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Weight and body shape dissatisfaction and eating psychopathology: the buffering effect of self-compassion in women with secure and insecure attachment styles

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Weight and body shape dissatisfaction and eating psychopathology: the buffering effect
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Weight and body shape dissatisfaction and eating psychopathology: the buffering effect of self-compassion in women with secure and insecure attachment styles

Abstract: Attachment style has been linked in literature to eating psychopathology and to self-compassion and research has proposed self-compassion as a possible protective factor against eating psychopathology. The present study explores the association between attachment style, self-compassion and eating psychopathology severity and examines the moderator effect of self-compassion, in both securely and insecurely attached women, on the relationship between weight and body dissatisfaction and eating psychopathology. Participants in this study were women who were assessed using self-report instruments measuring attachment style, weight and body shape dissatisfaction and eating psychopathology (EDE-Q). Self-compassion was negatively correlated to weight and body shape dissatisfaction and eating psychopathology in both groups, and had a moderator effect on the relationship between weight and body shape dissatisfaction and eating psychopathology severity in the insecure attachment group. This is the first study to explore the differential buffering effect of self-compassion against the impact of weight and body shape dissatisfaction on eating psychopathology severity, when considering attachment style, with pertinent research and clinical implications.

Key-words: secure attachment, insecure attachment, self-compassion, buffering effect, weight and body shape dissatisfaction, eating psychopathology

Resumo: O estilo de vinculação tem sido relacionado na literatura à psicopatologia alimentar e à autocompaixão e a investigação sugere a autocompaixão como um possível fator protetor contra a psicopatologia alimentar. O estudo presente explora a associação entre estilo de vinculação, autocompaixão e a severidade da psicopatologia alimentar e examina o efeito moderador da autocompaixão, em ambas mulheres com vinculação segura e insegura, na relação entre a insatisfação com o peso e forma corporal e a psicopatologia alimentar. Os participantes neste estudo foram mulheres que foram avaliadas usando instrumentos de autorresposta que medem o estilo de vinculação, a insatisfação com o peso e forma e a psicopatologia alimentar (EDE-Q). A autocompaixão correlacionou-se negativamente com a insatisfação com o peso e forma corpora, assim como com a psicopatologia alimentar em ambos os grupos, e teve um efeito moderador na relação entre a insatisfação com o peso e com a forma e a severidade da psicopatologia alimentar no grupo de vinculação insegura. Este foi o primeiro estudo a explorar o efeito de *buffering* da autocompaixão contra o impacto da insatisfação com o peso e forma na severidade da psicopatologia alimentar, quando considerando o estilo de vinculação, com implicações pertinentes para a investigação e para a prática clínica.

Palavras-chave: vinculação segura, vinculação insegura, autocompaixão, efeito de *buffering*, insatisfação com o peso e com a forma, psicopatologia alimentar

1. Introduction

It is consensual, in psychiatry and clinical psychology, that the quality of close relationships throughout life has a significant impact in mental health. Originating from John Bowlby's works [1-3], and grounded in an integration of ideas from different psychotherapeutic traditions (e.g., [4-6]), attachment theory provides a valuable framework to understand this impact. Furthermore, more recent empirical evidence supports the link between quality of attachment and mental health problems (e.g., [7]), namely eating psychopathology (e.g., [8]).

Attachment theory is founded on the premise that human beings have innate attachment and caregiving behavioral systems, shaped by evolution due to their utility in enhancing the chances of survival, reproduction and fruitful parenting [1]. Bowlby [1] viewed the function of the attachment system as the protection of the individual from danger by ensuring that he or she maintains proximity to supportive and caring others (attachment figures) who, in times of adversity, provide protection, support and relief.

