

Binge Eating Disorder Interacting with Distress Overtolerance and Parental Psychological Control

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Abstract

Binge eating is a rapidly growing eating disorder that severely compromises an individual's physical and psychological health, particularly affecting young adults of both sexes. Our study aims to examine the impact that parental psychological control and the tendency to overtolerate distress have on binge eating disorder.

The sample consists of individuals of both sexes aged 14-30 years. Measures include the Psychological Control Scale, the Distress Overtolerance Scale and the Binge Eating Scale. A mediation model was tested using a structural equation model with maternal and paternal psychological control as predictors, distress overtolerance as mediator and binge eating disorder as outcome. The model showed good fit indices and revealed that maternal psychological control directly influenced both distress overtolerance and binge eating disorder, while paternal psychological control directly influenced only distress overtolerance. The indirect effects of both predictors on binge eating through distress overtolerance were found to be significant.

The results highlight that high parental psychological control may lead to greater distress overtolerance, which in turn may increase the risk of developing binge eating disorder. Findings suggest that treatment of binge eating disorder may benefit from considering family interactions and the ways in which the young cope with distress.

Keywords: binge eating disorder, distress overtolerance, parental psychological control, young adults

Introduction

Binge eating disorder (BED) is defined by recurrent overeating episodes, in which individuals consume significantly more food than they would normally consume and experience a lack of control over their eating behavior (Agüera et al., 2020; Giel et al., 2022; Hilbert et al., 2020). Both the Diagnostic and Statistical Manual of Mental Disorders 5th edition DSM-5-TR (American Psychiatric Association, 2013) and the International Classification of Diseases ICD 11th revision (Almeida et al., 2020) recognize a number of key characteristics to identify BED: recurrent binges (i.e., consumption of unusually large amounts of food with a sense of loss of subjective control during the overeating episode), marked binge distress and the absence of inappropriate weight-reduction behaviors that characterize bulimia nervosa and anorexia nervosa. BED is recognized as a major public health problem with significant social and economic costs and is considered the most prevalent eating disorder among adults, affecting individuals of both sexes and all racial and ethnic groups (Giel et al., 2022; Keski-Rahkonen, 2021). The literature reports a strong association between BED and an increased risk of psychiatric and medical comorbidities (Agüera et al., 2020; Grilo & Juarascio, 2023; Keski-Rahkonen, 2021) as well as severe psychosocial impairment (Mohajan, 2023). Individuals with BED often experience difficulties in their professional, social, and interpersonal lives, often reporting

feelings of guilt, disgust, and embarrassment as a result of eating (Mohajan, 2023). Although BED is strongly associated with obesity, people diagnosed with BED have different body image-related disorders, eating behaviors, and psychological and neurobiological profiles from people with obesity without BED. Despite the high levels of morbidity and associated psychosocial burdens faced by people with BED, this disorder remains under-recognized by health professionals (Giel et al., 2022; Grilo & Juarascio, 2023).

The role of family in eating disorders

Among the most important factors that the literature recognizes as associated with the development and maintenance of eating disorders and with the related distress in adolescents and youth, a prominent position is occupied by the family system and parent/child relationships (Erriu et al., 2020; Robertson, 2020). Specifically, in the analysis of parenting style, research shows that individuals with eating disorders related to binge eating disorder and obesity report less maternal and paternal care and greater overprotection than healthy individuals (Amianto et al., 2021). Specifically, the research reports that the “control without affection” parenting style, which combines lack of warmth and attention (poor parental care) with overcontrol (such as parental criticism and intrusiveness), is more frequently reported by both individuals with binge eating disorder and those with obesity, with no significant differences

between the two discomforts, compared to healthy individuals (Amianto et al., 2021; Depestele et al., 2017).

Several studies point to the significant impact of the family as a primary social agent in influencing the development and maintenance of dysfunctional eating behaviors in children (Amianto et al., 2021; Cella et al., 2022; Depestele et al., 2017; Erriu et al., 2020; Monteleone et al., 2020; Robertson, 2020). In fact, it is likely that the family context and parenting practices and styles in the area of eating may be a key risk factor for the development of negative eating habits in childhood, which may consolidate later and evolve into eating disorders. In exploring the nature and characteristics of the impact of parents on their children's dysfunctional eating behavior, research has found that families with children and adolescents who present with dysfunctional eating disorders are either entangled, intrusive and hostile towards the child's emotional needs or overly concerned about parenting. In contrast, affective and warm parenting has been found to moderate children's poor eating habits or maladaptive eating behavior (Erriu et al., 2020; Robertson, 2020). An important point in this regard is that the development of eating disorders in adolescence appears to be influenced by family members' perceptions of family functioning, particularly with regard to family cohesion, adaptability, and communication (Robertson, 2020; Romm et al., 2020). Some empirical evidence has indicated, in

particular, that families with poor cohesion, low affective expression and excessive interpersonal dependence among members were found to have a higher risk of developing pathological eating behavior within them (Cella et al., 2022). In addition, research has shown that adolescents with eating disorders report high levels of dissatisfaction with family relationships, characterized by poor parental acceptance (family warmth, empathy, emotional support) and limited independence among family members. (Amianto et al., 2021; Cella et al., 2022; Depestele et al., 2017; Robertson, 2020). In contrast, adolescents and young who report emotional support from parents appear to be less likely to develop concerns about excessive weight, body dissatisfaction, and high ideals of thinness (Costa et al., 2015; Giordano et al., 2023, 2024). Research identifies positive perceptions of family relationships as an important protective factor from the risk of developing disturbed eating behaviors (Depestele et al., 2017; Giordano et al., 2023, 2024; Robertson, 2020; Romm et al., 2020). The development of eating disorders also seems to be influenced by the assumption of binding and unfavorable family rules. It has been found that families with eating disorders have particular rules regarding the restriction of thoughts, feelings and self-determination. Family rules related to the prohibition of discussing, solving problems, and talking about circumstances that might cause distress in the family are indicative of family rigidity; rules related to mutual support,

shared decision-making, and emotional bonding, on the other hand, would facilitate family cohesion. In particular, families with rigid rules that hinder or limit the expression of thoughts, feelings, and self (prohibition of exposing and talking about situations that may cause discomfort) are at risk of developing eating disorders, especially in cases where restrictive rules, demands, and controlling practices, such as restriction and monitoring, relate to food. Critical attitudes and family pressures toward body and fitness are also indicative of family involvement and rigidity, which strongly influence the development of distress by facilitating inappropriate eating habits. (Erriu et al., 2020; Giordano et al., 2023, 2024).

Parental psychological control

The association between eating disorders in children and adolescents and parenting styles has been studied by several researches (Amianto et al., 2021; Costa et al, 2016; Depestele et al, 2017; Robertson, 2020) that highlight the deleterious impact of a parenting style characterized by pressuring children to conform to one's schedule through deep and covert manipulative tactics, which generally tend to manifest in a form of parental psychological control. This control results in a restriction of autonomy and independence, which in turn evolves into internalizing symptoms and difficulties in children's relationships and social interactions. Parental psychological control is emotionally manipulative and intrusive parental

behavior, having the aim to control the child's emotional state and to make children act, feel, and think in ways approved by their parents. This involves the use of tactics such as love withdrawal, guilt induction, conditional approval, shaming, or instilling anxiety and thought patterns, which are particularly harmful during adolescence, because they undermine the key function of adolescents' development of autonomy and self-direction, keeping them emotionally dependent on their parents. (Romm et al., 2020).

