
STRESSFUL LIFE EVENTS AS RISKS FACTORS FOR DISORDERED EATING IN CYPRIOT ADOLESCENTS

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Abstract

Objective: The present study was interested to examine the impact of certain stressful life events, including negative perceived life events, lifestyle characteristics and/or emotional experiences on adolescents' eating behaviours. **Methods:** Three hundred and twenty-seven ($n = 327$) adolescents, ranging in age from 14 to 19 (mean 15.89) completed to a series of self-administered questionnaires. **Results:** Adolescents who had experienced death of a family member tended to present more disordered eating behaviour, with a tendency to engage more likely in oral control behaviours. Adolescents who experienced either health and/or mental problems resulting in received therapy were more likely to engage in disordered eating behaviours with a tendency towards dieting and bulimia. Anxiety, depression with disordered eating behaviours were significantly correlated, with adolescents experiencing depressive symptoms and engage mostly in bulimic attitudes and adolescents experiencing anxiety in both bulimic and dieting tendencies. **Discussion:** Stressful life events, for example negative experiences, presence of emotional states of depression and anxiety, as well as general negative perceived individual characteristics, are associated with disordered eating behaviours in adolescents. **Implications and future research:** Early psychoeducation and intervention upon recognition of possible negative perceived life experiences might prevent future presence of disordered eating and promote better and positive emotional state in adolescents.

Keywords: Stressful life events; Depression; Anxiety; Disordered eating; Adolescents.

Introduction

Research in the area has focused on the relationship between eating disorders (EDs) and occurrence of stressful life events (Raffi, Rondini, Grandi, & Fava, 2000; Wolff, Crosby, Roberts, & Wittrock, 2000; Grilo et al., 2012), with abnormalities in both physiological (objective) and self-reported (subjective) reactions to such experiences (Crowther, Sanftner, Bonifazi, & Shepherd, 2001; Koo-Loeb, Pedersen, & Girdler, 1998; Messerli-Burgy, Engesser, Lemmenmeier, Steptoe, & Laederach-Hofmann, 2010). Studies has focused primarily on the impact of singular negative events in an individual's life and emphasized the influence of daily hassles, suggesting a cumulative effect of those minor tensions in overall negative psychosocial functioning and mood of the individual (Baker, 2006; Mroczek &

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

Consent to publish: Patients signed informed consent regarding publishing their data.

Almeida, 2004; Piazza, Charles, Sliwinski, Mogle, & Almeida, 2012). Specifically, studies found that even if there was not a significant change in the daily hassles of individuals with disordered eating problems (Wolff et al., 2000), those individuals were more likely to perceive daily hassles as more stressful (Crowther et al., 2001) and daily minor hassles were significantly associated with binge eating episodes (Woods, Racine, & Klump, 2010) on a regular basis. Taking into consideration these findings, stressful life events in adolescence are more likely to play a critical role, when negative emotions are experienced in response to those events (Beck, 1995). Additionally, another study showed that emotions of dissatisfaction and depression are correlated with disordered eating behaviours, such as binge eating, dieting and unhealthy weight control behaviours (Sharpe et al., 2018).

At first, individuals who have experienced traumatic events, such as physical, verbal, and/or sexual abuse during their life may initially develop a disordered eating behaviour and be more predisposed to EDs (Jacobi, Hayward, de Zwaan, Kraemer, & Agras, 2004; Solmi, et al., 2020). An important risk factor examined is the correlation between child sexual abuse (CSA) and EDs. CSA is currently established as a risk factor in relation to the onset and development of EDs, as well as in increasing the likelihood of the disorders' maintenance (Stice, 2001). Theoretically, the relationship could be explained by the inability of the person to regulate the negative impact of such experience, leading to self-hatred, self-dislike, poor self-esteem, and result in disordered eating behaviours (Perry, Pollard, Blakley, Baker, & Vigilante, 1995; Kearney-Cooke & Striegel-Moore, 1996). Studies have tried to examine the relationship in order to reach to a more concrete explanation, but lacking in theory and research, the conclusion is still very challenging as to how precisely trauma and EDs are related (Smolak & Murnen, 2002). Though, any traumatic event and/or crises in a person's life might lead to possible eating disordered pathology. Taking these findings into consideration, stressful life events are more likely to play a critical role especially in adolescence population, when negative emotions are experienced in response to those events (Beck, 1995).

