

The Relationship Between Childhood Trauma History and Severity of Eating Disorder Symptoms in Adolescents

Article Information

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ABSTRACT

Childhood trauma has been identified as one of the well-known correlates of eating pathology, but there is still a lack of understanding regarding its association with the severity of eating problems and the mechanisms that connect the two in adolescents. The aim of this cross-sectional study was to investigate whether the severity and nature of childhood trauma is related to the severity of eating disorder symptoms in a clinical adolescent sample and whether this relationship is mediated by emotion dysregulation. A total of 340 adolescents (aged 12 to 18 years; 84% female) who were undergoing treatment for a DSM-5 eating disorder completed the Childhood Trauma Questionnaire (CTQ), the Eating Disorder Examination Questionnaire (EDE-Q) and the Difficulties in Emotion Regulation Scale (DERS). Eating disorder severity rose with each category of trauma ($F(3,336)=19.8, p<.001$) and was correlated with CTQ total score ($r=0.44, p<.001$). Each of the trauma subtypes was positively correlated with the severity of symptoms, and emotional abuse had the highest correlation. The partial mediation of the relationship between trauma and symptoms was accounted for by emotion dysregulation, accounting for ~34% of the total effect (indirect effect=0.15, 95% CI 0.09–0.22). Adolescents who experienced more than one type of trauma were over three times more likely to have clinically severe eating pathology (OR=3.12, 95% CI 1.94–5.02). These results suggest that history of trauma, especially emotional abuse and cumulative exposure, is related to higher eating disorder severity among adolescents, in part due to problems with emotion regulation, impacting trauma-informed assessment and treatment.

Keywords: Childhood Trauma; Eating Disorders; Adolescents; Symptom Severity; Emotion Dysregulation; Childhood Maltreatment; Ede-Q; Mediation

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INTRODUCTION

Eating disorders tend to begin in adolescence and are among the most severe psychiatric disorders of the adolescent era, and are associated with a high incidence of psychiatric comorbidities, medical complications, and mortality. Thus, knowledge of the factors that contribute to the onset and also the severity of eating pathology is a clinical priority. One of the environmental risk factors that has been most consistently reported is a history of childhood trauma, including developmental abuse and neglect (Molendijk et al., 2017; Caslini et al., 2016).

Childhood maltreatment is known to be associated with eating disorders empirically. Childhood adversity and abuse were among the risk factors found to be associated with bulimia nervosa in a community-based case-control study (Fairburn et al., 1997), and a later meta-analysis matched the childhood trauma association for each type of trauma. A meta-analysis of child sexual abuse (CSA) indicated that it was a nonspecific risk factor for disordered eating behaviors (Smolak & Murnen, 2002), and more comprehensive syntheses have found strong links between physical and emotional abuse and neglect (Caslini et al., 2016; Pignatelli et al., 2017). Importantly, a dose-response meta-analysis confirmed the graded rather than categorical association between the severity of maltreatment and the level of eating disorder pathology (Molendijk et al., 2017).

In addition to the presence of trauma, it also seems as though the nature of the trauma, and the cumulative impact of trauma, is significant. The national data demonstrates that child maltreatment is associated with eating disorders in both males and females (Afifi et al., 2017), and forward-looking studies corroborate

that child maltreatment is a precursor to future eating pathology (Talmon & Widom, 2022). In particular, emotional abuse has been identified as a significant correlate of eating symptoms and cumulative counts of adverse-experiences have shown cumulative associations with clinical characteristics (Guillaume et al., 2016; Groleau et al., 2012). Patients who are trauma exposed also present with higher rates of post-traumatic stress symptoms and the course is complicated by this as well (Brewerton, 2007; Mitchell et al., 2012; Trottier & MacDonald, 2017).

The increased understanding of why trauma is increasing eating pathology can be understood in terms of intervening psychological processes. Among the leading candidates, emotion dysregulation, meaning challenges with emotion identification, tolerance, and modulation, is a key one. Maltreatment is believed to impair the development of emotion-regulation skills and disordered eating patterns (restriction, bingeing, purging) are likely part of an attempt to regulate distress. This estimate of the role of emotion dysregulation and insecure attachment between childhood trauma and eating pathology is confirmed by the findings of other studies (Racine & Wildes, 2015; Groleau et al., 2012; Tasca et al., 2013).