Parental psychological control is a risk factor for maladjustment not only during childhood and adolescence, but also in different periods of life, including young adulthood. In particular, contingent expression of love based on children's performance creates negative self-evaluations and maladaptive perfectionism, resulting in inducing rigid eating behaviors and related discomforts such as excessive exercise (Costa et al., 2015). In fact, higher levels of psychological control appear to be related to lower self-confidence and self-esteem and fear of failure, as well as higher rates of externalizing problems, such as physical and relational aggression, and moreover, to internalizing and mood problems, such as depressive symptoms, anxiety, loneliness, confusion, and lower social and interpersonal skills (Brenning et al., 2022; Costa et al., 2015, 2016).

According to the literature, parental psychological control seems to consist of two main components: psychological control of

dependence and psychological control of achievement. Psychological control over dependence can be defined as the use of psychological control in the domain of parent-child intimacy, where control is used as a means of keeping children within tight physical and emotional boundaries. Psychological control over achievement can be explained as the use of psychological control in the domain of outcomes, where psychological control is used as a way to make children conform to excessive parental performance standards. Both constructs have been found to be related to maladaptive consequences, particularly internalizing difficulties and disordered eating behaviors. Research shows that adolescents with eating disorders, compared to those without such disorders, tend to perceive parents, and particularly fathers, as more controlling. The quality of the relationship with one's father was found to be an important factor in the development of eating disorders: girls with anorexia described their fathers as intrusive and overprotective and as frequently turning to their daughters for sustenance and support (Monteleone et al., 2020). Studies report no differences between the various types of eating disorders in the area of psychological parental control, highlighting that individuals with eating disorders, regardless of the specific form of disorder they suffer from, tend to perceive lower levels of maternal and paternal care and tend to report a higher level of parental control than healthy individuals. In general, the literature

tends to agree that ED patients tend to report that their parents are less warm and empathetic and that they used to limit their autonomy and independence during childhood (Depestele et al., 2017). At the same time, in much research, families with ED seem to be characterized by the presence of an insecure parental bond, a lack of intimacy and physical expressions of affection from the maternal figure, and, more generally, a reduction in bodily contact and expression (Amianto et al., 2021).

Distress overtolerance

Among the characteristics that research reveals in individuals who experience parental psychological control, one of the most interesting in our view is the tendency to overperform in order to match parental expectations and desires and to gain their approval and affection (Costa et al., 2016). Associated with this condition are attitudes of perfectionism and overcontrol, often accompanied by dysfunctional management of stressful and problematic situations through coping strategies characterized by total avoidance or, conversely, excessive tolerance of distress. The literature defines distress intolerance and distress overtolerance as maladaptive behaviors that result from an interaction between the ability to tolerate distress and the awareness and perception of distress, resulting in its habitual avoidance or overtolerance (Gorey et al., 2018). Scholars point out that, although in opposite ways, the two types of distress response both act in the same way as

a dysfunctional coping mechanism to deal with stressful experiences (Gorey et al., 2018; Lee & Kim, 2021; Lee, 2024). Although the individual's ability to tolerate stressful events and adverse psychological states tends to be emphasized in its adaptive values, most research has shown that excessive tolerance of negative emotions is associated with psychological maladjustment such as depression and anxiety (Gorey et al., 2018; Lee, 2024; Nealis et al., 2022; Zegel et al., 2023). In fact, distress overtolerance (DO) refers to the tendency to persist and endure pain even if it can be avoided (Lee, 2024) and thus can be seen as a lack of cognitive flexibility to cope adequately with negative emotions (Lee & Kim, 2021).

Gorey et al. (2018) hypothesize the existence of two subcomponents of distress overtolerance: the "capacity to harm" and the "fear of negative evaluation". The former would generally be related to individuals' ability to tolerate negative situations despite the fact that they affect their well-being; the latter to individuals' tendency to persist in experiencing stressful situations for fear of receiving negative evaluations from others if they stopped doing so. In the literature, distress overtolerance often appears to be related to the following individual characteristics: poor well-being, greater importance placed on achieving goals and meeting constraints, tendency toward perseverance and perfectionism, inability to disengage, and greater overall negative emotionality. In addition, DO appears to predict clinically relevant distress, such as alcohol

abuse, depression and anxiety (Lee, 2024; Nealis et al., 2022), as well as being a construct of potential relevance to the symptomatology of PTSD, due to the strong inclination of individuals with DO to persist in extremely high levels of distress, ignoring its signs and consequently making the symptomatology more severe and seriously hindering its remission (Zegel et al., 2023). The link between a hyper-controlling family environment and the tendency to over tolerate distress can be detected in parent-child dynamics as early as childhood: for example, in a family with strict parents and high-performance standards, a child is unlikely to receive praise unless he or she performs a task at an exceptionally high level. Because of infrequent rewards, the child may learn to be a perfectionist and to persist in negative emotions no matter what; traits that would not be present in a child with low distress tolerance. These traits may continue into adulthood, resulting in an individual who relentlessly persists in the task at hand rather than disengaging and/or incorporating adaptive coping strategies. As a result, the individual with stress overtolerance engages more in strenuous or stressful work than others, reporting a poor sense of well-being, a tendency to judge negative emotions as irrelevant feedback for this/her behaviors, and to resort to dysfunctional ways to manage the exhausting rhythms they undergo and improve mood (e.g., alcohol abuse, restricted diet, and/or overeating) (Lee, 2024). In this sense, distress overtolerance can be conceptualized as both an

inability to disengage from the goal to be achieved and a tendency toward perfectionism (Gorey et al., 2018). One of the constructs analyzed to define the theoretical framework of distress overtolerance and to identify the underlying mechanisms is the hypercontrolled personality (i.e., excessive self-control), which shows numerous points of contact with the tendency to overtolerate distress. The literature argues that individuals with high levels of self-control seem to be biologically predisposed to avoid emotions and, as a result, may produce a pattern of behavior similar to that of individuals who over-tolerate distress, such as emotional inhibition, rigid cognition, and extreme perseveration and perfectionism; the latter two attitudes in particular, although they share many characteristics with OD, exhibit some important peculiarities that may help shed light on the potential relationships between over-tolerance of distress and psychopathology (Gorey et al., 2018; Lee, 2024; Nealis et al., 2022; Rand-Giovannetti et al., 2022; Zegel et al., 2023). Indeed, although persistence and perfectionism tend to be associated with depression and substance abuse in the literature, they seem to be considered strictly task-oriented, without emphasis on the inherent negative aspects. Therefore, they provide a good basis for understanding the mechanism underlying DO without being considered redundant with it, since distress overtolerance, unlike them, exhibits a negative meaning already in its very definition. (Gorey et al., 2018).