Adolescents are the preferred population in this research. The period between childhood to adulthood is defined by various changes and challenges, with the child's transition from parental dependence to autonomy (Heyes & Hiu, 2019), where physical, emotional, mental, moral, spiritual, sexual, and social aspects are rapidly under change. According to an evaluation of adolescents' emotional and developmental maturity, findings suggest that ED pathology may arise between the ages of 15 to 19, with lower prevalence in early adolescence (Lewinsohn et al., 2000; Stice, Killen, Hayward, & Taylor, 1998). Therefore, the range of ages 15 to 19, as well as, the transition from dependency to autonomy and maturity impact adolescents' development, becoming more vulnerable to mental illness (Casey, Jones, & Hare, 2008). What makes adolescents more vulnerable is the crucial period where a number of intrinsic and external factors influence and shape adolescents' development. In specific, such factors might be traumatic events (such as neglect, bullying and/or abuse) (Lie, Ro, & Bang, 2019), gender, drug abuse (cannabis), culture, and ethnicity (Heyes & Hiu, 2019). Therefore, possible changes in their life experiences, emotional state (feelings of unhappiness), and food consumption/preference are considered to be common risk factors for the onset of EDs.

An interesting study from the University of Minnesota analyzed data from a clinical sample of individuals (age range 17 to 64) who were experiencing Eds. The study investigated how transitional life events may trigger disordered eating. Participants mentioned that six factors triggered their EDs and were more likely to produce anorexic or bulimic behaviours. Those were: (a) school transition, (b) relationship changes, (c) death of a family member and/or close friend, (d) abuse, sexual assault or incest, (e) changing homes or jobs, and (f) illness and/or hospitalization (Berge, Loth, Hanson, Croll-Lampert, Neumark-Sztainer, 2012). These states elicit emotions of dissatisfaction, anxiety, and depression which are correlated with disordered eating behaviours, such as binge eating, dieting and unhealthy weight control behaviours (Sharpe et al., 2018). Specifically, depression and anxiety are viewed (a) as two of the most prevalent psychological disorders, (b) foreshadow the development of EDs (Lynskey, 1998) mostly found in children and adolescent population, (c) are often related with various negative outcomes, for instance, body image dissatisfaction (Measelle, Stice, & Hogansen, 2006; Fulkerson, Sherwood, Perry, Neumark-Sztainer, & Story, 2004), and (d) influence the consumption of unhealthy foods, increase imbalanced dietary patterns and unhealthy emotional eating habits, with adolescents engaging mostly in diet less in fruits and vegetables, more snacks, and more fatty foods in their presence (Adam & Epel, 2007; Dallman et al., 2003).

While anxiety and depression are common conditions present among children and adolescents, both are seen to be comorbid with other conditions. Some children and adolescents exhibit psychopathology in severely distressed close relationships and have chronic health problems (Newman, Moffitt, Caspi, & Silva, 1998; Richards & Perri, 2002). Numerous epidemiological studies have suggested that comorbidity is very common and it is discovered more often in childhood and adolescence (Nottlemann & Jensen, 1995). Thus, studies established a comorbid relationship between depression and anxiety disorders and disordered eating attitudes (Johnson & Wardle, 2005).

In this study, relevant information that is essential to the understanding of the relationship between stressful life events in adolescents and disordered eating behaviour will be addressed.

Since, individual's experiences, including negative perceived life events, lifestyle characteristics and/or emotions of depression and anxiety, might predispose an adolescent in disordered eating behaviour, the aim of this research was to examine the impact of those parameters on adolescents' eating. Disordered eating is defined as a person's worry of body image and as a result eating pattern is disrupted. Dieting, bulimia, food preoccupation, and oral control are the three disordered eating parameters used (EAT-26).

Methods

Participants

Power analysis was conducted using G* Power (Faul et al., 2013) to determine a sufficient sample size using an alpha of 0.05, a power (1- β) of .80, and a medium effect size ($f = .25$) input parameters. Based on the aforementioned assumptions, a total sample size of 179 was required.