Soufre and Waters [9] considered attachment an organizational construct, indicating that one's thoughts and behaviors are organized with the goal of maintaining a feeling of security from the attachment figure. According to this perspective, it is not the behavior in itself that is important but its function. Overall, attachment theory can be summarized as a theory regarding the organization of self-protective strategies in a relational context [10]. Literature emphasizes that when the attachment figures are available and responsive in times of need, interactions with these figures assist optimal development of the attachment system, which promotes a sense of security and connectedness, and allows people to rely more assuredly on support seeking as an affect-regulation strategy. In contrast, when the attachment figures are not reliably available, this sense of security is not attained, and other strategies of affect regulation (secondary

attachment strategies, which are characterized by avoidance and anxiety) are developed [2, 10, 11].

Mikulincer and Shaver [12] suggested that attachment security is linked with empathy and willingness to help others, which could be given to the fact that only when a sense of security is established can people easily direct attention and energy towards other behavioral systems [10]. Empathy and willingness to help others are part of the set of dispositions and behaviors that make the caregiving system [13] which, within attachment theory, provides an introduction to the study of compassion [10].

According to Neff [14], compassion presupposes the recognition of suffering, and entails feelings of care, kindness and understanding for individuals who are in pain, enabling the natural desire to lessen other' suffering. When these same qualities turn inward, it is conceptualized as self-compassion (e.g., [14]). In this line, self-compassion encourages individuals to gently hold and accept negative internal experiences when facing personal setbacks or inadequacies, rather than being self-critical (e.g., [15]). Moreover, research has been highlighting that this emotion regulation strategy may buffer against the negative impact of distressing and challenging situations and promotes the adoption of more effective actions towards well-being [15, 16]. In fact, literature has shown that self-compassion is associated with lower levels of anxiety and depression, as well as greater emotional intelligence [16-18], greater emotional coping skills, feelings of social connectedness and life satisfaction [18].

Additionally, recent research suggests that self-compassion is linked with greater attachment security [19], which supports that, not only insecurely attached people may be less disposed to feel compassion towards others, [10] but also towards themselves.

Eating psychopathology is a particularly interesting area of research regarding attachment and emotional regulation processes (such as self-compassion). In fact, a recent

meta-analysis revealed that a high number of participants with eating disorders have an insecure attachment style [8], results supported by other studies that have shown a prevalence ranging from 70% [20, 21] to 100% [22] of attachment insecurity in eating disorders samples.

Moreover, several studies showed that self-compassion is associated with lower body-dissatisfaction, lower social physique appearance anxiety [23], and the decrease in levels of shame and other self-conscious emotions [24, 25]. Furthermore, a growing body of evidence supports the importance of nurturing a self-compassionate relationship as a buffer against shame and body image dissatisfaction in women with eating-related difficulties (e.g., [24, 26]).

To summarize, and though literature has been underlining the role of self-compassion as a moderator between image-related variables and the development of eating psychopathology, as well as highlighting the connection between attachment style and levels of self-compassion, it remains unclear what kind of differential impact self-compassion has on eating psychopathology, when weight and body shape dissatisfaction is present, if attachment style is taken into consideration.

Therefore, the present study aims at investigating the moderator role of self-compassion on the relationship between weight and body shape dissatisfaction and eating psychopathology, in securely and insecurely attached women. It is hypothesized that, this affect regulation strategy adopts a more pertinent role, in the relationship between weight and body shape dissatisfaction and eating psychopathology, in women that present an insecure attachment style, attenuating the impact of weight and body shape dissatisfaction on the adoption of disordered eating attitudes and behaviours.

2. Materials and Method

2.1. Participants

The sample of this study included 424 female participants aged between 18 to 40 years old. For the purpose of this study, the sample was divided by attachment style in two groups: secure attachment ($n = 258$) and insecure attachment ($n = 166$).

Regarding age, the secure attachment group presented a mean of 24.38 ($SD = 5.630$) and the insecure attachment group of 23.48 ($SD = 5.863$). With respect to education, the secure and insecure attachment groups presented, respectively, a mean of 14.29 ($SD = 2.433$) and 14.16 ($SD = 2.742$) years of education. Lastly, concerning the *Body Mass Index* (BMI), the secure attachment group had a mean of 22.01 ($SD = 3.273$) and the insecure attachment group of 22.45 ($SD = 4.051$), both means corresponding to normal weight values [27].