Hypotheses and objectives

Our study aims to analyze the role that distress overtolerance may play in the relationship between parental psychological control, analyzed distinctly in maternal and paternal figures, and binge eating disorder in a sample of young adults aged 18-30 years of both sexes, identified through a convenience approach in the Italian territory. Our first hypothesis is that a high level of children's perceived psychological control, by both mothers and fathers, is positively correlated with the risk of developing or aggravating the symptomatology of binge eating disorder, as well as with the tendency to excessively tolerate distress by persisting in stressful situations, even when it is not necessary and would be possible to interrupt them. The second hypothesis of our research is that distress overtolerance may play a mediating role in the relationship between maternal and paternal psychological control - analyzed as two separate independent variables - and binge eating disorder symptomatology as a dependent variable. The latter hypothesis is based on the constitutive features of distress overtolerance, which is structured as the habit of individuals to persevere in stressful and exhausting situations and to endure pain to the bitter end, even though they recognize that this behavior severely affects their physical and psychological well-being, deteriorating and compromising their health due to the habit of putting food and sleep needs, social relationships, and leisure time on the back

burner. To examine the interaction between the identified variables, we decided to test a mediating model consisting of parental psychological control style in the two forms of maternal and paternal psychological control as predictors, overtolerance distress as mediator, and binge eating disorder as outcome. Specific attention was given to the direct and indirect effects, through distress overtolerance, of maternal and paternal psychological control on binge eating symptomatology and the direct and mediating effects of distress overtolerance on binge eating disorder. Finally, we set out to investigate whether maternal and paternal psychological control might affect the variables studied differently, whether one parental figure tends to be perceived as more overprotective and hypercontrolling than the other, and whether the perception of any differences in this regard might be matched with a different impact that the two parental figures exert on both distress overtolerance and binge eating symptomatology.

Materials and Methods

Study Design

In the present study, we performed a preliminary correlation analysis among all of the variables under our study using Pearson's product moment correlation coefficients and then tested a mediation model calculated through Structural Equation Modeling, in order to examine whether distress over-tolerance was a potential mediator in the relationship between the independent variables identified in parental psychological

control, in the double form of maternal and paternal psychological control, and the dependent variable represented by the binge eating disorder.

Procedure

Recruitment was carried out through the snowball method. As the questionnaires were to be administered online, it was necessary for each participant to have an electronic tool, a smartphone, tablet, or PC.

Individuals who took part in the research were asked to fill out a self-report questionnaire, which took about 15 min to complete. The form contained a description of the characteristics and purpose of the research, as well as the informed consent form, that the participants had to previously sign in order to view the questionnaires.

In accordance with the international guidelines of the Declaration of Helsinki 1964, last revision in 2000, and the ethical code of the Italian Association of Psychology (AIP), participation in the questionnaire administration phase was subject to the signature of an informed consent form by each participant. Participation was voluntary and no prizes or compensation were offered. Privacy was ensured at all stages of the study.

The study was approved by the Institutional Review Board of the Institute for the Study of Psychotherapies, School of Specialization in Brief Psychotherapies with a Strategic Approach

(reference number: ISP-IRB-2024-7, 23 May 2024).

Participants

The study targets a population of young adults aged 18–30 years of both sexes, recruited by the convenience sampling method. The only inclusion criteria were an age between 18 and 30 years and an adequate knowledge of the Italian language.

Variables

A mediation analysis was drawn through structural equation modeling (SEM). A structure with maternal psychological control (MPC) and paternal psychological control (PPC), distress over-tolerance (DO), and binge eating disorder (BED) as latent variables was used to examine a model in which MPC and PPC are considered as predictor variables, DO as mediator, and BED as outcome.

Measurement

Perception of parental psychological control: the variable was measured through the 8-item Italian version of the Psychological Control Scale-Youth Self-Report (Barber, 1996). The author provided evidence for the validity and one-dimensional factor structure of this scale. Subjects responded on a 3-point Likert-type scale ranging from 1 “not like her (him)” to 3 “a lot like her (him)”, with higher scores reflecting greater perception of parental psychological control e.g. “my mother/father brings up past mistakes when she/he criticizes

me”. Subjects rated psychological control for both parents separately to examine the individual contribution of mothers and fathers. The scale has adequate psychometric properties and its reliability and validity have been also demonstrated in cross-cultural research (Barber, 1996; Barber et al., 2005; Rohner & Khaleque, 2003). The Italian version of this instrument is widely used in research and showed good internal consistency ($\alpha = .80$ and $.83$ respectively for paternal and maternal psychological control).

- Distress overtolerance: the assessment of the variable was conducted using the Distress Overtolerance Scale (Gorey et al., 2018): a 16-item self-report questionnaire that measures an individual's tendency to endure very high levels of stress despite negative consequences for well-being, e.g., “I care more about completing a stressful task than its negative consequences on my health and happiness.” Each item is rated on a 6-point scale from 1 (*completely untrue of me*) to 6 (*completely true of me*). Scores range from 0–96 with higher scores indicating higher levels of DO. The instrument has a two-factor structure (i.e., Capacity for Harm and Fear of Negative Evaluation). The Italian version (Cheli et al., 2021) showed a very good internal consistency for the total scale which included all the 16 items ($\alpha = .91$). This value resulted slightly lower but anyway good in the two subscales *Capacity of Harm* (CH; $\alpha = .89$) and *Fear of Negative Evaluation* (FNE; $\alpha = .82$).

- Binge eating disorder: the variable was assessed using the Binge Eating Scale, a widely

used self-report instrument developed to identify the presence and behavioral manifestations of binge eating disorder (BED). Developed by Gormally et al. (1982), the scale was designed to identify behaviors, emotions, and attitudes related to binge eating episodes among individuals who might be at risk of developing BED. Comprising of 16 items, the scale evaluates both the severity and frequency of binge eating episodes, which are central in diagnosing and understanding the disorder (Gormally et al., 1982). The scale is designed to capture the behavioral (eight items, e.g., large amount of food consumed), as well as the cognitive and emotional (eight items, e.g., feeling out of control while eating, preoccupation with food and eating) features of objective binge eating in overweight and obese adults. Each item presents a set of four statements arranged in a graded severity format, reflecting an increasing level of binge eating symptomatology. For each item, respondents are asked to select one of three or four response options, coded zero to two or three respectively, that best describes their experience e.g. “I feel incapable of controlling urges to eat. I have a fear of not being able to stop eating voluntarily”. The total score ranges from 0 to 46, with a score of <17 indicating the absence of binge eating disorder, a score between 18 and 26 indicating a moderate-grade BED, and a score >27 indicating a severe-grade BED (Barstad et al., 2023). This scoring system has been validated through various studies, showing good internal consistency and satisfactory test-retest reliability

(Timmerman, 1999). The Italian version of the scale reported good internal consistency reliability ($\alpha = .89$).

All of the variables analyzed are quantitative, as evidenced by the exclusive use of self-report survey instruments, and all of the questions that make up the above questionnaire were defined as mandatory to ensure no missing data.

Each of these instruments has been validated in Italy and has been previously administered and analyzed in samples of adults and adolescents, demonstrating good levels of reliability and validity (Cheli et al., 2021; Costa et al., 2015; Di Bernardo et al., 1998). These data were confirmed by the results of our model, as shown in Table 1.

The Statistical Methods

Preliminary statistical analyses were conducted using IBM SPSS (Statistic Package for the Social Sciences) version 29. These included a descriptive analysis of the main characteristics of the sample and a correlational analysis of the identified variables using Pearson's product moment correlation coefficients with a bias-corrected and accelerated 95% confidence interval (CI) (BCa). The internal reliability of each selected instrument was tested through the use of Cronbach's α and the normal distribution through skewness and kurtosis values (Nunnally, 1975). The results are presented in Table 1.

R Studio version 4.3.2 with the lavaan package for R was utilized to assess the factorial validity of the employed measures, regression analysis, and the structural equation modeling (SEM) for the

identified mediation model. We used the parcellation approach in the SEM analysis for several reasons. First, this method reduces model complexity, improves normality (parcels tend to have more normal distributions than individual items), increases long-term sustainability, and ensures more stable parameter estimates. In addition, the parcels not only meet normality assumptions more easily but are also less susceptible to the influence of method effects (Little et al., 2002). In the present study, three parcels were constructed for each observed and latent variable. The resulting model is shown in Figure 1.