A non-clinical sample of 329 Cypriot adolescents and young adults was recruited. Inclusion criteria for participants required being an adolescent child between the ages of 14 to 19 years old, receiving informed consent from their parents (if under 18 years old). Exclu-

sion criteria for participants were current health related problems with food (such as diagnosed diabetes, EDs, food allergies, high blood pressure, and intolerances) and also having been currently diagnosed with depression and/or anxiety. The likelihood of ED pathology in this group was controlled by setting a cut-off score above 35, according to the EAT-26 (Garner & Garfinkel, 1979). Two participants were excluded from the analysis due to the presence of diagnosed ED and Diabetes. The final sample consisted of 163 males and 164 females ($N = 327$). The mean age of participants was 15.89 ($SD = 1.43$) with a range of 14–19 years old (Figure 1) and a response rate of 66%.

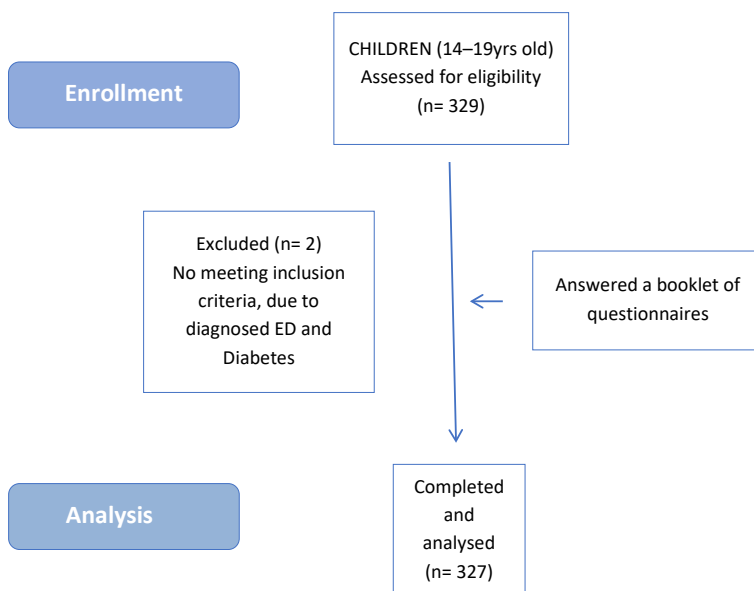


Figure 1
Flow diagram of study.

Procedure

Ethics approvals from the Cyprus National Bioethics Committee and the Ministry of Education and Culture were obtained. Participants were recruited from classes in schools and university campus. Issues with regards to right to withdraw, confidentiality, and anonymity were assured by providing informed consent forms to both parents and schools. Only children whose parents had signed the informed consent participated in the study. Participants did not initially receive full information about the study, in order to ensure no influence of the topic in their decision to participate. They were only informed that the study focused on their relationship with their parents.

Measures

Participants completed a battery of questionnaires containing the EAT-26, RADS-2, and SCARED followed by demographic information about the individual, such as gender, age, BMI, education, lifestyle, and physical-mental health. BMI was calculated using the formula for each individual ($BMI = \text{Weight} / (\text{Height} \times \text{Height})$). Additional information was collected about the presence of any negative life events happening throughout the participant's life. Negative life events of (1) transition to another house, (2) transition to another school, (3) repeated the year in school, (4) experienced a family health problem, (5) lost a family member, (6) experienced a parent

divorce, (7) experienced family changes (in specific parent's schedule changes), (8) had siblings moving into another house and/or country, and (9) had a new member in the family have been included in the study.

