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Exploring the role of positive mechanisms between early affiliative memories and eating psychopathology

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Dissertação de Mestrado em Psicologia, área de especialização em Psicologia Clínica e Saúde, subárea de Intervenções Cognitivo-Comportamentais nas Perturbações Psicológicas da Saúde, sob a orientação da Professora Doutora Cláudia Ferreira

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II. Ferreira, C., & Oliveira, S. (2016). *Kindness towards the self and one's own body: Exploring mediational paths between early memories and disordered eating*. Manuscript submitted for publication in The Spanish Journal of Psychology.

I.

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EARLY MEMORIES OF WARMTH AND SAFENESS AND EATING PSYCHPATHOLOGY: THE MEDIATING ROLE OF SOCIAL SAFENESS AND BODY APPRECIATION

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Resumo

A literatura tem sublinhado a importância das experiências afiliativas precoces no desenvolvimento e funcionamento humano. Paralelamente, estudos recentes evidenciaram a relação entre a escassez de memórias positivas precoces e o comportamento alimentar perturbado. No entanto, os mecanismos subjacentes a esta associação permanecem escassos.

Este estudo testou um modelo que hipotetiza que as memórias positivas precoces estão negativamente associadas à psicopatologia alimentar, através do *social safeness* e de uma relação positiva e de cuidado com o corpo. A análise *path* foi conduzida numa amostra de 490 mulheres e confirmou a adequabilidade do modelo, explicando 51% da variância da psicopatologia alimentar. Adicionalmente, o *social safeness* e a apreciação positiva do corpo (*body appreciation)* revelaram-se mediadores do impacto das memórias precoces de calor no comportamento alimentar perturbado, controlando o efeito do IMC.

Estes resultados sugerem que o *social safeness* e a *body appreciation* poderão ter uma importante contribuição em programas de prevenção de psicopatologia alimentar.

Palavras-chave: Memórias precoces; Social safeness; Apreciação corporal; Psicopatologia alimentar

Abstract

Research on human development and functioning has highlighted the importance of early emotional and relational experiences. Particularly, an association between the absence of early positive memories and the presence of disordered eating has been evidenced by recent investigations. However, the mechanisms underlying this association remain unclear.

Using a sample of 490 women, the hypothesis that early positive memories are negatively associated with disordered eating via social safeness and a positive relationship with one's body image was tested via path analysis. The tested model explained 51% of eating psychopathology's variance, and revealed a good adjustment to the empirical data. Additionally, social safeness and body appreciation were revealed as mediators of the impact of early warm and safe memories on disordered eating, when controlling for the effect of BMI.

These findings suggest the importance of targeting social safeness and acceptance, especially when defining potentially effective programmes for the prevention of eating disorders.

Key Words: Early memories; Social safeness; Body appreciation; Disordered eating

Introduction

Literature has shown that early affiliative experiences seem to play an important role in our physical and psychological well-being (Collins, Maccoby, Steinberg, Heatherington, Bornstein, 2000; Gilbert & Perris, 2000; Schore, 1994). In fact, growing evidence has highlighted that early emotional and relational experiences, either positive or negative, are crucial on human development and functioning (e.g., Bowlby, 1969, 1973; Gerhardt, 2004; Panksepp, 2010; Richter, Gilbert & McEwan, 2009; Schore, 1994).

Several authors have demonstrated that negative rearing experiences, characterized by rejection, abuse, neglect and shame, are associated with a wide range of interpersonal and emotional difficulties and with higher vulnerability to psychopathology (Gilbert & Perris, 2000; Irons, Gilbert, Baldwin, Baccus, & Palmer, 2006), namely eating psychopathology (Ferreira, Matos, Duarte, Pinto-Gouveia, 2014; Vartanian, et al., 2014). In contrast, early experiences involving positive and affiliative signals (e.g., of reassurance, warmth, care or affection) are suggested to be linked to feelings of safeness and acceptance, and therefore promote the development of adaptive emotion regulation processes, and contribute to a greater well-being (e.g., Baldwin & Dandeneau, 2005).

