BED groups in nearly all aspects of anger, as well as in impulsivity and urgency. Impulsivity and trait anger emerged as significant predictors of BED symptom intensity.

Conclusions

Higher levels of anger, general impulsivity, and urgency were associated with greater BED symptom intensity in adult women. However, these associations were weak, suggesting that the variables examined represent only one part of a more complex psychopathological mechanism. These findings highlight the potential role of impulsivity and anger in BED symptom intensity, and support their consideration in future research and clinical interventions.

Plain English Summary

Binge-eating disorder (BED) involves recurrent episodes of eating accompanied by a sense of loss of control. Although impulsivity and anger have been linked to eating disorders, less is known about their role in BED. This study examined these associations in 225 women aged 25–50 years who met DSM-5-TR criteria for BED. Women with more intense BED symptoms reported higher levels of trait anger, impulsivity, and urgency—the tendency to act impulsively when experiencing strong emotions. Greater symptom intensity was also associated with poorer control of anger. Women with high-intensity BED symptoms differed from those with lower symptom intensity across several aspects of anger and impulsivity. Trait anger and impulsivity were independently associated with BED symptom intensity. However, these associations were modest, suggesting that anger and impulsivity are only some of the factors involved in the complex psychological mechanisms underlying BED. The findings extend the limited research on anger in BED and suggest that anger-related processes and impulsive tendencies may be relevant to understanding differences in symptom severity and developing future clinical interventions.

1. Introduction

Binge-eating disorder (BED) is characterized by frequent, recurrent episodes of binge eating accompanied by a subjective sense of loss of control over eating. Consuming large amounts of food is not associated with physical hunger, and these episodes result in substantial psychological distress and overall suffering. The defining feature of a binge-eating episode is the experience of loss of control over eating; additionally, at least three of the associated features specified in the DSM-5-TR [1] must be present. Episodes of binge eating occur in the absence of compensatory behaviors aimed at preventing weight gain. Previous research indicates that individuals with BED are more likely to rely on maladaptive emotion-regulation strategies than individuals without eating disorders [2–3]. Individuals with a disturbed relationship with food experience intrusive thoughts about eating, which contribute to increased psychological distress and negative emotions. This gives rise to a vicious cycle in which negative emotions intensify food-related thoughts, and these thoughts further exacerbate the emotional distress [2, 4–5].

Impulsivity, often linked to emotional dysregulation, is considered a key factor in BED [6]. It is defined as the inability to resist an impulse, drive, or temptation to engage in an act that may be harmful to oneself or others [1]. Impulsivity involves a predisposition toward rapid, unplanned reactions to internal or external stimuli, often with undesirable consequences [7]. A specific dimension of impulsivity that plays a significant role in eating disorders characterized by binge eating is negative urgency. It is defined as the tendency to act rashly in response to negative emotions, and has emerged as a key personality trait predicting binge-eating behavior [8–10]. Numerous cross-sectional studies have shown that negative urgency is positively associated with symptoms of bulimia nervosa (BN), whereas other impulsivity-related constructs show considerably weaker or no significant associations [11, 9].

Beyond its association with binge-eating behaviors, impulsivity has also been linked to difficulties in anger expression [12–13]. Anger, in turn, is an emotion characterized by tension and hostility, often triggered by frustration, a sense of being wronged, or perceived injustice [1]. Spielberger [14] proposed a multidimensional model of anger that distinguishes between state anger and trait anger. Within this framework, trait anger is conceptualized as a relatively stable personality characteristic that reflects individual differences in the tendency to experience anger across a wide range of situations. There is evidence that impulsivity and anger are associated with eating disorders [15–16]. Impulsivity, conceptualized as a multidimensional construct, is an important factor in

both the onset and maintenance of binge eating [17]. Although research on anger in this area remains limited, available studies suggest that affected individuals – particularly patients with bulimia nervosa (BN) – report higher levels of anger than healthy controls [13, 15, 18] and tend to suppress anger and direct it inward [19–20]. Arnow et al. [21] emphasized that anger plays an important role in overeating and binge eating, and that rumination on anger-related thoughts and memories may constitute a maintaining factor in BED [22]. In addition, several studies have pointed to associations among obesity, anger, and impulsivity [23–24] Obesity itself is also significantly associated with BED [24]. Moreover, compared with individuals with obesity but without a BED diagnosis, patients with BED have been found to exhibit reduced inhibitory control [25, 17] and stronger food cravings [26]. This is further supported by findings showing that higher levels of impulsivity significantly increase vulnerability to BED symptoms [27]. Furthermore, research suggests that impulsivity is the only trait consistently associated with both anger and eating-disorder symptoms, although the available evidence concerns mainly bulimia nervosa (BN) and is based on relatively dated studies [13, 28].