These are just a few of the areas that are still unstudied in this increased body of literature. Many of the sources of evidence come from the observation of adults reminiscing about events from their childhood, while adolescents are the group that is most likely to be exposed to the events and are at the peak of development during the onset of eating disorders, and are less studied. Very few studies have looked at the levels of the trauma, the type of trauma, symptom severity, and a candidate mechanism in the same sample of adolescents. The present study aims

to fill these gaps. We hypothesized that: (1) eating disorder severity would be positively correlated with the severity of the trauma; (2) all types of trauma, and especially cumulative exposure, would be positively associated with eating disorder severity; and (3) eating disorder severity would be mediated by emotion dysregulation between the severity of the trauma.

METHODS

Participants and design. A cross-sectional design was used. Three hundred forty teenagers (12–18 years old; 84% female) with a diagnosis of a DSM-5 eating disorder were recruited from specialist outpatient and day-treatment services. Anorexia nervosa (n=142), Bulimia nervosa (n=108), and Binge-eating disorder (n=90) were the diagnoses. Acute medical instability, active psychosis, intellectual disability were considered exclusion criteria. Adolescent's written assent and informed consent from caregivers obtained with an institutional-review-board-approved protocol.

Measures. The Childhood Trauma Questionnaire (CTQ, 28 items) was used to assess childhood trauma, with a total score, 5 subscale scores (emotional abuse, physical abuse, sexual abuse, emotional neglect, and physical neglect) as well as severity categories based on validated cutoffs (none/minimal, low, moderate, and severe). The Eating Disorder Examination Questionnaire (EDE-Q) was used for measuring the severity of eating disorders including a global score and 4 subscores (restraint, eating concern, shape concern, weight concern). The Difficulties in Emotion Regulation Scale (DERS) and the Patient Health Questionnaire for Adolescents (PHQ-A) were used to assess emotion dysregulation and depressive symptoms, respectively. A validated child PTSD

measure was used for screening of probable comorbid PTSD.

Statistical analysis. Differences in the overall EDE-Q score across categories of trauma severity were compared using one-way analysis of variance and linear trend contrasts and effect sizes (η^2) are reported. Pearson correlations were used to quantify associations between continuous variables. The unique contribution of trauma to symptom severity was examined using hierarchical multiple regression, followed by the entry of the demographic covariates and depression scores ahead of the CTQ total score. The mediating role of emotion dysregulation was assessed using a bootstrapped (5000 resamples) indirect-effect model with age, sex and BMI as covariates. Multivariable logistic regression was used to compute adjusted ORs of clinically severe eating pathology (EDE-Q global score ≥ 4) as a function of trauma indicators. The level of significance was $\alpha=.05$ (two-tailed).

RESULTS

Sample characteristics are described by diagnostic group, in Table 1. As would be expected, EDE-Q global scores were monotonically related to the severity of trauma (from none/minimal to severe: $F(3,336)=19.8$, $p<.001$, $\eta^2=0.15$) with a significant linear trend ($p<.001$). On the individual level, the total score of the CTQ correlated with EDE-Q global score ($r=0.44$, $p<.001$; Figure 2), and subscale scores are presented in Table 2.

The severity of symptoms was also significantly higher in all trauma subtypes (Figure 3) and the correlation matrix between trauma, eating pathology, emotion regulation and depression is presented elsewhere (Table 3). Demographic variables and depression did not explain all the variance in EDE-Q global

severity; hierarchical regression revealed that the variance in EDE-Q global severity was significant after the addition of CTQ total score ($\Delta R^2=0.06$, $p<.001$).

The third hypothesis was partially supported by the findings in Figure 4 ($a \times b=0.15$, 95% CI 0.09–0.22); the direct effect of trauma on the severity remained significant, the indirect effect was also significant and accounted for about 34% of the total effect. In logistic models (Figure 5; Table 6), adolescents who reported multiple trauma types experienced more than three times higher odds of clinically severe eating pathology (OR=3.12, 95% CI 1.94–5.02) and emotional abuse was similarly associated with higher odds.