Results

Participants: demographic characteristics

A total of 1024 study participants aged between 18 and 30 years (min 18, max 30 years, $M \pm SD$ 25.28 ± 3.53 years), of whom 725 were female (70.8% of the total sample), completed the questionnaires. Regarding the sample's gender/sex identification, participants were asked to identify their male/female biological sex and, in a next question, were given the opportunity to select a third non-binary option to identify their gender identity. In the latter category, 0.9 percent of participants indicated that they identified as a non-binary gender. Both questions were mandatory. In terms of other demographic characteristics, 97.6% of participants reported that their sociocultural background was Italian. Most participants (45.5% of the total sample) were single.

Furthermore, 40.7% of participants are graduated and the 40.7% are students. Regarding the sample size, we referred to the Monte Carlo power analysis for mediation models, which indicates that a minimum of 1000 participants is required to obtain a statistical power of 0.95 (Schoemann et al., 2017). Therefore, the sample size of this study is sufficient to ensure adequate statistical power.

Descriptive Data

The intent of focusing our investigation on young adulthood was in response to the goal of exploring a stage of individual development that, in the context of parenting style and parent-child interactions and relationships, tends to have a marginal space in the literature compared to adolescence, a stage of life which many studies place attention to, when analyzing parent-child relational dynamics. Obviously, the age of adolescence is crucial in individual development and particularly in the redefinition and transformation of parent-child relationships, which become more complex and difficult compared to childhood. However, many of the communicative and relational dynamics that are structured during adolescence tend to persist into early adulthood and sometimes tend to become more rigid and complex than they appeared in the adolescent period and thus more difficult to address and modify. In approaching maladaptive behaviors and psychological distress in young adults, there is a tendency to underestimate the role that the family,

particularly parents, can play in their development and course. This aspect emerges particularly in the treatment of eating disorders, where the parents of adult patients tend to be completely ignored, while they are often not only involved in the origin of the disorder, but continue to influence it overwhelmingly by being an important obstacle or resource in its maintenance and chronicity. Moreover, it is important to note that binge eating disorder, the subject of our study, tends to develop later than other eating disorders such as anorexia or bulimia, and to be more common among adults than among adolescents.

Outcome Data

The internal reliability and normality of the distribution of the data for each instrument used were tested through the use of Cronbach's α , Skewness and Kurtosis, showing good results, as well as all variables demonstrated statistically significant mutual correlation with a p value < 0.001 , as illustrated in Table 1.

The model was evaluated on the basis of multiple indices of fit, as suggested by Bentler and Bonett (1980). All indices of fit were found to be adequate, with values of 0.99 for the comparative fit index (CFI) and the Tucker-Lewis index (TLI), and values of 0.02 and 0.03 for the SRMR (Standardized Mean Quadratic Residuals) and RMSEA (Mean Quadratic Approximation Error), respectively, thus well below the maximum thresholds recommended by Schermelleh-Engel et al. (2003). All values of the fit indices, including

χ^2 values and degrees of freedom, are presented in Table 2.

Main Results

The results of Pearson's correlation coefficient analysis suggest a high degree of significance in the correlation between all the variables examined, with particularly robust correlations observed between distress overtolerance and binge eating disorder ($r = 0.46$, $p < 0.001$). Comparing maternal and paternal psychological control with both the variables distress overtolerance and binge eating disorder, we observed that paternal psychological control showed a less robust degree of correlation than that observed for maternal psychological control, but still statistically significant with values of ($r = 0.29$ and 0.23 $p < 0.001$) compared with values of ($r = 0.35$ and 0.31 , $p < 0.001$).

In constructing the mediation model, with regard to the independent variables consisting of maternal and paternal psychological control, we used the parental psychological control scale, divided into eight items referring to maternal psychological control and another eight items reflecting paternal psychological control. Accordingly, we considered two different indirect variables: maternal psychological control and paternal psychological control. We chose not to include the total score of parental psychological control, i.e., the sum of the scores of the two scales, because we were interested in observing

perceptions of maternal and paternal parenting styles separately from each other to see if differences emerged in perceptions of the two parental figures and if so, whether a different impact on the variables analyzed would be found. The construct thus determined proved to be sufficiently stable and robust, with very satisfactory indices of fit. As for the mediator, which in our model is represented by distress overtolerance, we used the Distress overtolerance (DSO) scale, referring to its total score rather than to the two different scores related to the two constituent scales: 'ability to harm' and 'fear of negative evaluation'. The choice to use only the total score of the questionnaire arose from the intention to observe how the individual tendency to overtreat stressful situations as a whole, regardless of the specific weight that each of the two constituent scales may have, can act directly on the dependent variable constituted by binge eating disorder and as a mediator in the indirect relationship between the latter and the predictor variables. Finally, with regard to the dependent variable represented by uncontrolled eating disorder, we used the Binge Eating Scale in its total score, given by the sum of the responses of all 16 items that make up the questionnaire.

Since this construct showed good fit indices and the resulting model appeared robust and stable, it was decided to use it as the final model for the mediation analysis. The results that the model thus identified - reported in the structural equation modeling analysis - indicate that the

direct effects of the MPC predictor variable on uncontrolled eating disorder are significant and seem to confirm the results of previous studies and the initial hypotheses proposed in this research. Different matter for PPC whose direct effects on BED were not found to be significant. Nevertheless, the indirect effect of both independent variables on binge eating disorder through distress overtolerance was found to be statistically significant, thus confirming our initial hypotheses.

The results are presented in Figure 2 and Table 3.

Errore. L'origine riferimento non è stata trovata.

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Discussion

The research findings seem to confirm our initial hypotheses, showing that the perception of being subjected to a high level of psychological control by parents may directly and indirectly influence, through the tendency to overtolerate distress, the development and/or maintenance of binge eating symptoms among young adults aged 18-30 years. Family functioning, communication among family members, perception of family support, and parent-child relationships appear in the literature as relevant protective or risk factors that are strongly involved in the development and/or maintenance of various and heterogeneous psychological distress, particularly those related to the perception of one's body image and the desire to control weight and body shape, such as eating disorders, compulsive exercise, body dysmorphia, and muscle dysmorphia (Amianto et al., 2021; Costa

et al., 2015; Depestele et al., 2017; Erriu et al., 2020; Giordano et al., 2023, 2024; Robertson, 2020; Romm et al., 2020).

Research recognizes among the most involved the factors in the psychological impairment of adolescents and young people, particularly in the area of eating disorders, a parenting style based on high psychological control, which consists of parents behaving or being perceived as overprotective, hypercontrolling, poorly involved emotionally and empathetically, poorly able to communicate effectively with their children, and above all, poorly inclined to foster their autonomy, independence and decision-making ability. The literature shows that among eating disorders, one of the most common and widespread in the youth population seems to be uncontrolled eating disorder (BED) (Giel et al., 2022); Keski-Rahkonen, 2021), which is characterized by recurrent episodes of objective overeating, without the presence of inappropriate compensatory behaviors, accompanied by the feeling of having lost control over one's eating, the tendency to gain weight, the risk of obesity, cardiovascular and musculoskeletal diseases, and feelings of shame, social isolation and chronic loneliness condition (Agüera et al., 2020; Almeida et al., 2020; Giel et al., 2022; Hilbert et al., 2020; Mohajan, 2023).