Most research to date has focused either on eating disorders in general or on bulimia nervosa. Contemporary research examining the associations between BED, impulsivity, and anger remains limited. The aim of the present study was to investigate these relationships. We hypothesized that greater BED symptom intensity would be associated with higher levels of impulsivity, trait anger, and maladaptive anger expression. We further hypothesized that trait anger and impulsivity would predict BED symptom intensity.

2. Materials and Methods

2.1. Procedure

The study employed a cross-sectional design. Data were collected online via a survey link. Participation was promoted through various social media platforms (e.g., Instagram and Facebook), primarily within online support groups for individuals who engage in binge eating. The study included adults only. To minimize the risk of duplicate responses, participants were allowed to complete the survey only once using a single e-mail address. All questionnaire items were set as mandatory, preventing participants from submitting incomplete questionnaires or skipping individual questions.

Participants were informed about the aim of the study and its procedures, as well as about the anonymity of participation and their right to withdraw at any time. The study was approved by the Research Ethics Committee of [institution blinded for review] (approval no. 19/2022).

2.2. Participants

The study sample consisted of 225 women aged 25 to 50 years (M = 33.22, SD = 6.1). The participants were recruited from Polish online support communities for individuals who engage in binge eating, including Facebook and Instagram groups, and the nationwide community of Overeaters Anonymous. Eligibility for study participation required verification of BED symptoms. To this end, the authors used a questionnaire developed specifically for this study based closely on the DSM-5-TR diagnostic criteria [1]. Only individuals meeting the DSM-5-TR diagnostic criteria for BED were included. Participants who reported compensatory behaviors were excluded from the study. Individuals who were currently receiving pharmacological or psychotherapeutic treatment for BED were also excluded to maintain sample homogeneity. Individuals diagnosed with schizophrenia or bipolar disorder were also excluded.

2.3. Instruments

BED Symptom Scale. The scale developed by Lewandowska was based on the *DSM-5-TR* diagnostic criteria of the American Psychiatric Association for mental disorders. It is a self-report instrument consisting of eight items assessing BED symptoms and one control item addressing compensatory behaviors (Item 9). Participants were asked to report symptoms experienced over the previous month and to rate the intensity of each symptom on a 4-point scale ranging from 1 (*mild*) to 4 (*very severe*). The instrument was designed to verify the presence of BED symptoms in each participant and to assess their intensity.

The State-Trait Anger Expression Inventory-2 (*STAXI-2*) [14]. This self-report instrument assesses a broad range of variables related to the experience, expression, and control of anger. It comprises 10 subscales and 57 items, each rated on a 4-point Likert scale. In the present study, the overall Trait Anger scale and the following subscales were used: Anger Expression-In, Anger Expression-Out, Anger Control-In, and Anger Control-Out. The Polish adaptation of the instrument has shown high reliability for the Trait Anger subscale (Cronbach's α = .83), as well as for the Anger Expression (Cronbach's α = .74) and Anger Control (Cronbach's α = .88) scales.

Short UPPS-P Impulsive Behavior Scale (*S-UPPS-P*) [29]. This self-report questionnaire assesses five personality dimensions of impulsivity. The instrument consists of 20 items and comprises five subscales: Negative Urgency, Positive Urgency, Lack of Premeditation, Lack of Perseverance, and Sensation Seeking. The Polish adaptation of the instrument has demonstrated high internal consistency across all subscales (Cronbach's α values of .80 or higher).

2.4 Statistical analysis

Statistical analyses were performed using IBM SPSS Statistics, version 29. Descriptive statistics and the Kolmogorov–Smirnov test of normality were calculated. A k-means cluster analysis was conducted to identify three groups differing in the pattern and intensity of BED symptoms. The three-cluster solution was selected because of its interpretability and the relatively balanced sizes of the resulting groups. Given the relatively small sample size, the stability of this cluster solution may be limited. Therefore, the findings of the cluster analysis should be regarded as exploratory and hypothesis-generating rather than confirmatory.