1. EATING ATTITUDES TEST 26 (EAT-26)

The EAT-26 is a widely used standardized measure of symptoms and concerns assessing "eating disorder risk" in high school, college and other risk samples based on attitudes, behaviours, and feelings related to eating and eating disorder symptoms (Garner & Garfinkel, 1979; Garner, Olmsted, Bohr, & Garfinkel, 1982). It is a revised measure of the original EATS containing 40 items. As a screening tool, this questionnaire assesses three subscales: 1) Dieting, 2) Bulimia and Food Preoccupation, and 3) Oral Control. A total score above 20 indicates the need to seek professional help, whereas a score of 35 is evident of a need to seek intervention and treatment. Respondents are asked to rate on a scale from 1 to 6 (1=never, 6=always) the frequency of experiencing attitudes, behaviours, and feelings related to eating and eating disorder symptoms (see Appendix D). Cronbach's α has been reported between 0.56 to 0.80 (Gleaves, Pearson, Ambwani, & Morey, 2014). Cronbach's α for the whole scale in this study was 0.80. Cronbach's α was 0.79 for the Dieting subscale; with $\alpha = 0.67$ for the Bulimia subscale, and $\alpha = 0.52$ for the Oral Control subscale. Cut-off for presence of ED was set above 35, according to the EAT-26 guidelines (Garner & Garfinkel, 1979).

2. REYNOLDS ADOLESCENT DEPRESSION SCALE 2 (RADS-2)

The RADS-2 is a 30-item self-report questionnaire (Reynold, 1987) designed to evaluate five domains of the depression severity construct in adolescents: dysphoric mood, anhedonia/negative affect, negative self-evaluation, and somatic complaints. Respondents are asked to rate on a scale from 0 to 3 (0=almost never, 3=always) describing emotions and behaviours related to depression (see Appendix I). Cronbach's α has been reported between 0.90 to 0.95 (Osman, Gutierrez, Bagge, Fang, & Emmerich, 2010). Cut-off for presence of severe depression is set to 76, according to the authors. Cronbach's α in this study was 0.91.

3. CHILD ANXIETY RELATED EMOTIONAL DISORDERS (SCARED)

The SCARED (Birmaher et al., 1999) is a widely used self-report questionnaire assessing anxiety disorder symptoms in children and adolescents from 8 to 18 years old. The questionnaire is composed of 41 items that can be allocated to five subscales: panic/somatic, generalized anxiety, separation anxiety, social phobia, and school phobia. Respondents are asked to rate on a scale from 0 to 2 (0=almost never, 2=most of the times) their general emotions and behaviours related to anxiety (see Appendix J). Cronbach's α has been reported between 0.87 to 0.91 (Birmaher, Brent, Chiappetta, Bridge, Monga, & Baugher et al., 1999). Cronbach's α in this study was 0.91.

Statistical Analyses

The study utilized MANOVA analyses to examine any difference between individual's background, negative perceived events, and disordered eating behaviours. Correlations and regressions were performed to examine relationships between depression, anxiety and disordered eating behaviours.

Handling of Missing Data

Missing value analysis was conducted in SPSS to establish whether data was missing at random or if there was a pattern, in order to ascertain how to deal with lost data. Evaluating the tabulated pattern table, the results of Little's MCAR test indicated that data is missing completely at random (MCAR) (Little's MCAR test p value $> .05$). Descriptive statistics were also conducted in order to evaluate the percentage of missing data in variables. The case-processing summary indicated that the number of cases for each variable ranged from 243 to 327 and with a range of 0 to 26% of missing data. Therefore, a decision was made to handle missing data with pairwise deletion method (Peugh & Enders, 2004; Schlomer, Bauman, & Card, 2010).

Translation of Measures

There was a need to translate the questionnaires in the Greek language as there were no suitable measures in Greek language. After consideration of (a) numerous questionnaires measuring adolescent's emotional state, (b) the applicability and feasibility of measures being translated into Greek, and (c) the reliability and validity of the scales, the following questionnaires were chosen: Eating Attitude Test 26 (EAT-26), Reynolds Adolescents Depression Scale 2 (RADS-2), and Child Anxiety Related Emotional Disorders (SCARED). The approach used for the translation was back-translation (WHO, 2016). A four-step process was followed: (1) translation in Greek, (2) back translation in English, (3) pilot study and feedback from participants, and (4) final review (Forsyth, Kudela, Lawrence, Levin, & Willis, 2006).

1. Translation of questionnaires in Greek

The translator was a bilingual literaturer in Greek and English language. The translation project aimed to develop items of the same meaning as the items included in the English questionnaires (Harkness et al., 2003). Based on these instructions, the translator worked independently and the researcher supervised the work, being available as needed to answer any questions and provide guidance. Any translation challenges were documented and then dealt with through discussion.