Scholars point out that the prevalence and impact of this disorder are of great concern because of the profound association of BED with psychosocial impairment and psychiatric comorbidity, including post-traumatic stress

disorder, substance abuse, mood disorders, suicide risk, as well as significant medical comorbidities such as obesity, type 2 diabetes, hypertension, (Agüera et al., 2020; Keski-Rahkonen, 2021; Mohajan, 2023; Udo & Grilo, 2018). At the same time, research highlights that current used interventions for BED appear to have insufficient efficacy, with a high percentage of patients, nearly 50 percent, failing to achieve complete remission of binge symptoms, as reported by Linardon (2018) in his meta-analysis of 39 randomized controlled trials with 65 treatment conditions, 40 of which were represented by cognitive behavioral therapy, and a total of 2,349 patients. (Linardon, 2018). Thus, there is an urgent need to increase knowledge of the potential risk and maintenance factors that influence the development and chronicity of BED and prevent complete remission of symptoms, in order to identify more targeted strategies that could significantly contribute to improving the effectiveness of clinical interventions. (Forester et al., 2023). Among the factors that may play a significant role in the course of the disorder, studies identify certain individual characteristics that appear to inhibit functional behaviors related to body care and attention, eating habits, and exercise management in adolescents and young people. Among the most common characteristics in individuals suffering from body image, eating, and exercise disorders, the literature highlights perfectionism (Bardone-Cone, 2020), emotional dysregulation, cognitive rigidity (Hovrud et al., 2020; Schaefer et al., 2020;

Williams-Kerver, 2020), hypercontrol with difficulty experiencing and accepting change, and uncertainty (Reilly et al., 2021). In this area, an interesting individual trait, related to those mentioned above but still under-researched, is the tendency to over-tolerate distress despite the knowledge that it compromises one's physical and psychological well-being (Rand-Giovannetti et al., 2022). Individuals who tend to tolerate discomfort excessively tend to ignore their feelings and emotions and move on, often regardless of whether this state of stress actually leads them to achieve their goals, which sometimes do not even correspond to what they really want and expect (Howells et al., 2024). Individuals who over-tolerate discomfort tend to experience in their lives only the dimension of duty, progressively losing the ability to have fun, to relax, to be carefree, and to take an interest in aspects of personal development outside of duties and stress resistance, all traits that appear prevalent and common in at-risk or eating-disordered individuals. Excessive discomfort tolerance often appears to be an end in itself and is aimed solely at proving to oneself and others that one is capable of completing set tasks even in adversity and at the cost of one's mental and physical well-being. Our research has shown that a high level of overtolerance of distress and parental relationships characterized by psychological hypercontrol by parents/caregivers, manifested by intrusiveness and restriction of children's self-determination, corresponding to less attention and lack of

physical displays of affection and emotional closeness, appear to be important risk factors for the development and maintenance of binge eating disorder in young adults, evidencing significant both direct and indirect effects on it. Specifically, in our study, maternal psychological control seems to have a strong direct and indirect effect on BED through mediating distress overtolerance. As for paternal psychological control, it did not show a significant direct effect on BED, but at the same time revealed a significant indirect effect on the disorder through mediating distress tolerance. In future research, it would be interesting to examine the differential impact of parental figures on BED symptomatology using additional self-report questionnaires that can explore in more detail communication and relationships with maternal and paternal figure, as well as the functioning of the family as a whole. It would also be appropriate to supplement these instruments with qualitative interviews that would allow for more comprehensive data collection. Another goal in this regard might be to try to recruit a more gender-balanced sample, with a higher proportion of males than in the current study, to test whether the non-significance of the direct effect of perceived paternal psychological control on uncontrolled eating disorder might also have been influenced by the much higher proportion of females who participated in the current study.

Conclusions

The results of our investigation confirm the initial hypotheses and assumptions in the literature, underscoring the central role that a parenting style based on high psychological control over children and an individual tendency to over-tolerate distress can have on the psychological well-being of young people, particularly on the genesis of dysfunctional eating behaviors that can evolve into eating disorders, in the case of our study the binge-eating disorder. It is likely that young adults who have since childhood experienced parents who excessively controlled their behaviors, judged their achievements severely, trying to make them in line with their goals and expectations, limiting their self-determination and autonomy, have developed tendencies toward perfectionism, hypercontrol rigidity and tolerance of high levels of distress and discomfort. These were means of satisfying the need to meet parental expectations and desires and to gain positive evaluation and appreciation from others, demonstrating that they are able, while achieving their goals, to complete exhausting tasks regardless of their individual physical and emotional states, feelings and desires. However, it should be noted that the cross-sectional nature of the study and the exclusive use of self-reported instruments result in some limitations in the interpretation of the study results.

Limitations

The present study has several limitations. First, the cross-sectional nature of the study design

precludes the possibility of making causal inferences among the variables under study. In fact, because of their inherent characteristics, cross-sectional models can only represent a specific moment in the much larger pathways and operations of the variables under investigation. To confirm the validity of the selected mediation model, future research should use longitudinal or experimental designs that provide a more complete and detailed understanding of the interaction between the examined variables. Such models allow for a more thorough evaluation of the results derived from the cross-sectional model. They allow causal inferences to be drawn and provide stronger evidence for the existence and functionality of the hypothesized relationships between the variables analyzed. A notable shortcoming of the present study is its exclusive reliance on self-report instruments, unsupported by qualitative diagnostic or confirmatory interviews. Although self-report instruments are undoubtedly the quickest method of data collection, they are not without inherent limitations. Self-reported responses may be exaggerated, respondents may be too embarrassed to reveal personal details, and various biases may influence the results. These include social desirability, appreciation, indulgence, acquiescence, and the need for consistency and rationality (Choi. & Pak, 2004). In addition, the failure to understand some words, the presence of sentences in negative form, or the use of language that might elicit

ambiguous or ambivalent interpretations may hinder participants' ability to respond promptly or effectively, especially when they are inattentive or influenced by the framing effect (Choi & Pak, 2004). The influence of personal memories and emotions on the interpretation of events, particularly those in the past, can also be a source of frequent and sometimes significant bias in participants' approach to questionnaires. To improve the accuracy and validity of such instruments, qualitative methods and/or clinical interviews should be incorporated with the aim of mitigating the limitations typically associated with self-report instruments. A viable strategy to mitigate this bias would be the implementation of a longitudinal design, which can reduce the inherent limitations associated with self-report interviews and improve understanding of the nature and direction of the relationships among the variables being examined. In addition, it would be useful to expand the study population by involving a sample of adolescents to gain a more complete understanding of the phenomenon and observe its characteristics and dynamics in the transition from adolescence to adulthood. The study of a population of other age groups would make it possible to observe the evolution of the phenomenon analyzed, particularly with regard to the impact that parenting style can have in a period of life inherently characterized by transformations and conflicts in parent-child relationships and communication, such as adolescence. This analysis would allow us to study, in a diachronic

dimension, the effects of parental psychological control from adolescence to young adulthood, with the possibility of comparing perceptions of parental psychological control from the perspective of adolescents and young adults and identifying early signs of distress that may be related to it. Furthermore, it would allow us to examine the coping mechanisms that adolescents use to deal with stressful situations, which tend to become more stable and defined in adulthood, and the effects that the tendency to over-tolerate distress may have on eating disorders, which often emerge during adolescence and are likely to become chronic in adulthood.