Correlation analyses were performed using Spearman's rank-order correlation coefficient. Differences in the variables under study across the three BED symptom intensity groups were examined using one-way ANOVA, followed by Tukey's post hoc tests. In the final step, a linear regression model was tested to

determine whether impulsivity and trait anger predicted BED symptom intensity.

Given the exploratory nature of the study, we chose not to apply conservative corrections for multiple testing (e.g., Bonferroni correction) across all analyses. This decision was primarily motivated by the need to avoid inflating the risk of Type II error, which could obscure potentially meaningful associations in a relatively small and homogeneous sample. Nevertheless, particular emphasis is placed on findings with the lowest *p* values ($p < .001$), as these results are less susceptible to Type I error and more likely to remain robust under potential correction procedures.

3. Results

3.1. Descriptive Statistics and Correlation Analysis

As a first step, basic descriptive analyses of the collected data were conducted. Means and standard deviations for the analyzed variables are presented in Table 1.

Table 1
Descriptive Statistics and Normality Test

Variables	***M***	***SD***	***Sk.***	***Kurt.***	***K-S***	***p***	***Min***	***Max***
Age	33.22	6.09	.795	.012	.114	< .001	25	50
Intensity of BED symptoms	20.50	7.55	− .384	− .818	.093	< .001	4	32
Trait Anger	26.76	6.09	− .035	− .490	.071	.008	13	40
Anger Expression-Out	18.65	4.85	.379	− .104	.081	< .001	9	32
Anger Expression-In	22.54	4.42	− .472	− .171	.087	< .001	9	31
Anger Control-Out	21.96	4.47	− .086	− .114	.077	< .001	10	32
Anger Control-In	22.28	4.64	− .458	.313	.107	< .001	8	32
Impulivity	45.27	8.39	.647	.668	.084	< .001	28	76
Negative Urgency	10.93	2.82	− .089	− .570	.086	< .001	4	16
Positive Urgency	8.89	3.15	.472	− .372	.140	< .001	4	16
Sensation Seeking	8.98	2.08	.770	.134	.158	< .001	5	16
Lack of Premeditation	7.92	2.632	.760	.748	.163	< .001	4	16
Lack of Perseverance	8.56	2.89	.519	.748	.123	< .001	4	16
Note. Analyses were performed for N = 225 observations; K-S – Kolmogorov-Smirnov test								

Correlation analysis was then conducted. The results showed weak positive associations between BED symptom intensity and Trait Anger (rho = .29, $p < .01$), Anger Expression-Out (rho = .17, $p < .05$), Impulsivity (rho = .25, $p < .01$), Positive Urgency (rho = .18, $p < .01$), and Negative Urgency (rho = .13, $p < .05$). In contrast, BED symptom intensity was negatively correlated with both Anger Control-Out (rho = − .28, $p < .01$) and Anger Control-In (rho = − .22, $p < .01$). Detailed results are presented in Table 2.

Table 2

Rho-Spearman's Correlations Between Variables for the Entire Sample

Variables	Intensity of BED	Trait Anger	Anger Expression-Out	Anger Expression-In	Anger Control-Out	Anger Control-In	Impulivity	Negative Urgency	Positive Urgency	Sensation Seeking	Lack of Premedit
Intensity of BED	-	.293**	.166*	.122	− .281**	− .217**	.247**	.133*	.184**	.099	.096
Trait Anger	.293**	-	.619**	.087	− .558**	− .351**	.255**	.322**	.154*	− .009	.064
Anger Expression-Out	.166*	.619**	-	− .165*	− .632**	− .347**	.185**	.318**	.203**	− .142*	.005
Anger Expression-In	.122	.087	− .165*	-	.277**	.077	.058	.076	.066	.013	− .080
Anger Control-Out	− .281**	− .558**	− .632**	.277**	-	.594**	− .242**	− .238**	− .141*	.007	− .76**
Anger Control-In	− .217**	− .351**	− .347**	.077	.594**	-	− .165*	− .133*	− .074	− .014	− .210**
Impulivity	.247**	.255**	.185**	.058	− .242**	− .165*	-	.553**	.718**	.401**	.601**
Negative Urgency	.133*	.322**	.318**	.076	− .238**	− .133*	.553**	-	.430**	− .075	.140*
Positive Urgency	.184**	.154*	.203**	.066	− .141*	− .074	.718**	.430**	-	.162*	.208**
Sensation Seeking	.099	− .009	− .142*	.013	.007	− .014	.401**	− .075	.162*	-	.191**
Lack of Premeditation	.096	.064	.005	− .080	− .176**	− .210**	.601**	.140*	.208**	.191**	-
Lack of Perseverance	.182**	.048	.032	.076	− .052	.008	.614**	.074	.236**	.186**	.397**