2. Back translation of questionnaires in English

In order to check for discrepancies, back translation in English was performed. The translation was back translated (translate back from Greek into English) to ensure the accuracy of the translation. Any misunderstandings and/or unclear wordings revealed in the back translation (Guillemin, Bombardier, & Beaton, 1993) were dealt with through discussion. Afterwards, the instruments were tested on a small group of 5 bilingual participants, as close to the study population as possible. Item analysis and interviews with this focus group resulted in some minor amendments.

3. Pilot Study

Third step was the creation of a pilot study to pre-test the questionnaires before given to the target population of the study. The pilot study consisted of 18 participants, which were required to answer the Greek questionnaires and then comment on the questionnaires' items. The results were evaluated for reliability by the use of Cronbach's alpha (Beauford, Nagashima, & Wu, 2009). After the completion of the questionnaires, participants in the pilot study were asked

to share their thoughts and suggestions for the translated items. This process helped the researcher record any misunderstandings and receive recommendations for the final step of the revision process.

4. Final Review

A meeting with the chair supervisor was conducted for the final revision of the questionnaires. This helped the researcher confirm that the translated items had the same meaning as the original items. This process was repeated several times before proceeding with the data collection in the target population. At this meeting, decisions the content of the questionnaires was finalised. The questionnaires were included in their full length in the present study and no exclusion of items was performed.

Results

Influence of individual characteristics on eating

Two-way ANOVA analyses were first performed to examine the impact of gender and age groups (age ranges 14–16 & 17–19) on eating attitudes. There was a statistically significant main effect for gender on dieting behaviour, with $F(3, 203) = 4.55, p = .03$ (partial eta squared = .02). Mean score for females ($M = 5.84, SD = 6.06$) is statistically different compared to males ($M = 4.19, SD = 4.74$). The interaction effect between gender and age groups was not statistically significant for any of the disordered eating behaviours.

Correlations were conducted in order to examine whether there is a relationship between the Body Mass Index (BMI) of the individual and EAT subscales (dieting, bulimia, and oral control) and the EAT total score. Results suggested a significant positive correlation between disordered eating and BMI with $r(268) = .19, p = .002$, as well as bulimia and BMI with $r(289) = .22, p < .01$, where a higher BMI was associated with increased disordered eating and bulimia eating attitudes. Moreover, there was a significant negative correlation between dieting and BMI with $r(285) = -.290, p < .01$, as well as oral control and BMI with $r(292) = -.18, p = .002$, where a lower BMI was associated with increased dieting and oral control.

MANOVA analysis was then conducted to investigate differences in subgroups of the sample in the presence of disordered eating attitudes. Dependent variables were the three subscales of EAT-26 (dieting, bulimia, and oral control), including total EAT score, and independent variables were all important individuals' characteristics of the participants, such as interpersonal relationships, alcohol and/or drug abuse, sleep problems, learning difficulties, exercise, health problems, and therapy intake. There was a statistically significant effect of therapy on disordered eating behaviour [$F(1, 226) = 13.27, p < .01, \eta^2 = .055$], bulimic behaviours [$F(1, 226) = 5.32, p = .02, \eta^2 = .023$], and on dieting behaviours, [$F(1, 226) = 11.31, p < .01, \eta^2 = .048$]. Results suggested that when adolescents and young adults are under psychotherapy and/or pharmacological therapy were tended to present more disordered eating behaviour and mostly bulimic and dieting behaviours. No additional differences were found for the rest of the individuals' characteristics.

Information was also collected addressing various stressful life events that could occur into a child's life. Children had the opportunity to report which life events took place and had a negative impact on them emotionally. Frequency analysis was first initiated and results illustrated that a 6% of children moved to another house, 6% moved to another school, 3% repeated the year in school, 10% ex-

perienced a family health problem, 11% lost a family member, 7% experienced a parent divorce, 4% experienced family changes (in specific parent’s schedule changes), 3% had siblings moving into another house and/or country, and 2% had a new member in the family. Further investigating these findings, and to explore any differences between those experiencing and those not experiencing these events in relation to disordered eating attitudes, MANOVA analysis was conducted. Results indicated that the experience of death of a family member had a borderline statistically significant effect on disordered eating [$F(1, 280) = 3.79, p = .05$, partial $\eta^2 = .013$] and on oral control behaviours [$F(1, 280) = 10.05, p = .002$, partial $\eta^2 = .035$], with the experience of death of a family member to be more likely to influence disordered eating, in specific oral control behaviours. No significant results were found for the rest of the stressful life events.