Empirical studies have proposed that early affiliative experiences or interactions may be registered as powerful autobiographic memories, which can act as conditioned and highly available emotional memories (e.g. Gilbert & Irons, 2009; Matos & Pinto-Gouveia, 2010). However, in face of other’s behaviours, individuals may display different emotional responses (Gilbert, Cheung, Grandfield, Campey & Irons, 2003). In this line, rather that focusing on interactions or others’ behaviours, recent research

has privileged the study of the recall of early interpersonal interactions, i.e., the way one recalls feeling within early relationships (Gilbert et al., 2003).

In fact, early negative emotional memories (e.g., recollections of a sense of threat, subordination, and feeling ashamed or unvalued as a child; Gilbert, et al., 2003) are associated with a higher vulnerability to psychopathology (Xavier; Cunha, & Pinto-Gouveia, 2015). Also, literature has shown that the inability to recall early warmth and safeness experiences can lead to negative emotional states (e.g., Mendes, Marta-Simões & Ferreira 2016; Richter et al., 2009). In contrast, research suggests that the evocation of memories of early support plays a crucial role in the promotion of feelings of self-warmth, self-compassion and self-soothing, considered relevant psychological adjustment indicators (Gilbert & Irons, 2009; Gilbert & Procter, 2006).

Within an evolutionary perspective, positive social interactions seem to stimulate the soothing affiliation system, which promotes feelings connectedness, soothing and social safeness (e.g., Depue & Morrone-Strupinsky, 2005; Ferreira et al., 2014; Gilbert, 2009, 2010), and thus supports effective coping with adverse experiences (e.g., personal failures and setbacks; Dehart, Peham & Tennen, 2006; Richter et al., 2009).

Social safeness is characterized by the presence of feelings of warmth, acceptance and connectedness within interpersonal interactions (Gilbert et al., 2009) and seems to be negatively associated with several psychopathological indicators (such as inferiority, self-criticism and submissive behaviours) and with depressive and anxiety symptoms (e.g., Gilbert et al. 2008; Kelly, Zurroff, Leybman & Gilbert, 2012). According to Gilbert (1989, 2005), individuals who perceive their social world as safe, warm, and soothing, tend to manage problems and challenging events more effectively

and act in a more adaptive manner. On the other hand, when someone does not feel safe in social contexts and perceives others as unsafe or threatening, he/she needs to stay vigilant and to be ready for engaging in defensive responses (such as shame or submissive behaviours) and to strive for social acceptance.

In the field of body image and eating behaviour, research has highlighted that disordered eating and, specifically, drive for thinness, may emerge as a strategy intended to protect oneself from social threats (e.g., being ostracized or rejected due to one's body shape or weight) and to compete for social advantages (such as being accepted, approved and valued by others; Ferreira, Pinto-Gouveia & Duarte, 2013; Pinto-Gouveia, Ferreira & Duarte, 2014). In this sense, in women who perceive themselves as being in a low social rank (e.g., inferior or unattractive), the engagement in rigid dieting or other weight control behaviours may be conceptualized as a maladaptive strategy aimed to serve the functional purpose of threat regulation and feeling safe in the social group (Goss & Allan, 2009; Goss & Gilbert, 2002).

The importance of nurturing a positive and caring relationship with one's own body has been the subject of recent research (Homan & Tylka, 2015). Body appreciation defined as a positive, accepting and respecting attitude towards body image, regardless of its appearance (Avalos, Tylka, & Wood-Barcalow, 2005; Tylka & Wood-Barcalow, 2015), entails more than being satisfied with one's own body image and can be understood as holding a compassionate attitude towards one's own body image. Body appreciation is, therefore, the ability to accept and to be kind towards perceived defects or flaws in appearance, instead of being harshly self-critical, and also to recognize the unappreciated body characteristics as part of the common human experience (e.g., Tylka & Wood-Barcalow, 2015). Several studies showed that body

appreciation is positively associated with outcomes such as optimism, positive affect, self-compassion and life satisfaction, as well as negatively linked with body dissatisfaction, body shame and body image avoidance, and eating psychopathology (e.g., Avalos et al., 2005). However, literature regarding body appreciation is still scarce.