Note. * $p < .05$; ** $p < .01$; *** $p < .001$

3.2. BED Symptom Intensity in Relation to Anger Expression, Anger Control, and Trait Anger

In the next step, a k-means cluster analysis was conducted to identify three groups differing in BED symptom intensity. The results of the between-cluster comparisons are presented in Table 3.

Table 3

Comparison of BED Symptom Intensity Groups with Respect to Trait Anger, Anger Expression-Out, and Anger Control

Variables	Group 1 (*M* = 9) *N* = 43		Group 2 (*M* = 19) *N* = 90		Group 3 (*M* = 28) *N* = 92		*F(2)*	*p*	η^2	post hoc
	M	*SD*	*M*	*SD*	*M*	*SD*				
Trait Anger	23.88	5.73	26.34	6.025	28.52	5.79	**9.23**	**< .001**	**0.079**	1–3
Anger Expression-Out	17.19	4.39	18.48	4.78	19.5	4.99	**3.55**	**.031**	**0.031**	1–3
Anger Control-Out	24.14	3.94	22.13	4.27	20.78	4.54	**8.96**	**< .001**	**0.075**	1–2 1–3
Anger Control-In	23.93	4.02	22.69	4.20	21.11	5.037	**6.29**	**.002**	**0.054**	1–3

Note. Post hoc comparisons were performed using Tukey's test; coefficients shown in bold indicate statistically significant associations.

Cluster analysis identified three groups: Group 1, with a mean BED symptom intensity score of 9 (mild BED); Group 2, with a mean score of 19 (moderate BED); and Group 3, with a mean score of 28 (severe BED). To compare the three groups with mild, moderate, and severe BED symptom intensity, a one-way analysis of variance (ANOVA) was conducted. The results showed that the groups differed significantly in Trait Anger ($F(2) = 9.23$, $p < .001$), Anger Expression-Out ($F(2) = 3.55$, $p = .031$), Anger Control-Out ($F(2) = 8.96$, $p < .001$), and Anger Control-In ($F(2) = 6.29$, $p = .002$). The observed effects were moderate for Trait Anger and Anger Control-Out, and small for Anger Expression-Out and Anger Control-In [30]. To determine the sources of these differences, post hoc tests were performed. The results indicated that the mild BED group differed from the severe BED group on all variables examined. Compared with individuals with mild BED symptom intensity, those with severe BED symptom intensity showed higher levels of Trait Anger ($M = 28.52$, $SD = 5.79$, $p < .001$) and Anger Expression-Out ($M = 19.50$, $SD = 4.99$, $p = .031$), as well as lower levels of Anger Control-Out ($M = 20.78$, $SD = 4.54$, $p < .001$) and

Anger Control-In (M = 21.11, SD = 5.04, p = .002). Means, standard deviations, F values, and the results of Tukey's post hoc test for each group are presented in Table 3.

3.3. BED Symptom Intensity and Impulsivity, Negative Urgency, and Positive Urgency

In the next step, the same three BED symptom intensity groups were compared with respect to impulsivity and urgency. To this end, a one-way analysis of variance (ANOVA) was again performed. The results showed that the groups differed significantly in Impulsivity ($F(2) = 5.37$, p = .005), Negative Urgency ($F(2) = 3.12$, p = .046), and Positive Urgency ($F(2) = 4.46$, p = .013). However, the observed effect sizes were small [30]. To determine the sources of these differences, post hoc tests were conducted. The results again showed that the mild BED group differed from the severe BED group on all variables examined. Compared with the mild BED group, individuals with severe BED symptom intensity showed higher levels of Impulsivity (M = 46.97, SD = 8.73, p = .005), Negative Urgency (M = 11.21, SD = 3.17, p = .046), and Positive Urgency (M = 9.34, SD = 3.28, p = .013). In addition, the mild BED group (M = 7.65, SD = 2.68, p = .013) showed lower levels of Positive Urgency than both the moderate BED group (M = 9.02, SD = 3.11) and the severe BED group (M = 9.34, SD = 3.28). Means, standard deviations, F values, and the results of Tukey's post hoc test for each group are presented in Table 4.