The two groups did not present significant differences in either age ($t_{(422)} = 1.588$; $p = .113$), years of education ($t_{(422)} = .488$; $p = .626$) or BMI ($t_{(422)} = -1.240$; $p = .216$).

2.2. Measurements

Demographic data. Age, years of education, current height and weight of the participants were asked before the completion of the scales.

Body Mass Index (BMI; [27]). The BMI of the participants was calculated through the Quetelet Index (i.e., Wt/Ht^2) from self-reported participant's weight and height (Kg/m^2 ; [27]).

Weight and Body Shape Dissatisfaction (WBD); The participants were asked to rate two items regarding their level of satisfaction with their current weight (“*I’m satisfied with my weight*”) and body shape (“*I’m satisfied with my body shape*”), from 1 (“Not at all satisfied”) to 10 (“Completely satisfied”). In this study, these variables were reverted

and a total score was computed in order to assess participants' level of weight and body dissatisfaction (WBD).

Body-Image related Impairment (BI). In order to assess the body-image related impairment, participants were asked to rate the item “*my body image keeps me from living my life*”, from 1 (“Not at all”) to 10 (“Completely”).

Attachment Questionnaire (AQ; [28]). AQ is a self-report measure of attachment style, consisting in three vignettes which describe characteristic behaviors and affects in relationships. Each description represents one of the three attachment styles (secure, avoidant and anxious/ambivalent attachment; [28]). Participants were asked to choose one of the three possible descriptions according to their feelings about relationships. In this study two groups of different attachment styles were created (secure and insecure attachment), with the group of insecure attachment encompassing participants whose answer choice revealed either avoidant or anxious/ambivalent attachment styles.

Self-Compassion Scale (SCS; [18, 29]). SCS is a self-report instrument with 26 items, rated in a Likert scale from 1 (“Almost Never”) to 5 (“Almost Always”), and comprises six dimensions: three positive (self-kindness, common humanity and mindfulness) and three negative (self-judgment, isolation and overidentification). In this study a composite measure gathering three positive dimensions of this scale was computed and defined as Self-Compassion (SC). The SCS has very good reliability values for both the original study ($\alpha = .92$; [18]) and in the Portuguese version ($\alpha = .94$; [29]).

Eating Disorder Examination Questionnaire (EDE-Q; [30, 31]). EDE-Q is 36 item self-report measurement adapted from the Eating Disorder Examination interview (EDE; [32]). As in the EDE, it evaluates eating disorder's attitudes and behavioral traits over a 28 day period and holds four subscales (restraint, eating concern, shape concern and weight concern) and a global score. The items are rated for frequency of occurrence

(items 1-15; on a scale from 0 = “no days” to 6 = “every day”), or for severity (items 29-36; on a scale from 0 = “not at all” to 6 = “markedly”). EDE-Q has revealed good reliability values and the ability to discriminate cases from non-cases of eating disorders (see [33]).

The Cronbach’s alphas for all of the measurements in study are reported in Table 1.

2.3. Procedures

The sample of this study is part of a broader investigation exploring the impact of emotional regulation processes in eating psychopathology.

The Ethics Committee of the institutions involved in this study reviewed and approved the research protocol. Firstly, the visits to either classrooms or private institutions (e.g., bank, medical clinic) were planned with the goal of minimizing the disruption of normal routine (e.g., waiting for the lesson to end). During the distribution of the protocol at least one of the researchers was present to inform the participants of the confidentiality and voluntary character of their collaboration and the goals of the study. After giving their written informed consent, participants received standardized instructions regarding the protocol.

The inclusion criteria for the study were: feminine gender, 18 years of age, and the proficiency of the Portuguese language.

2.3.1 Data analysis

Data analyses were completed using IBM SPSS 22.

Descriptive statistics and student's t-tests were used to explore the characteristics in the demographic data and study's variables of the two groups (secure attachment and insecure attachment) and to explore the differences between the groups.

Product-moment Pearson analyses were performed, in both groups, to explore the relationship between study variables [34].