The current study aimed to test an integrative model that explores the impact of the recall of early memories of warmth and safeness on eating psychopathology, and whether social safeness and body appreciation significantly act on this association. It was hypothesized that the recall of positive early affiliative experiences (in relationships with family figures and peers) may be associated with lower eating psychopathology's severity, through higher levels of feelings of acceptance and connectedness in social relationships and body appreciation. In fact, there is evidence that the lack of warmth and safe affiliative memories are linked with the engagement in disordered eating attitudes and behaviours (e.g., Mendes, Marta-Simões, Ferreira, 2016). Furthermore, research has pointed out that disordered eating may emerge as a strategy to compete with social acceptance and belonging (Ferreira et al., 2013; Pinto-Gouveia et al., 2014). Additionally, several authors have highlighted body appreciation as a protective strategy that seems to be highly and negatively associated with eating disorders (e.g., Tylka & Barcalow, 2014; Avalos et al., 2005). Nonetheless, no studies to date has yet integrated this variables in a comprehensive model that explain eating psychopathology.

Material and Methods

Participants

The sample of this study comprised 490 women from the Portuguese general population, with ages ranging from 18 to 55 years old (M = 24.76; SD = 7.66). The majority of participants lived in an urban area (72.9%) and 27.1% in a rural one. Body Mass Index (BMI) ranged between 15.24 and 42.24, with a mean of 22.29 (SD = 3.87), which corresponds to normal weight values (BMI ranging from 18.5 to 24.9; WHO, 1995). Moreover, the sample´s BMI distribution revealed to be equivalent to the female Portuguese population´s BMI distribution (Poínhos et al., 2009).

Procedures

The present study is part of a wider Portuguese research about the impact of different emotional regulation processes in psychological functioning and mental health. The sample was obtained through online advertisements on social networks, and data collection and others study's procedures respected all ethical and deontological requirements, inherent to scientific research. Individuals who accepted to participate in this research were given clarification about the voluntary and confidential character of their participation and respective collected data, and gave their written informed consent before completing the test battery.

The initial sample was composed of 514 individuals (494 women and 20 men), with ages ranging from 17 to 57 years old. However, taking into account the purpose of the current study, data cleaning procedures excluded: (a) male participants and (b) participants younger than 18 years old and older than 55 years old.

Measures

Before answering self-report measures (described below), participants completed a series of questions regarding demographic data (e.g., age, gender, nationality, area of residence and education level) and current weight and height (used to calculate BMI).

Body Mass Index (BMI); BMI was calculated based on participants' self-reported current weight and height using the Quetelet Index (Kg/m^2).

Early Memories of Warmth and Safeness Scale (EMWSS; Richter et al., 2009; Matos, Pinto-Gouveia & Duarte, 2014); EMWSS is a self-report measure, composed of 21 items, that aims to assess the recall of early positive emotional experiences with close or family figures. Participants are asked to select, on a 5-point scale (0 = "No, Never" to 4 = "Yes, Most of the time"), the frequency of a set of childhood emotional memories characterized by warmth, safeness, soothing, and care in their relationship within family figures (e.g., "I felt that I was a cherished member of my family"). This measure presented a Cronbach's alpha of .97, both in the original and Portuguese versions, and of .98 in the current study.

Early Memories of Warmth and Safeness Scale-Peers version (EMWSS_peers; Ferreira, Cunha, Marta-Simões, Duarte, Matos & Pinto-Gouveia, 2016); EMWSS_peers is a 12-item instrument adapted from the EMWSS (Richter et al., 2009), which evaluates the recall of peer-related early positive emotional experiences. Participants are asked to indicate the frequency of recalled emotional experiences regulated by warmth, safeness and affection in their relationships with friends and colleagues during childhood and adolescence (e.g. "I felt loved by my peers/friends"). The response options are presented on a 5-point scale (0 = "No, Never" to 4 = "Yes,

Most of the time"). This measure presented good psychometric properties, with high levels of internal consistency in the original version (α = .97) and in the current study (α = .98).

Social Safeness and Pleasure Scale *(*SSPS; Gilbert et al., 2009; Pinto-Gouveia, Matos & Dinis, 2008); SSPS is a self-report measure composed of 11 items designed to measure social safeness, i.e., the extent to which individuals feel a sense of acceptance and connectedness in their social relationships (e.g." 'I feel accepted by people"). The response options are rated on a 5-point scale (1 = "Almost never" to 5 = "Almost all the time"). SSPS has shown good internal consistency in the original study (α = .92); concerning the current study, the Cronbach's alpha was .94.