Future Directions

The results of the present study, despite the important limitations mentioned above, may provide insights for the design and testing of clinical, social, or educational interventions to address binge eating disorder among young adults. From this perspective, the exploration of potential risk and protective factors related to binge eating disorder is crucial to make prevention and treatment interventions more effective and timelier, and to identify strategies that are more targeted to the specific characteristics of individuals experiencing the BED symptomatology. In the context of prevention, it would be useful for school professionals to pay attention to children and adolescents who have difficulty coping functionally with stressful tasks, while

experiencing negative emotions and a progressive deterioration of their social relationships and mental and physical health. Moreover, school professionals could be encouraged to pay attention, particularly with regard to adolescents and preadolescents, to potential dysfunctional eating behaviors and attitudes that may also emerge as a coping mode to tolerate a high level of stress in order to meet parental expectations and feel worthy of their love and appreciation. The fear of not meeting others' expectations and the strong need to avoid negative evaluation by others, even at the expense of one's own well-being and personal satisfaction, seem to share the experience of being subjected to parental psychological hypercontrol, dysfunctional distress tolerance, and the development of binge eating symptomatology. For these reasons, it might be important for professionals dealing with eating disorders, particularly binge eating, to pay attention to the role of the family context, particularly how individuals with BED or at risk of BED perceive attitudes and modes of interaction and communication with parents. In light of our findings, we believe that focusing on the relationships that adolescents and young people have with their parents/caregivers, by designing and implementing interventions aimed at improving parent-child interaction and communication and, through it, increasing autonomy and self-determination, can have a positive spin-off in preventing and overcoming binge-eating disorder and related distress.

Similarly, early recognition of the tendency of these individuals to be overly perfectionistic and persistent in completing tasks, even in the presence of illness and unhappiness - an attitude that several scholars and clinicians highlight as typical of eating disorders - can be very helpful. Based on the latter considerations, an important strategy may be to work on young people's management and expression of emotions and cognitive rigidity: here the aim would be to unhinge the tendency to hypercontrol which was learned from their parents and then reposed by themselves through dysfunctional interaction with their bodies and maladaptive resistance to pain, improving their ability to respond functionally to difficulties and promoting the practice of more functional coping strategies in dealing with stressful situations.

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References

Agüera, Z., Lozano-Madrid, M., Mallorquí-Bagué, N., Jiménez-Murcia, S., Menchón, J. M., & Fernández-Aranda, F. (2020). A review of binge eating disorder and obesity. *Neuropsychiatrie: Klinik, Diagnostik, Therapie und Rehabilitation: Organ der Gesellschaft Österreichischer Nervenärzte und Psychiater*, 35(2), 57-67. <https://doi.org/10.1007/s40211-020-00346-w>

Almeida, M. S. C., Sousa Filho, L. F. D., Rabello, P. M., & Santiago, B. M. (2020). International Classification of Diseases–11th revision: from design to implementation. *Revista de Saúde Pública*, 54, 104. <https://doi.org/10.11606/s1518-8787.2020054002120>

American Psychiatric Association. (2022). *Diagnostic and statistical manual of mental disorders* (5th ed., text rev.). <https://doi.org/10.1176/appi.books.9780890425787>

Amianto, F., Martini, M., Olandese, F., Davico, C., Abbate-Daga, G., Fassino, S., & Vitiello, B. (2021). Affectionless control: A parenting style associated with obesity and binge eating disorder in adulthood. *European Eating Disorders Review*, 29(2), 178-192. <https://doi.org/10.1002/erv.2809>

Barber, B. K. (1996). Parental psychological control: Revisiting a neglected construct. *Child development*, 67(6), 3296-3319. <https://doi.org/10.1111/j.1467-8624.1996.tb01915.x>

Barber, B. K., Stolz, H. E., Olsen, J. A., Collins, W. A., & Burchinal, M. (2005). Parental support, psychological control, and behavioral control: Assessing relevance across time, culture, and method. *Monographs of the society for research in child development*, i-147.

Bardone-Cone, A. M., Thompson, K. A., & Miller, A. J. (2020). The self and eating disorders. *Journal of personality*, 88(1), 59-75. <https://doi.org/10.1111/jopy.12448>

Barstad, L. H., Johnson, L. K., Borgeraas, H., Hofsø, D., Svanevik, M., Småstuen, M. C., ... & Hjelmæsæth, J. (2023). Changes in dietary intake, food tolerance, hedonic hunger, binge eating problems, and gastrointestinal symptoms after sleeve gastrectomy compared with after gastric bypass; 1-year results from the Oseberg study—a randomized controlled trial. *The American Journal of Clinical Nutrition*, 117(3), 586-598. <https://doi.org/10.1016/j.ajcnut.2022.11.016>

Bentler, P. M., & Bonett, D. G. (1980). Significance tests and goodness of fit in the analysis of covariance structures. *Psychological bulletin*, 88(3), 588. <https://doi.org/10.1037/0033-2909.88.3.588>

Brenning, K., Soenens, B., Vansteenkiste, M., De Clercq, B., & Antrop, I. (2022). Emotion regulation as a transdiagnostic risk factor for (non) clinical adolescents' internalizing and externalizing psychopathology: Investigating the intervening role of psychological need experiences. *Child Psychiatry & Human Development*, 1-13. <https://doi.org/10.1007/s10578-020-01107-0>

Cella, S., Cipriano, A., Aprea, C., & Cotrufo, P. (2022). Risk factors for binge eating severity among adolescent girls and boys. A structural equation modeling approach. *Appetite*, 169, 105825. <https://doi.org/10.1016/j.appet.2021.105825>