A series of hierarchical multiple regression analyses was conducted in order to explore the moderator effect of self-compassion (SC) on the relationship between weight and body shape dissatisfaction (WBD) and eating psychopathology (EDE-Q). The interaction of a continuous predictor was considered for these analyses [34]. In an effort to decrease the error associated with multicollinearity, a standardized procedure was used, the predictor (WBD) and moderator (SC) values were centered and the interaction product then obtained by multiplying the created variables [34, 35].

Lastly, with the aim of better comprehending the relationship between the independent (WBD) and dependent variable (EDE-Q) with distinct levels of the moderator variable (SC) in the insecure attachment sample, one graph was plotted considering high, medium and low levels of self-compassion. In this graphic representation the three curves were plotted taking into consideration the ensuing cut-point values of the moderator variable on the x axis: over one standard deviation above the mean (high self-compassion), between one standard deviation below and one standard deviation above the mean (medium self-compassion) and less than one standard deviation below the mean (low self-compassion), as suggested by Cohen et al. [34].

3. Results

3.1 Preliminary Analyses

The assumption of normality was confirmed through the visual inspection of the distribution and *Skewness* and *Kurtosis*' values analysis [36, 37]. Preliminary analyses showed that this data followed the assumptions of, not only normality, but also linearity, homoscedasticity, multicollinearity and independence of errors, indicating its suitability for regression analyses [38].

3.2 Descriptive Analyses and Student's t-Tests

Descriptive statistics and Student's t-test values, concerning the study variables for both groups, are presented in Table 1. Results indicated that the two groups did not differ regarding body mass index (BMI) and weight and body shape dissatisfaction (WBD). On the other hand, results showed that the participants of the insecure attachment group presented higher levels of body-image related impairment (BI), and eating psychopathology (EDE-Q), and lower levels of self-compassion (SC), when compared to participants of the secure attachment group.

Table 1

Cronbach's alphas, Means (M), Standard Deviations (SD), and t-values

Variables	Secure Attachment			Insecure Attachment			T	p-value
	α	M	SD	α	M	SD		
		<i>n</i> = 258			<i>n</i> = 166			
BMI	-	22.01	3.27	-	22.45	4.05	-1.240	.216
WBD	-	4.55	2.27	-	4.90	2.29	-1.570	.117
BI	-	3.22	2.39	-	3.95	2.58	-2.982	.003
SC	91.4	3.22	0.66	90.5	2.85	0.64	5.751	.000
Eating Restraint	78.1	0.82	1.04	83.2	1.11	1.31	-2.342	.020
Eating Concern	80.9	0.58	0.91	80.2	0.83	1.13	-2.451	.015
Weight Concern	82.5	1.43	1.31	81.6	1.80	1.44	-2.693	.007
Shape Concern	91.9	1.57	1.42	91.1	2.04	1.54	-3.206	.001
EDE.Q_Global	94.6	1.16	1.08	94.8	1.52	1.23	-3.071	.002

Note. BMI = Body Mass Index; WBD = Weight and Body shape Dissatisfaction; BI = Body-image related Impairment; Eating Restraint; Eating Concern; Weight Concern; Shape Concern, EDE.Q_Global = Eating Disorders Questionnaire subscales and Global Score; SC = Self-Compassion Measured with Self-compassion Scale.

* $p < .050$. ** $p < .010$. *** $p < .001$.

3.3 Correlations in secure and insecure attachment groups

The correlations coefficients regarding the studied variables for both groups are presented in Table 2.

Results indicated that weight and body shape dissatisfaction (WBD) held positive (low to moderate) correlations with BMI and body-image related impairment (BI), in both groups.

Eating psychopathology (EDE-Q) were found to correlate positively with WBD, with low or moderate magnitude in the secure attachment group and moderate or high in the insecure attachment groups. In both groups, EDE-Q held low or moderate correlations with the BMI, and the subscales held moderate and high positive correlations among themselves.