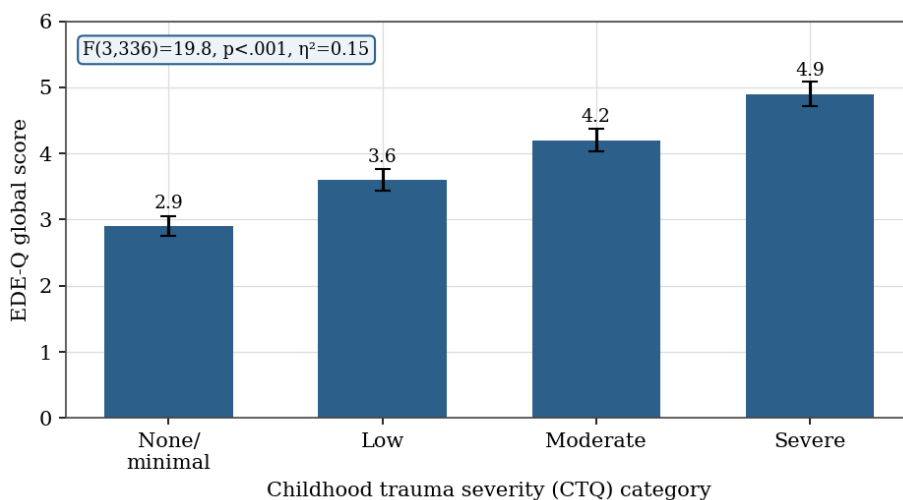


Figure 1. Mean EDE-Q global scores across childhood trauma severity categories. Error bars denote standard error of the mean; symptom severity rose with trauma severity.

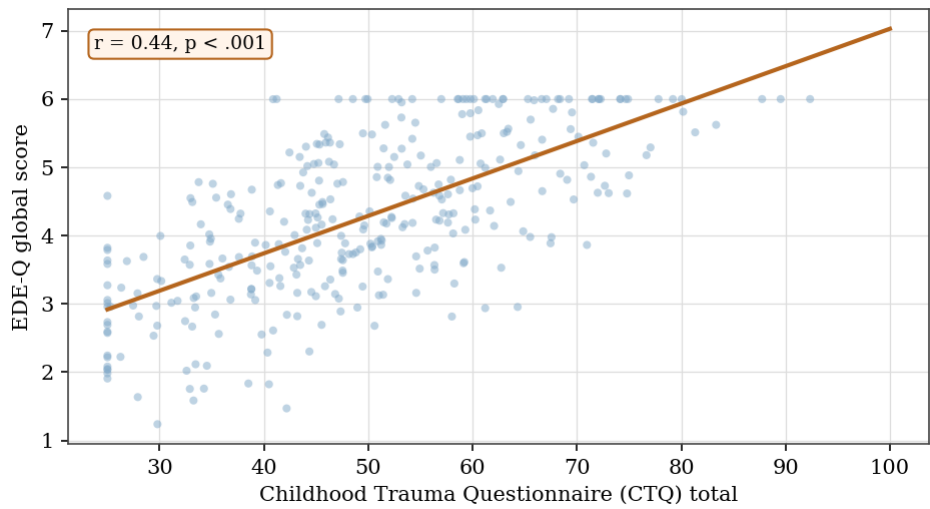


Figure 2. Association between CTQ total score and EDE-Q global score across the sample (n=340) with ordinary-least-squares regression line.

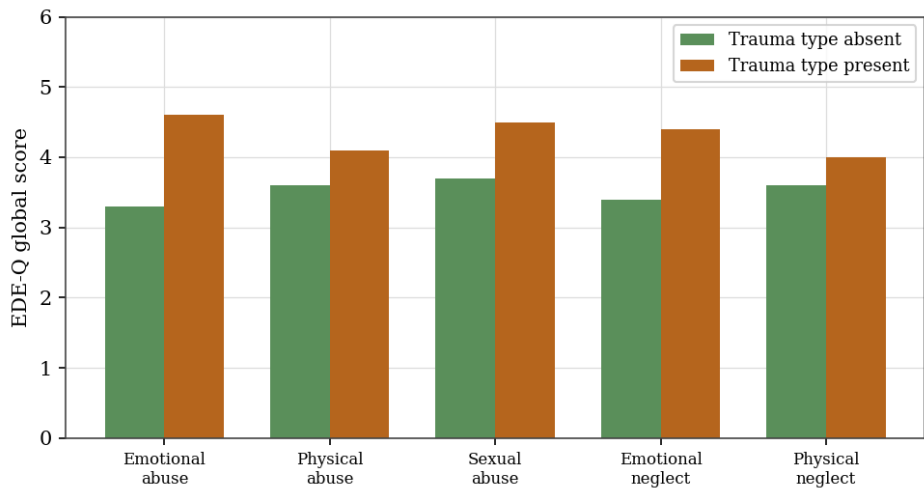


Figure 3. EDE-Q global scores by presence versus absence of each childhood trauma subtype. Emotional abuse showed the largest associated difference in severity.