Table 4
Comparison of BED Symptom Intensity Groups in Terms of Impulsivity, Negative Urgency, and Positive Urgency

Variables	**Mild Intensity BED (1)**		**Moderate Intensity BED (2)**		**Severe Intensity BED (3)**		***F(2)***	***p***	η^2	**post hoc**
	***N* = 43**		***N* = 90**		***N* = 92**					
	M	***SD***	***M***	***SD***	***M***	***SD***				
Impulivity	42,00	7,64	45,09	7,97	46,97	8,73	**5.37**	**.005**	**0.046**	1–3
Negative Urgency	9,98	2,46	11,10	2,52	11,21	3,17	**3.12**	**.046**	**0.027**	1–3
Positive Urgency	7,65	2,68	9,02	3,11	9,34	3,28	**4.46**	**.013**	**0.039**	1–2 1–3

Note. Post hoc comparisons were performed using Tukey's test; coefficients shown in bold indicate statistically significant associations.

3.4. Predicting BED Symptom Intensity from Impulsivity and Trait Anger

In the final step, a linear regression analysis was performed to determine whether Impulsivity and Trait Anger predicted BED symptom intensity. Two predictors were entered into the model: Impulsivity and Trait Anger, with BED symptom intensity as the dependent variable. The model was well fitted to the data, $F(2, 222) = 16.32$, $p < .001$, adjusted $R^2 = .13$, and explained 13% of the variance in the dependent variable, suggesting a moderate predictive value of these variables. Both Trait Anger and Impulsivity emerged as significant predictors in the model. Higher levels of Trait Anger were associated with greater BED symptom intensity (β = .33, $t(222) = 4.12$, $p < .001$), as were higher levels of Impulsivity (β = .20, $t(222) = 3.08$, p = .002). Detailed regression results are presented in Table 5.

Table 5
Prediction of Intensity BED Based on Trait Anger and Impulsivity – Linear Regression Analysis

$F(2;222) = 16.32$; $p < 0.001$ **$R^2_{adj.} = 0.13$**	***B***	***SE***	**β**	***t***	***p***
(Constant)	3.759	3.06		1.23	.220
Trait Anger	.326	.079	.263	4.12	**< .001**
Impulsivity	.177	.057	.197	3.08	**.002**

Note. Dependent variable: Intensity of BED; predictors: (Constant), Trait Anger, Impulsivity

4. Discussion

The present study examined various aspects of anger and impulsivity in women with binge-eating disorder (BED). Positive, albeit weak, associations were found between BED symptom intensity and both trait anger and anger expression-out, as well as negative associations between BED and anger control. This pattern is consistent with emotion regulation accounts, according to which individuals with BED are more likely to experience difficulties in managing negative emotions [2–3]. The findings suggest that difficulties in anger control and expression, rather than anger intensity itself, may be more closely related to BED symptoms. This is consistent with Spielberger's [14] conceptualization, according to which dysfunctional patterns of anger expression and control constitute relatively stable personality dispositions that promote maladaptive behaviors. In addition, transdiagnostic models of eating disorders conceptualize binge eating as a short-term emotion regulation strategy. Individuals with an increased tendency to respond with anger and reduced control over its expression may be more likely to experience states of emotional tension that facilitate episodes of loss of control over eating [3, 31–32]. This interpretation is further supported by an previous study showing that greater involvement in binge-eating episodes was associated with a greater tendency toward physical aggression among U.S. college students [33]. It is worth noting that the effect sizes for the anger-related variables ranged from moderate to small. This may suggest that anger is one of many affective risk factors, and that its role may become particularly evident in interaction with other processes, such as impulsivity, rumination, or low frustration tolerance.