On the contrary, self-compassion (SC) held negative correlations with almost every measurement in both groups, namely with weight and body dissatisfaction (WBD) and EDE-Q. In the secure attachment group, SC correlated negatively, albeit weakly, with BMI.

Age was found to hold low negative correlations with WBD, weight concern, shape concern, the global score of eating psychopathology and SC in the secure attachment group and a very low significant and positive correlation with BMI in the insecure attachment group.

Lastly, partial correlation analyses of all variables in study were conducted controlling for age and BMI. Results revealed that the direction and strength of the correlations of the study variables remained the same.

Table 2

Intercorrelation scores on self-report measures

	1	2	3	4	5	6	7	8	9	10
1. Age	-	.17*	-.02	.05	.01	-.02	.00	-.06	-.03	-.02
2. BMI	.99	-	.41**	.35**	.26**	.37**	.41**	.32**	.38**	.01
3. WBID	-.13*	.37**	-	.41**	.37**	.52**	.73**	.67**	.66**	-.29**
4. BI	.01	.25**	.38**	-	.35**	.47**	.50**	.46**	.50**	-.22**
5. Eating Restraint	-.06	.19**	.31**	.27**	-	.65**	.59**	.64**	.79**	-.25**
6. Eating Concern	-.08	.13*	.37**	.34**	.58**	-	.71**	.77**	.87**	-.33**
7. Weight Concern	-.16*	.35**	.66**	.50**	.61**	.74**	-	.88**	.91**	-.35**
8. Shape Concern	-.17**	.27**	.63**	.49**	.60**	.72**	.92**	-	.96**	-.37**
9. EDE.Q_Global	-.15*	.28**	.60**	.47**	.75**	.83**	.95**	.96**	-	-.37**
10. SC	-.14*	-.15*	-.26**	-.35**	-.02	-.11	-.20**	-.20**	-.17**	-

Note. Correlations in the insecure attachment group ($n = 166$) are presented above the diagonal line, in bold; Correlations in the secure attachment group ($n = 258$) are presented below the diagonal line; BMI = Body Mass Index; WBD = Weight and Body shape Dissatisfaction; BI = Body-image related Impairment; Eating Restraint; Eating Concern; Weight Concern; Shape Concern, EDE.Q_Global = Eating Disorders Questionnaire subscales and Global Score; SC = Self-Compassion measured with Self-compassion Scale.

* $p < .050$. ** $p < .010$. *** $p < .001$.

3.4 The moderator effect of self-compassion on the relationship between weight and body dissatisfaction and eating psychopathology

Considering the previous findings and the proposed hypotheses, it was explored whether self-compassion (SC) moderate the relationship between weight and body shape dissatisfaction (WBD) and eating psychopathology severity (EDE-Q), in secure and insecure attachment groups.

3.4.1 Self-compassion (SC) as a moderator between weight and body dissatisfaction (WBD) and eating psychopathology (EDE-Q) in the secure attachment group

Firstly, WBD was entered as a predictor variable in the first step of the regression model (Table 3). On the second step, SC was also included as a predictor. Statistical

significant models were obtained in both steps of the regression analysis [Step 1: $R^2 = .36$, $F(256) = 141,612$, $p < .001$; Step 2: $R^2 = .36$, $F(255) = 70,602$, $p < .001$], however, in the second step, SC wasn't significant as a predictor. Lastly, the interaction variable was entered and the model created was significant [Step 3: $F(254) = 47,027$, $p < .001$], with a R^2 of .36. Conversely, the regression coefficients analysis revealed that the interaction between WBD and SC wasn't significant [$\beta = .027$; $t_{(254)} = .528$; $p < .598$], suggesting a non-significant moderator effect of self-compassion on the association between weight and body dissatisfaction (WBD) and eating psychopathology (EDE-Q).