- Cheli, S., Gorey, C. M., Bornovalova, M. A., Chiarello, F., & Cavalletti, V. (2021). *Distress Overtolerance Scale: Validazione psicometrica in lingua Italiana. Psichiatria e Psicoterapia*, 40(1). 10.36131/psichpsicoterapia2118
- Choi, B. C., & Pak, A. W. (2004). A catalog of biases in questionnaires. *Preventing chronic disease*, 2(1), A13.
- Costa, S., Hausenblas, H. A., Oliva, P., Cuzzocrea, F., & Larcan, R. (2015). Perceived parental psychological control and exercise dependence symptoms in competitive athletes. *International Journal of Mental Health and Addiction*, 13, 59-72. <https://doi.org/10.1007/s11469-014-9512-3>
- Costa, S., Hausenblas, H. A., Oliva, P., Cuzzocrea, F., & Larcan, R. (2016). Maladaptive perfectionism as mediator among psychological control, eating disorders, and exercise dependence symptoms in habitual exerciser. *Journal of behavioral addictions*, 5(1), 77-89. DOI: <https://doi.org/10.1556/2006.5.2016.004>
- Depestele, L., Soenens, B., Lemmens, G. M., Dierckx, E., Schoevaerts, K., & Claes, L. (2017). Parental autonomy-support and psychological control in eating disorder patients with and without binge-eating/purging behavior and non-suicidal self-injury. *Journal of Social and Clinical Psychology*, 36(2), 126-141. <https://doi.org/10.1521/jscp.2017.36.2.126>
- Di Bernardo, M., Barciulli, E., Ricca, V., Mannuccci, E., Moretti, S., Cabras, P. L., & Rotella, C. M. (1998). Binge Eating Scale in obese patients: validation of the Italian version. *Minerva Psichiatrica*, 39, 125-130.
- Erriu, M., Cimino, S., & Cerniglia, L. (2020). The role of family relationships in eating disorders in adolescents: a narrative review. *Behavioral Sciences*, 10(4), 71. <https://doi.org/10.3390/bs10040071>
- Forester, G., Schaefer, L. M., Dodd, D. R., Burr, E. K., Bartholomay, J., Berner, L. A., ... & Wonderlich, S. A. (2023). Time-of-day and day-of-week patterns of binge eating and relevant psychological vulnerabilities in binge-eating disorder. *International Journal of Eating Disorders*, 56(9), 1694-1702. <https://doi.org/10.1002/eat.23995>
- Giel, K. E., Bulik, C. M., Fernandez-Aranda, F., Hay, P., Keski-Rahkonen, A., Schag, K., ... & Zipfel, S. (2022). Binge eating disorder. *Nature reviews disease primers*, 8(1), 16. <https://doi.org/10.1038/s41572-022-00344-y>
- Giordano, F., Calaresi, D., Castellani, L., Verrastro, V., Feraco, T., & Saladino, V. (2025). Interaction Between Social Support and Muscle Dysmorphia: The Role of Self-Efficacy and Social Media Use. *Behavioral Sciences*, 15(2), 122. <https://doi.org/10.3390/bs15020122>
- Giordano, F., Cortis, C., Castellani, L., Fusco, A., Saladino, V., & Verrastro, V. (2023). Bigorexia and confrontation with socially promoted aesthetic ideals. In *Book of Abstract 28th Annual Congress of the European College of Sport Science* (pp. 1041-1041). <https://hdl.handle.net/11564/842356>
- Gorey, C. M., Rojas, E. A., & Bornovalova, M. A. (2018). More of a good thing is not always better: Validation of a distress overtolerance measure. *Assessment*, 25(4), 446-457. <https://doi.org/10.1177/1073191116654218>
- Gormally, J. I. M., Black, S., Daston, S., & Rardin, D. (1982). The assessment of binge eating severity among obese persons. *Addictive behaviors*, 7(1), 47-55. [https://doi.org/10.1016/0306-4603\(82\)90024-7](https://doi.org/10.1016/0306-4603(82)90024-7)
- Grilo, C. M., & Juarascio, A. (2023). Binge-eating disorder interventions: review, current status, and implications. *Current obesity reports*, 12(3), 406-416. DOI <https://doi.org/10.1007/s13679-023-00517-0>

- Hilbert, A., Petroff, D., Herpertz, S., Pietrowsky, R., Tuschen-Caffier, B., Vocks, S., & Schmidt, R. (2020). Meta-analysis on the long-term effectiveness of psychological and medical treatments for binge-eating disorder. *International Journal of Eating Disorders*, 53(9), 1353-1376. <https://doi.org/10.1002/eat.23297>
- Hovrud, L., Simons, R., & Simons, J. (2020). Cognitive schemas and eating disorder risk: The role of distress tolerance. *International journal of cognitive therapy*, 13, 54-66.
- Howells, R. L., Dunn, L. C., & Carter, J. C. (2024). The relationship between difficulties in the regulation of positive and negative emotions and binge-eating symptoms in young adults. *Eating Behaviors*, 52, 101839. <https://doi.org/10.1016/j.eatbeh.2023.101839>
- Keski-Rahkonen, A. (2021). Epidemiology of binge eating disorder: prevalence, course, comorbidity, and risk factors. *Current opinion in psychiatry*, 34(6), 525-531. DOI: 10.1097/YCO.0000000000000750
- Lee, D. H., & Kim, H. S. (2021). Validation of the Korean version of the distress overtolerance scale. *Korean Journal of Clinical Psychology*, 40(2), 143-155.
- Lee, M. (2024). Introjected regulation and academic burnout: A moderated mediation model of social comparison and distress overtolerance. *Stress and Health*, e3381. <https://doi.org/10.1002/smi.3381>
- Linardon, J. (2018). Rates of abstinence following psychological or behavioral treatments for binge-eating disorder: Meta-analysis. *International Journal of Eating Disorders*, 51(8), 785-797. <https://doi.org/10.1002/eat.22897>
- Little, T. D., Cunningham, W. A., Shahar, G., & Widaman, K. F. (2002). To parcel or not to parcel: Exploring the question, weighing the merits. *Structural equation modeling*, 9(2), 151-173. https://doi.org/10.1207/S15328007SEM0902_1
- Mohajan, D. (2023). Binge-Eating: A Life-Threatening Eating Disorder. <https://mpr.ub.uni-muenchen.de/118420/>
- Monteleone, A. M., Ruzzi, V., Patriciello, G., Pellegrino, F., Cascino, G., Castellini, G., ... & Maj, M. (2020). Parental bonding, childhood maltreatment and eating disorder psychopathology: an investigation of their interactions. *Eating and Weight Disorders-Studies on Anorexia, Bulimia and Obesity*, 25, 577-589. <https://doi.org/10.1007/s40519-019-00649-0>
- Nealis, L. J., Sherry, S. B., & Lee-Baggley, D. L. (2022). Perfectionism and stressful perseveration in the psychophysiological experience of stress: A 7-day multi-method study. *Journal of Psychopathology and Behavioral Assessment*, 1-12. <https://doi.org/10.1007/s10862-021-09932-w>
- Nunnally, J. C. (1975). Psychometric theory—25 years ago and now. *Educational Researcher*, 4(10), 7-21. <https://doi.org/10.3102/0013189X004010007>
- Rand-Giovannetti, D., Rozzell, K. N., & Latner, J. (2022). The role of positive self-compassion, distress tolerance, and social problem-solving in the relationship between perfectionism and disordered eating among racially and ethnically diverse college students. *Eating Behaviors*, 44, 101598. <https://doi.org/10.1016/j.eatbeh.2022.101598>
- Reilly, E. E., Perry, T. R., Brown, T. A., Wierenga, C. E., & Kaye, W. H. (2021). Intolerance of uncertainty and eating disorder symptoms over the course of intensive treatment. *Behavior therapy*, 52(3), 698-708. <https://doi.org/10.1016/j.beth.2020.09.002>
- Robertson, J. (2020). The parent behind the eating disorder: how parenting styles affect eating disorders in adolescents. *Family Perspectives*, 2(1), 3. <https://scholarsarchive.byu.edu/familyperspectives/vol2/iss1/3>

Rohner, R. P., & Khaleque, A. (2003). Reliability and validity of the parental control scale: A meta-analysis of cross-cultural and intracultural studies. *Journal of Cross-Cultural Psychology*, 34(6), 643-649. <https://doi.org/10.1177/0022022103255650>

Romm, K. F., Metzger, A., & Alvis, L. M. (2020). Parental psychological control and adolescent problematic outcomes: A multidimensional approach. *Journal of Child and Family Studies*, 29, 195-207. <https://doi.org/10.1007/s10826-019-01545-y>

Schaefer, L. M., Smith, K. E., Anderson, L. M., Cao, L., Crosby, R. D., Engel, S. G., ... & Wonderlich, S. A. (2020). The role of affect in the maintenance of binge-eating disorder: Evidence from an ecological momentary assessment study. *Journal of abnormal psychology*, 129(4), 387. DOI: <https://dx.doi.org/10.1037/abn0000517>

Schermelleh-Engel, K., Moosbrugger, H., & Müller, H. (2003). Evaluating the fit of structural equation models: Tests of significance and descriptive goodness-of-fit measures. *Methods of psychological research online*, 8(2), 23-74. <https://doi.org/10.23668/PSYCHARCHIVES.12784>.