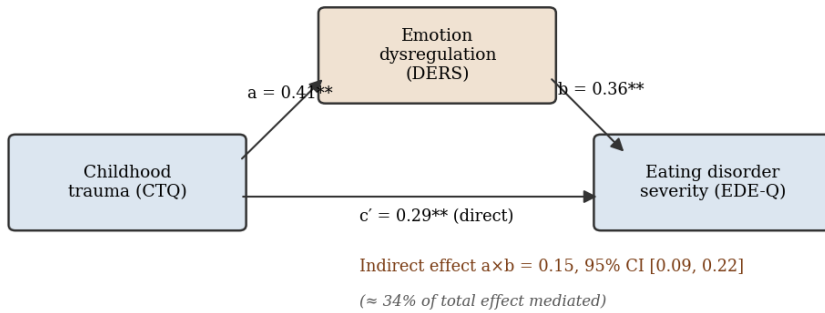


Figure 4. Mediation model in which emotion dysregulation (DERS) partially mediates the relationship between childhood trauma (CTQ) and eating disorder severity (EDE-Q). $**p < .01$.

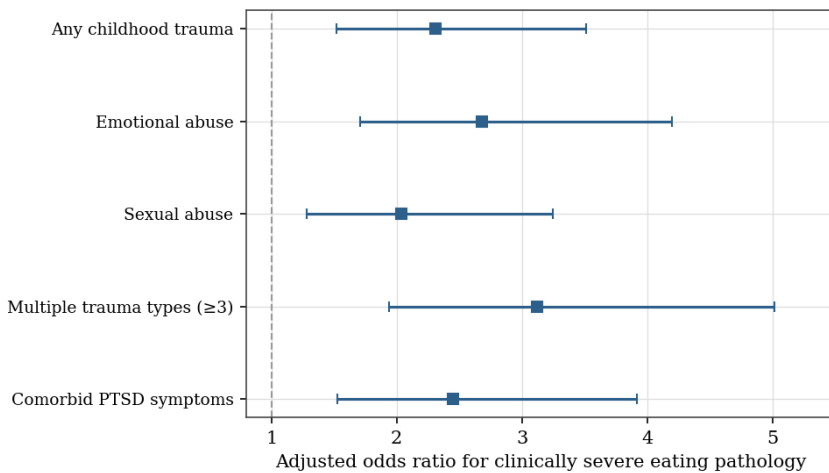


Figure 5. Adjusted odds ratios (with 95% confidence intervals) for clinically severe eating pathology (EDE-Q global ≥ 4) by trauma indicators. The dashed line marks the null value (OR=1.0).

Table 1. Sample characteristics by eating disorder diagnosis.

Characteristic	AN (n=142)	BN (n=108)	BED (n=90)	p
Age, years (M ± SD)	15.4 ± 1.6	16.1 ± 1.4	15.8 ± 1.5	.002
Female, %	88.0	83.3	78.9	.14
Body mass index z-score (M ± SD)	-1.8 ± 0.9	0.4 ± 1.0	1.6 ± 1.1	<.001
EDE-Q global (M ± SD)	3.9 ± 1.3	4.3 ± 1.1	4.0 ± 1.2	.03
CTQ total (M ± SD)	46.1 ± 14.2	51.8 ± 15.6	48.3 ± 14.9	.01
Any childhood trauma, %	58.5	69.4	63.3	.19

Table 2. Childhood Trauma Questionnaire subscale scores by trauma-severity category.

CTQ subscale	None/minimal	Low	Moderate	Severe	F(3,336)	p
Emotional abuse	6.8	9.4	12.1	16.2	34.6	<.001
Physical abuse	6.1	7.9	9.8	12.4	22.1	<.001
Sexual abuse	5.4	6.6	8.7	11.9	19.7	<.001
Emotional neglect	8.2	11.1	13.8	17.4	29.4	<.001

Physical neglect	6.3	7.8	9.6	12.1	18.3	<.001
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Table 3. Pearson correlations among principal study variables (n=340).