Relationship between depression and anxiety with disordered eating attitudes

Multiple correlations were performed to examine any association between mental state and disordered eating. Results showed significant relationships between dieting and bulimia with depression and anxiety scales (Table 1 & 2 respectively). Significant positive correlations were observed between depression, anxiety and disordered eating, specifically a relationship between bulimia and dieting behaviours. A multiple regression was performed to investigate whether anxiety and depression can predict disordered eating. A significant main effect was found for depression on dieting, ($F(2,206) = 8.78, p < .01$), with a medium effect size, $R^2 = .08$, with this model explaining 8% of the variance ($Beta = .102$).

Table 1
Correlation analyses between EAT subscales and depression.

	r	n	p-value
EAT total score	.21	234	.01*
Bulimia subscale	.19	233	.004*
Dieting subscale	.24	229	.01*

* sig < .05

Table 2
Correlation analyses between EAT subscales and anxiety.

	r	n	p-value
EAT total score	.24	217	.01*
Bulimia subscale	.15	251	.016*
Dieting subscale	.24	246	.01*

*sig < .05

Discussion

The current study investigated possible significant differences of various stressful life events, emotional states of depression and anxiety and disordered eating behaviours in adolescents. Study found that transitional negative life events are associated with emotional and physical problems in adolescents. The results are consistent with previous literature stating that stressful life events in adolescents are more likely to play a critical role (Beck, 1995; Jacobi, Hayward, de Zwaan, Kraemer, & Agras, 2004; Sharpe et al., 2018; Arditte, Bart-

lett, Iverson, & Mitchell, 2018; Solmi, et al., 2020) upon their eating behaviours. In the presence of negative emotional events and trauma, adolescents were more likely to show high levels of disordered eating behaviours and especially a cumulative risk of negative health effects (Hughes, et al., 2017). For example, adolescents who had experienced death of a family member tended to present more disordered eating behaviour, with a tendency to engage more likely in oral control behaviours. The findings corroborate research stating that when the stability and cohesiveness of the system is threatened, adolescents are more likely to experience anxiety, which will conclusively lead to disordered eating. Numerous interpersonal stressors, general daily hassles, and overwhelmed emotional events operationalized both as the number of stressors and as one's appraisal of stressful events which increase negative affect, preceding in the occurrence of disordered eating behaviours. But most importantly, traumatic events such as bereavement can be an important trigger for EDs (Goldschmidt et al., 2014).

Moreover, when participants experienced either health and/or mental problems resulting in received therapy were more likely to engage in disordered eating behaviours. In specific, significant associations were found between therapy with dieting and bulimia. Finding explains the belief that negatively perceived life events should be taken into consideration as prognostic factors when assessing systemically the family life structure of an adolescent prone to develop EDs. When a symptom is placed in a central role, automatically it reorganises the system around it, becoming the central principle of the family's life. As a consequence, every day-to-day decision is becoming difficult and the disruption of life's continuity is a basic element (Eisler, 2005).

Study findings also acknowledged depression and anxiety parameters in the life of adolescents, which are often related with disordered eating behaviors (Measelle, Stice, & Hogansen, 2006; Fulkerson, Sherwood, Perry, Neumark-Sztainer, & Story, 2004), imbalanced dietary pattern, and unhealthy emotional eating behaviours (Adam & Epel, 2007; Dallman et al., 2003). Findings are in line with previous literature, with adolescents who experience depressive symptoms tend to engage more in disordered eating, mostly bulimic attitudes. Also, adolescents who had experienced anxiety tend to engage in both bulimic and dieting tendencies. This evidence supports the theory of stress-induced eating as a coping mechanism, because adolescents may try to escape from the unpleasant emotion, because eating-induced stress reduction is associated with reward feelings (Adam & Epel, 2007; Dallman et al., 2003). These emotions have been associated with a diet less in fruits and vegetables, more snacks, and more fatty foods in previous literature (Simon, Wardle, Jarvis, Steggle, & Cartwright, 2003; De Vriendt et al., 2011). Research is also in accordance with literature supporting that woman have higher risk of engaging in maladaptive behaviours in regards to dieting (Newman et al., 1996) and greater chances to skip meals (Ogden & Steward, 2000; Sidor, Baba, Marton-Vasarihelyi, & Chereches, 2015), therefore considerable attention has been given towards female samples compared to males or mixed gender samples (Lewinsohn, Hops, Roberts, Seeley, & Andrews, 1993).