3.4.2 Self-compassion (SC) as a moderator between weight and body dissatisfaction (WBD) and eating psychopathology (EDE-Q) in the insecure attachment group

The same statistical procedure was performed for the insecure attachment group (Table 3). Once again, weight and body dissatisfaction (WBD) was entered in the first step as the predictor variable and in step two self-compassion was added also as a predictor [Step 1: $R^2 = .44$, $F(164) = 127.668$, $p < .001$; Step 2: $R^2 = .47$, $F(163) = 73.202$, $p < .001$]. On the last step, the interaction term was entered and the model accounted for 50% of the variance of eating psychopathology severity [$F(162) = 53.281$, $p < .001$]. The interaction of the two variables was significant ($\beta = -.153$; $t_{(162)} = -2.75$, $p < .007$), indicating that self-compassion has a moderator effect on the relation between weight and body dissatisfaction and eating psychopathology severity in the insecure attachment group.

Table 3

Hierarchical multiple regression in different attachment groups: Secure Attachment (n = 258) Insecure Attachment (n = 166) to predict eating psychopathology (EDE-Q) with self-compassion (SC) as moderator.

Predictor	Eating Psychopathology	
	ΔR^2	B
Secure attachment group		
Step 1	.36***	
WBD		.60***
Step 2	0.0	
WBD		.59***
SC		-.02
Step 3	0.0	
WBD		.60***
SC		-.02
WBD×SC		.03
Total R^2	.36***	
Insecure attachment group		
Step 1	.44***	
WBD		.66***
Step 2	.04**	
WBD		.60***
SC		-.20**
Step 3	.02**	
WBD		.60***
SC		-.19**
WBD×SC		-.15**
Total R^2	.50***	

* $p < .050$. ** $p < .010$. *** $p < .001$.

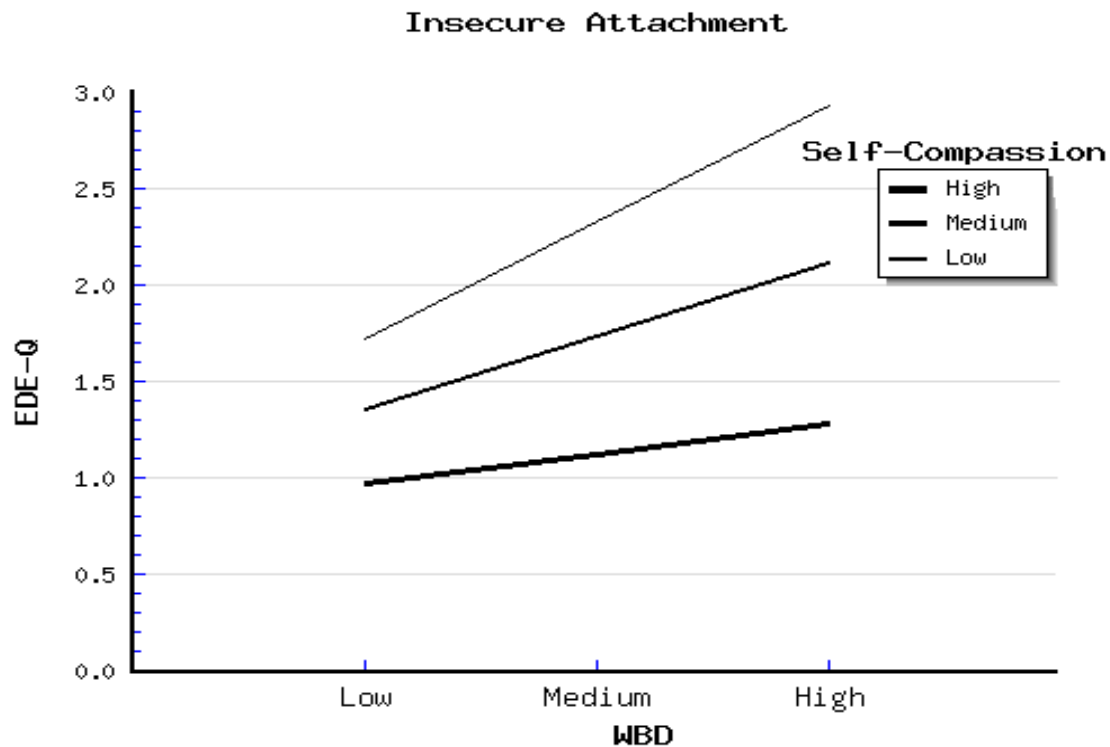


Figure 1. Graphic for the relation between weight and body shape dissatisfaction (WBD) and eating psychopathology (EDE-Q) with different levels of self-compassion in the insecure attachment group.