The positive associations between BED symptom intensity and impulsivity, as well as positive and negative urgency, are consistent with models highlighting the central role of emotional reactivity in impulsive eating. Urgency, a specific dimension of impulsivity related to acting under the influence of strong emotions, has previously been identified as an important risk mechanism in eating disorders [6, 34]. The present findings suggest that both negative and positive emotional arousal may contribute to binge-eating episodes. This result is in line with the view that binge eating serves not only to reduce negative affect, but is also linked to reward-related mechanisms. The observed association between positive urgency and BED may be explained by the tendency to associate eating with reward and pleasure, a tendency that may be further reinforced by the widespread availability of palatable food. Previous studies indicate that individuals diagnosed with BED show greater reward sensitivity and more reactive behavior than individuals without this diagnosis [35–36].

Comparisons across groups differing in BED intensity further support this interpretation. Women with more severe symptoms were characterized by greater impulsivity, higher trait anger, and lower control over anger expression than women with mild BED. This suggests that greater difficulties in anger control and higher impulsivity are associated with more severe BED symptoms. This interpretation is consistent with previous findings on impaired inhibition and impulse control in BED [25, 37].

The regression analysis showed that trait anger and impulsivity were significant, albeit moderate, predictors of BED symptom intensity. The finding that the model explained 13% of the variance suggests that the variables examined represent a meaningful but limited component of the mechanisms underlying the disorder. This finding should therefore be interpreted as moderate, yet consistent with the multifactorial nature of BED. It is possible that impulsivity functions as a relatively stable vulnerability factor, whereas difficulties in the regulation of anger may act as a trigger for binge-eating episodes. It is also possible that anger is particularly relevant only in a specific subgroup of patients with BED, such as those characterized by high impulsivity. These findings support the view that impulsivity and anger-related behaviors contribute to individual differences in BED symptom intensity, although they explain only part of the disorder's multifactorial psychopathology [36, 38].

5. Strengths and limitations

This study contributes current evidence to the still relatively underexplored area of anger and impulsivity in BED. The findings may have important implications for clinical practice, supporting the inclusion of techniques focused on emotion regulation – particularly the experience and regulation of anger – in the treatment of BED. Interventions aimed at strengthening skills in recognizing, tolerating, and adaptively expressing anger may be especially beneficial for patients with a more pronounced impulsive-affective profile.

The findings should be interpreted in the context of several study limitations that, despite our efforts, could not be entirely avoided. Because the number of male participants was too small, men were excluded from the sample. Consequently, the final sample consisted exclusively of women, which limits the generalizability of the findings.

An additional limitation was that the items in the questionnaire developed by the authors to verify the presence of BED symptoms and assess their intensity had not been standardised or normalised. However, we believe that the items' fidelity to the DSM-5 diagnostic criteria ensures the reliability of the collected data.

The cross-sectional nature of the study design precludes conclusions regarding the direction of causal relationships. The exploratory character of the cluster analysis likewise calls for caution in interpretation. The questionnaire used to assess the presence and intensity of BED symptoms was neither standardized nor normed. This limits the extent to which the findings can be generalized and therefore warrants caution in their interpretation. However, the consistency of the items with the *DSM-5-TR* diagnostic criteria supports the credibility of the data collected. Future studies should focus on developing and validating a standardized instrument for the assessment of BED.

6. Conclusions

The present findings support the hypothesis that impulsivity and trait anger are associated with BED symptom intensity in adult women, although these associations were modest. Difficulties in anger expression and control, together with impulsivity and urgency, appear to represent meaningful, yet limited, correlates of BED symptom intensity, supporting the multifactorial nature of the disorder. These findings contribute to the limited literature on anger in BED and highlight the need for longitudinal studies to clarify the role of anger-related processes and impulsivity in the development and maintenance of the disorder.

Abbreviations

BED Binge-eating disorder

BN Bulimia nervosa

Declarations

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Lived Experience Involvement Statement

The research team included an individual with lived experience of an eating disorder. Persons with lived experience also contributed qualitative data as study participants. No additional lived-experience advisors were formally involved.

Competing interests: The authors declare that they have no competing interests.

Ethics approval and consent to participate: The study was conducted according to the guidelines of the Declaration of Helsinki and approved by the Ethics and Bioethics Committee of the Cardinal Stefan Wyszyński University in Warsaw (19/2022; date of approval: 15 September 2022). Informed consent was obtained from all participants involved in the study.

Consent to publish: Not applicable

Consent to participate: Informed consent was obtained from all individual participants included in the study.

Data Availability Statement: The datasets are available from the corresponding author on reasonable request.

Additional information

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