Body Appreciation Scale *(*BAS-2; Tylka, Wood-Barcalow, 2015; Marta-Simões, Mendes, Oliveira, Trindade & Ferreira, 2016); BAS-2 is a self-report measure composed of 10 items that aim to assess individuals' acceptance and respect for their bodies, even if not totally pleased with all its aspects (e.g., "I take a positive attitude towards my body"). The response options are rated on a 5-point scale (1 = "Never" to 5 = "Always"). BAS-2 has shown excellent internal consistency in the original study (with Chronbach's alpha values ranging from .93 to .97 in different samples; Tylka et al., 2014) and in Portuguese version (α = .95). Also, in the current study BAS-2 presented high internal consistency (α = .95).

Eating Disorder Examination Questionnaire *(*EDE-Q; Fairburn & Beglin, 1994; Machado et al., 2014); EDE-Q is a self-reported measure composed of 36 items, adapted from the Eating Disorder Examination Interview (EDE, Fairburn & Cooper, 1993), which assesses the frequency and intensity of disordered eating attitudes and behaviours. It comprises four subscales: restraint, weight concern, shape concern and

eating concern. The items are rated for the frequency of occurrence (items 1-15, on a scale ranging from 0 = “None” and 6 = “Every day”) or for severity (items 29-36, on a scale ranging from 0 = “None” and 6 = “Extremely”). EDE-Q’s internal consistency revealed to be high both in the original version and in the Portuguese validation study ($\alpha = .94$), and also in the current study ($\alpha = .95$).

Data Analyses

Data analyses were performed using the software IBM SPSS Statistics 22.0 (SPSS IBM; Chicago, IL) and path analyses with the software AMOS (Arbuckle, 2008).

Descriptive statistics (means and standard deviations) were performed in order to examine the characteristics of the final sample. Additionally, to explore the associations between age, BMI, early memories of warmth and safeness with close figures (EMWSS) and with peers (EMWSS_peers), social safeness (SSPS), body appreciation (BAS-2) and eating psychopathology (EDE-Q), product-moment Pearson correlations analyses were performed.

The magnitudes of these relationships were discussed taking into account Cohen’s guidelines, in which correlations ranging between .1 and .3 are considered weak, moderate above .3, and strong when equal to or superior than .5, while considering a significance level of .05 (Cohen, Cohen, West & Aiken, 2003).

Finally, path analyses were conducted to estimate the presumed relations within the proposed model (Figure 1), specifically the mediator effects of social safeness (SSPS) and body appreciation (BAS-2), in the relationship between early memories of warmth and safeness with family figures (EMWSS) and with peers

(EMWSS_peers), and the engagement in disordered eating attitudes and behaviours (EDE-Q). Thus, early memories of warmth and safeness were considered as exogenous variables, social safeness and body appreciation were hypothesized as endogenous mediator variables, and eating psychopathology as an endogenous variable. The Maximum Likelihood method was used to test regression coefficients and to compute fit statistics. Moreover, a series of goodness-of-fit indices were used to examine the adequacy of the overall model (e.g., CMIN/DF; TLI; CFI; RMSEA; Hu & Bentler, 1999). The significance of the paths was also examined, by resorting to the Bootstrap resampling method, with 5000 Bootstrap samples, and 95% bias-corrected confidence intervals around the standardized estimated of total, direct and indirect effects.

Results

Preliminary analyses

The assumption of the normality of the distribution of the variables was confirmed by the analysis of Skewness and Kurtosis (Kline, 1998).

Preliminary analyses indicated that data followed the assumptions of homoscedasticity, normality, linearity, independence of errors and multicollinearity and singularity among the variables (Field, 2004).

Descriptive analyses

The descriptive statistics referring to the study's variables are presented, for the total sample (N = 490), in Table 1.