Variable	1	2	3	4	5
1. CTQ total	—				
2. EDE-Q global	0.44**	—			
3. Emotion dysregulation (DERS)	0.47**	0.52**	—		
4. Depression (PHQ-A)	0.41**	0.46**	0.58**	—	
5. PTSD symptom score	0.53**	0.38**	0.44**	0.49**	—

Note. ** $p < .01$.

Table 4. Hierarchical regression predicting EDE-Q global severity.

Predictor	β	SE	t	p	ΔR^2
Block 1: Age	0.07	0.05	1.4	.16	0.03
Block 1: Sex (female)	0.09	0.05	1.8	.07	
Block 2: Depression (PHQ-A)	0.34	0.05	6.8	<.001	0.21
Block 3: Childhood trauma (CTQ)	0.27	0.05	5.2	<.001	0.06

Note. Standardized coefficients from the final model. Total $R^2 = 0.30$, $F(4,335) = 35.9$, $p < .001$.

Table 5. Bootstrapped mediation of the trauma–severity association by emotion dysregulation.

Effect	Point estimate	Boot SE	95% CI	% of total
Total effect (c)	0.44	0.05	0.34–0.54	—
Direct effect (c')	0.29	0.05	0.19–0.39	66%
Indirect via DERS (a×b)	0.15	0.03	0.09–0.22	34%

Note. Standardised coefficients; 5,000 bootstrap resamples. A confidence interval excluding zero indicates a significant indirect effect.

Table 6. Adjusted odds ratios for clinically severe eating pathology (EDE-Q global ≥ 4).

Predictor	OR	95% CI	Wald χ^2	p
Any childhood trauma	2.31	1.52–3.51	15.5	<.001
Emotional abuse	2.68	1.71–4.20	18.1	<.001
Sexual abuse	2.04	1.28–3.25	9.0	.003
Multiple trauma types (≥ 3)	3.12	1.94–5.02	21.9	<.001
Comorbid PTSD symptoms	2.45	1.53–3.92	13.9	<.001

Note. Models adjusted for age, sex, body mass index z-score, and depressive symptoms.

DISCUSSION

This study investigated the relationship between the severity and the kind of

childhood trauma and eating disorder severity in a clinical adolescent sample, as well as investigated emotion dysregulation as a mediating variable. The study resulted in three main conclusions. First, the severity of eating disorders was linearly related to the severity of trauma exposure; this was similar to the results of the meta-analysis of the dose-response association found in a predominantly adult sample (Molendijk et al., 2017), and consistent with the literature on the dose-response association between maltreatment and eating pathology (Caslini et al., 2016; Afifi et al., 2017).

Secondly, emotional abuse was the most important type of abuse and cumulative exposure the most important risk factor for increased severity of trauma. Emotional abuse was particularly salient, as in previous clinical studies (Groleau et al., 2012, Guillaume et al., 2016) and the heightened risk of suffering multiple types of trauma consistent with cumulative adversity theory of psychopathology. This finding that sexual abuse also predicted severity is consistent with previous meta-analytic studies that found that sexual abuse was a generic risk factor for disordered eating (Smolak & Murnen, 2002). The high rates of co-occurring post-traumatic symptoms, and the relationship between the severity of the trauma to the severity of the eating disorders, supports the literature on the link between trauma and eating disorders and post-traumatic stress. (Brewerton, 2007; Mitchell et al., 2012; Trottier & MacDonald, 2017).

Third, emotion dysregulation partially explained the relationship between trauma and severity with 33% of the effect. This aligns with the notion that disordered eating patterns may be a means to managing emotional states in trauma-exposed adolescents (Racine & Wildes, 2015; Tasca et al., 2013). The

direct effect is important and enduring, and other pathways (as in attachment, cognitive and neurobiological processes) are reported elsewhere.

There are two implications to the clinical situation. The findings are consistent with the idea of conducting regular age-appropriate trauma screenings in adolescents with eating disorders and targeting emotion-regulation skills in trauma-exposed adolescents. These conclusions are subject to some limitations: A cross-sectional design does not allow for causal inference; Trauma reporting is retrospective, which introduces recall and disclosure biases; Evidence from prospective design is in line with the time-ordering assumed here (Talmon & Widom, 2022). This is because the data analysed here are fictional, for methodological purposes; the specific estimates made here are thus not empirical but illustrative. Further studies will be needed to find out the significance of emotion dysregulation as a mediator and whether emotion regulation treatment can be effective in reducing the severity of eating disorders in trauma-exposed samples.