Last, higher BMI is associated with increased disordered eating and bulimia eating attitudes and negatively associated with dieting and oral control. This finding may verify the need for programs that are focused on body dissatisfaction, thinness, self-esteem, en-

vironmental/causal factors, and healthy weight management, which produce larger intervention effects on disordered eating behaviours (Clarke, Hawkins, Murphy, & Sheeber, 1993).

There are several limitations in the present study. First, the sample is relatively small aiming to examine self-perceptions of adolescents, which might leave open some well-documented limitations related to this kind of method. For example, responders may exaggerate or be embarrassed to reveal information due to the nature of the questionnaires that explored sensitive issues. The large questionnaire battery might also place burden on participants and therefore less of them completed the questionnaires on depression (RADS-2) and anxiety (SCARED), which were last in order. In addition, the study population had a medium socioeconomic status and an overall healthy diet and low overweight percentage. Consequently, one cannot claim that participants represent the population at large. The low values of alpha (less than .60 - .70) in the oral control eating behaviour subscale (EAT-26) should be further assessed in future studies. Handling missing data using pairwise deletion might have some challenges when drawing inferences to the population. Finally, there is a need for more reliable estimates of population parameters, in order to use effect sizes for important comparisons. Important to note is that due to the convenience sample strategy, the outcome of the study might potentially be affected.

To conclude, despite the fact that the underlying effect of these emotional damaging conditions is still unclear, studies suggest a combination of biological/genetic, social/cultural, and psychological (emotional, interpersonal, personality traits, thinking patterns) factors in the aetiology and development of EDs. This means that some individuals are predisposed to EDs, and those symptoms can arise when environmental elements trigger them. Adolescents presenting a distorted pattern often do so, because of their need to gain control over their lives, and/or because they may feel very stressed and overwhelmed with specific life events. Often, these adolescents have difficult relationships and/or may receive negative comments about their appearance, size and/or weight (Ogden, 2007). Consequently, they are solely preoccupied with food and weight as the only way to take control over their lives. Additionally, adolescents find negative emotions extremely overwhelming for them, hence they try to control them using dieting, purging, and/or binge eating behaviours as a result. Ultimately, the behaviours damage the individual's physical and emotional health, disrupting their self-esteem, competence, and self-control.

The need for early prognosis and treatment is crucial for the management and the improvement of health outcomes and the decrease rate of mortality, as well as the identification of protective factors (Lie, Wisting, Stedal, Ro, & Friborg, 2023) and effective coping strategies (Henderson, et al., 2022) during a vulnerable period of development. In addition to this, emotion regulation is a complex concept, which plays a significant role in the ED subtypes and is related to both prognosis and disorder characteristics (Monell, Clinton, & Birgegard, 2018; Nordgren, Ghaderi, Ljótsson, & Hesser, 2021; Monell, Clinton, & Birgegard, 2022). Therefore, the necessity to utilize resilience factors towards psychological life stressors may be explained from difficulties with impulsivity, inhibition, adaptation to changes, and cognitive flexibility; characteristics of the spectrum of EDs (Stedal, Broomfield, Hay, Touyz, & Scherer, 2021).

Last, there is a great need for replication studies to produce more

conclusive evidence in this applied field. The importance to address gender, sex, and the identification of clinical phenotypes (i.e. alexithymia) would complement a deepen prediction, prevention and treatment in clinical settings (Darling, et al., 2020; Macia, et al., 2023). Acknowledge, support, and empathetic approaches should be an important factor, underlining the need for greater awareness at times of change in adolescence (Berge, Loth, Hanson, Croll-Lampert, & Neumark-Sztainer, 2012).

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