Schoemann, A. M., Boulton, A. J., & Short, S. D. (2017). Determining power and sample size for simple and complex mediation models. *Social Psychological and Personality Science*, 8(4), 379-386. <https://doi.org/10.1177/1948550617715068>

Timmerman, G. M. (1999). Binge eating scale: further assessment of validity and reliability 1. *Journal of Applied Biobehavioral Research*, 4(1), 1-12. <https://doi.org/10.1111/j.1751-9861.1999.tb00051.x>

Udo, T., & Grilo, C. M. (2018). Prevalence and correlates of DSM-5–defined eating disorders in a nationally representative sample of US adults. *Biological psychiatry*, 84(5), 345-354. <https://doi.org/10.1016/j.biopsych.2018.03.014>

Williams-Kerver, G. A., Wonderlich, S. A., Crosby, R. D., Cao, L., Smith, K. E., Engel, S. G., ... & Le Grange, D. (2020). Differences in affective dynamics among eating-disorder diagnostic groups. *Clinical Psychological Science*, 8(5), 857-871. <https://doi.org/10.1177/2167702620917196>

Zegel, M., Kabel, K. E., Lebeaut, A., & Vujanovic, A. A. (2023). Distress overtolerance among firefighters: Associations with posttraumatic stress. *Psychological Trauma: Theory, Research, Practice, and Policy*, 15(S2), S315. <https://doi.org/10.1037/tra0001393>

Figure 1. The figure portrays the mediation model that was utilized. For purposes of clarity, only the direct paths are reported; parcels are not reported.

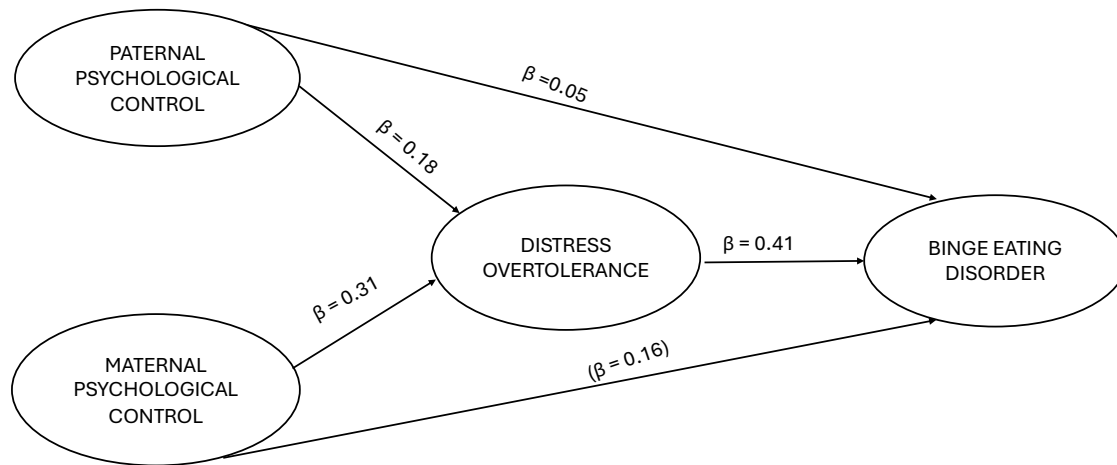


Table 1. Descriptive analyses, reliability and correlations

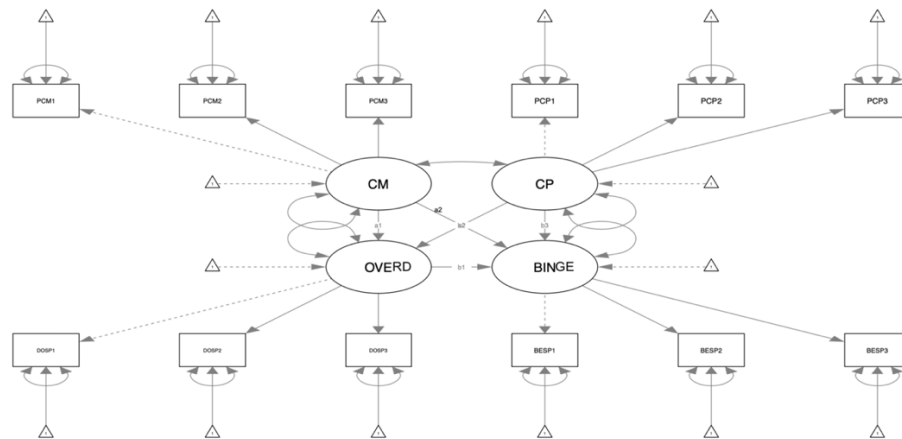
	M	SD	S	K	α	1	2	3
1. Distress overtolerance	88.4	29.9	.07	-.67	.92	-	-	-
2. Binge eating disorder	9.0	9.3	1.43	.76	.92	.46*	-	-
3. Paternal psychological control	11.9	4.0	1.17	.66	.86	.29*	.23*	-
4. Maternal psychological control	12.6	3.8	.84	-.05	.83	.35*	.31*	.39*

Note: N = 1024. *p < .01.

Table 2. Goodness-of-fit indices of the measurement models

	χ^2	p	CFI	TFI	SRMR	RMSEA
Fit Indices	(48)=99.83	<.01	.99	.99	.02	.03

Figure 2. Sem Path of the selected model



Note: This figure outlines the Sem Path of the selected model, determined through the parceling approach. Specifically, in the plot, circles represent latent variables, rectangles represent observed variables, and triangles represent measurement errors. CM = Maternal psychological control with PCM1, PCM2, PCM3 representing its three constituent parcels; CP= Paternal psychological control with PCP1, PCP2, PCP3 representing its three constituent parcels; OVERD = Distress over-tolerance with DOSP1, DOSP2, DOSP3 representing its three constituent parcels; BINGE = Binge eating disorder with BESP1, BESP2, BESP3 representing its three constituent parcels. Only the direct paths are shown in the figure to ensure a clear reading of the model. The paths a1 shows the direct effect between maternal psychological control and distress over-tolerance, b1 shows the direct path between distress over-tolerance and binge eating disorder, a2 indicates the direct effect of maternal psychological control on binge eating disorder, b2 shows the direct path of paternal psychological control on distress over-tolerance, b3 represents the direct effect of paternal psychological control on binge eating disorder. For more details, see Table 3.

Table 3. Path Estimates of the structural model, SE and 95% CIs

Direct effects	β	p	SE	CI LL	CI UL
CP → OVERD	0.18	< .001	0.04	0.11	0.29
CM → OVERD	0.31	< .001	0.05	0.25	0.43
OVERD → BINGE	0.41	< .001	0.04	0.36	0.52
CP → BINGE	0.05	0.186	0.04	-0.03	0.15
CM → BINGE	0.16	< .001	0.05	0.09	0.28

Indirect effect of CP via OVERD	β	p	SE	CI LL	CI UL
CP → BINGE	0.07	< .001	0.02	0.05	0.13

Indirect effect of CM via OVERD	β	p	SE	CI LL	CI UL
CM → BINGE	0.13	< .001	0.02	0.10	0.19

Note: The following table shows the values of standardized beta coefficients, standardized errors, p values and maximum and minimum levels of confidence intervals. OVERD = Distress overtolerance; CP = Paternal psychological control; CM = Maternal psychological control; BINGE = Binge eating disorder; β = standardized beta coefficient; p = level of significance; SE = standard error BC 95%; CI = confidence interval; LL = lower limit; UL = upper limit.