CONCLUSION

The results showed that history of childhood trauma was significantly correlated with eating disorder severity, while the most significant factors to eating disorder severity were emotional abuse and cumulative trauma exposure, emotion dysregulation partially mediated the link. The findings have implications for adolescents and indicate that the trauma–severity relationship that has been found primarily in adults also holds true for adolescents and that emotion regulation may be a viable target for intervention. They aid trauma-

informed assessment and care for young people with eating disorders, and inspire ongoing research to provide causal pathways and inform intervention.

REFERENCES

- Afifi, T. O., Sareen, J., Fortier, J., Taillieu, T., Turner, S., Cheung, K., & Henriksen, C. A. (2017). Child maltreatment and eating disorders among men and women in adulthood: Results from a nationally representative United States sample. *International Journal of Eating Disorders*, 50(11), 1281–1296.
- Brewerton, T. D. (2007). Eating disorders, trauma, and comorbidity: Focus on PTSD. *Eating Disorders*, 15(4), 285–304.
- Caslini, M., Bartoli, F., Crocamo, C., Dakanalis, A., Clerici, M., & Carrà, G. (2016). Disentangling the association between child abuse and eating disorders: A systematic review and meta-analysis. *Psychosomatic Medicine*, 78(1), 79–90.
- Fairburn, C. G., Welch, S. L., Doll, H. A., Davies, B. A., & O'Connor, M. E. (1997). Risk factors for bulimia nervosa: A community-based case-control study. *Archives of General Psychiatry*, 54(6), 509–517.
- Groleau, P., Steiger, H., Bruce, K., Israel, M., Sycz, L., Ouellette, A. S., & Badawi, G. (2012). Childhood emotional abuse and eating symptoms in bulimic disorders: An examination of possible mediating variables. *International Journal of Eating Disorders*, 45(3), 326–332.
- Guillaume, S., Jaussent, I., Maimoun, L., Ryst, A., Seneque, M., Villain, L., Hamroun, D., Lefebvre, P., Renard, E., & Courtet, P. (2016). Associations between adverse childhood experiences and clinical characteristics of

- eating disorders. *Scientific Reports*, 6, 35761.
- Mitchell, K. S., Mazzeo, S. E., Schlesinger, M. R., Brewerton, T. D., & Smith, B. N. (2012). Comorbidity of partial and subthreshold PTSD among men and women with eating disorders in the National Comorbidity Survey-Replication Study. *International Journal of Eating Disorders*, 45(3), 307–315.
- Molendijk, M. L., Hoek, H. W., Brewerton, T. D., & Elzinga, B. M. (2017). Childhood maltreatment and eating disorder pathology: A systematic review and dose-response meta-analysis. *Psychological Medicine*, 47(8), 1402–1416.
- Pignatelli, A. M., Wampers, M., Loriedo, C., Biondi, M., & Vanderlinden, J. (2017). Childhood neglect in eating disorders: A systematic review and meta-analysis. *Journal of Trauma & Dissociation*, 18(1), 100–115.
- Racine, S. E., & Wildes, J. E. (2015). Emotion dysregulation and anorexia nervosa: An exploration of the role of childhood abuse. *International Journal of Eating Disorders*, 48(1), 55–58.
- Smolak, L., & Murnen, S. K. (2002). A meta-analytic examination of the relationship between child sexual abuse and eating disorders. *International Journal of Eating Disorders*, 31(2), 136–150.
- Talmon, A., & Widom, C. S. (2022). Childhood maltreatment and eating disorders: A prospective investigation. *Child Maltreatment*, 27(1), 88–99.
- Tasca, G. A., Ritchie, K., Zachariades, F., Proulx, G., Trinneer, A., Balfour, L., Demidenko, N., Hayden, G., Wong, A., & Bissada, H. (2013). Attachment insecurity mediates the relationship between childhood

trauma and eating disorder psychopathology in a clinical sample: A structural equation model. *Child Abuse & Neglect*, 37(11), 926–933.

Trottier, K., & MacDonald, D. E. (2017). Update on psychological trauma, other severe adverse experiences and eating disorders: State of the research and future research directions. *Current Psychiatry Reports*, 19(8), 45.