The graphic representation of the moderation analysis results reveals that, in the insecure attachment group, for the same level of weight and body dissatisfaction (WBD), who scored higher on self-compassion showed lower levels of eating psychopathology, in comparison to those with medium and low scores on self-compassion. In other words, insecurely attached women who presented higher capacity to gently hold and accept negative internal experiences when facing personal setbacks or inadequacies (i.e., self-compassion abilities) showed inferior levels of eating psychopathology. To summarize, this graphic allow us to observe the buffer effect of self-compassion in the insecure attachment group, against the negative impact of weight and body shape dissatisfaction on the adoption of eating disordered attitudes.

4. Discussion

The strategies of emotional regulation used throughout life are deeply affected by the quality of our early relationships. Literature suggests that secure attachment gives us not only a more positive model of ourselves and of those who surround us, and with these a sense of security and self-capability, but also provides secure strategies to regulate our emotional state [39]. In contrast, in the absence of a secure attachment, secondary attachment strategies (anxious and avoidant), maladaptive regulation processes, are developed [10, 11].

Despite the growing body of research regarding self-compassion, particularly its association with attachment (e.g., [19]) and with a variety of mental health difficulties (see [16, 18, 40]), namely disordered eating behaviors (e.g., [24, 26]), there was still to be made an attempt to understand the complex association between attachment style, the development of eating psychology and self-compassion.

The current study intended to explore whether self-compassion serves as moderator between weight and body shape dissatisfaction and the severity of eating psychopathology and if its impact is more powerful for insecurely attached women.

Results showed that, in general, the pattern of association between the variables in study is the same for both secure and insecure attachment groups. However, the correlations, both positive and negative, were almost always slightly higher in the insecure attachment group.

Finally, results from the moderation analysis showed that, interestingly, although self-compassion did serve as moderator of this relationship in the insecure attachment group, no significant effect was found on the secure attachment group. In the insecure attachment group, who scored higher on self-compassion, even in the presence of high levels of weight and shape dissatisfaction, shows lower levels of eating psychopathology

than who presents low levels of weight and body dissatisfaction if the level of self-compassion is low.

These results should be interpreted considering some methodological limitations. Firstly, in order to achieve a preliminary comprehension of the impact of self-compassion on eating psychopathology, the number of variables studied was intentionally limited. Nevertheless, the complex nature of eating disorders presupposes the existence of other factors that take part in the development of eating psychopathology. More research is needed to explore the possible moderator effect of self-compassion between other independent variables besides weight and body dissatisfaction and eating psychopathology. Additionally, it would be valuable to explore the relationship between this variables in clinical samples, to better understand the impact of self-compassion not only on the severity but also on the treatment of eating psychopathology. Regarding the understanding of the differential impact of self-compassion when taking into consideration the attachment style, in the present study we were unable to contemplate the distinct insecure attachment styles. Because of the disproportion between the different insecure attachment styles in the population, we would have needed a considerable larger sample. Lastly, the measurement of the attachment style used in the present study could be also counted as a limitation when an interview would have been a more thorough alternative.

Overall, the present study offers novel insights on the protective role of self-compassion against the negative impact of weight and body shape dissatisfaction on eating psychopathology severity in women with insecure attachment style. Results seem to indicate that the buffering effect of self-compassion on the severity of eating psychopathology, when in face of weight and shape dissatisfaction, could come from its potential as an alternative affect regulation strategy and that, specifically for women with

an insecure attachment style and subsequent possible lack of secure affect relation strategies, self-compassion can be a decisive factor in the prevention and treatment of eating psychopathology. Indeed, the qualities that comprise self-compassion, can be developed and their implications for clinical practice are an exciting area of research [41].

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