Table 1

Means (M), Standard Deviations (SD) and Intercorrelation scores between the study's measures (N = 490)

Measures	*M*	*SD*	1.	2.	3.	4.	5.	6.
1.BMI	22.29	3.87	-	-	-	-	-	-
2.EMWSS	62.58	17.64	-.14**	-	-	-	-	-
3.EMWSS_peers	34.11	11.13	-.12**	.61***	-	-	-	-
4.SSPS	41.59	7.90	-.10*	-.47***	.55***	-	-	-
5.BAS-2	36.45	8.23	-.37***	-.34***	.33***	.42***	-	-
6.EDE-Q	1.35	1.25	.44***	-.20***	-.16***	-.17***	-.67***	-

Note: $*p < .050$, $**p < .010$, $***p < .001$. BMI = Body Mass Index; EMWSS = Early Memories of Warmth and Safeness Scale; EMWSS_peers = Early Memories of Warmth and Safeness Scale-Peers version; SSPS = Social Safeness and Pleasure Scale; BAS-2 = Body Appreciation Scale; EDE-Q = Eating Disorder Examination Questionnaire

Descriptive and Correlations Analyses

Results demonstrated that age revealed non-significant associations with the variables in study, except with BMI. In turn, BMI presented negative associations, albeit weak, with early memories of warmth and safeness (with family figures - EMWSS and with peers – EMWSS_peers) and with social safeness (SPSS). Also, results showed that BMI was inversely associated with body appreciation (BAS-2) and positively linked to EDE-Q, both with moderate magnitudes.

EMWSS and EMWSS_peers revealed positive associations with SSPS and

with BAS-2 (with moderate and strong magnitudes, respectively), and negative associations with EDE-Q. Moreover, a positive and moderate relationship was found between SSPS and BAS-2. Finally, results showed that SSPS and BAS-2 presented negative associations with EDE-Q, with different magnitudes, weak and strong, respectively (Table 1).

In addition, a partial correlation analysis controlling for age was conducted. Results revealed that the direction and magnitude of the correlations of the variables in study remained similar and therefore, age was not included in later analysis.

Path Analysis

Path Analysis was performed to test whether social safeness (SSPS) and body appreciation (BAS-2) mediate the impact of the recall of early memories of warmth and safeness with family figures and with peers (EMWSS and EMWSS_peers) on disordered eating attitudes and behaviours (EDE-Q), while controlling for the effect of Body Mass Index (BMI).

Firstly, the path model was test through a saturated model (i.e., zero degrees of freedom), comprising 26 parameters, which explained 51% of eating psychopathology's variance. Results indicated that three paths were not significant: the direct effect of early memories of warmth and safeness with family figures on EDE-Q (b_{EMWSS} = -.001; SE_b = .003; Z = -.38; p =.707); the direct effect of early memories of warmth and safeness with peers on EDE-Q (b_{EMWSS_peers} = .002; SE_b = .004; Z = .383; p =.702), and the direct effect of early memories of warmth and safeness with peers on body appreciation (b_{EMWSS_peers} = .035; SE_b = .038; Z = .916; p = .360). These paths were progressively eliminated and the model was readjusted.

The final model (Figure 1) presented an excellent fit with a non-significant Chi-Square [$\chi^2(4) = 1.471$; $p = .832$], and an excellent fit to the empirical data, as indicated by the analysis of well-known and recommended goodness of fit indices (CMIN/DF = .368; CFI = 1.00; TLI = 1.00; RMSEA = .000 ; $p = .975$, IC = .00 - .04; Kline, 2005). This model, in which all path coefficients were statistically significant ($p < .001$), explained 51% of EDE-Q's variance. Moreover, the model accounted for 33% and 30% of social safeness and body appreciation's variances, respectively. Early memories of warmth and safeness with family figures presented a significant direct effect on social safeness of .22 ($b_{EMWSS} = .099$; $SE_b = .021$; $Z = 4.760$; $p < .001$) and of .15 on body image appreciation ($b_{EMWSS} = .071$; $SE_b = .020$; $Z = 3.557$; $p < .001$). Early memories of warmth and safeness with peers had a direct effect of .41 on social safeness ($b_{EMWSS_peers} = .291$; SE_b=.033; $Z = 8.801$; $p < .001$). In turn, social safeness had a direct effect of .31 on body appreciation ($b_{SSPS} = .326$; $SE_b = .045$; $Z = 7.302$; $p < .001$) and of -.12 on EDE-Q ($b_{SSPS} = .018$; SE_b =.006; $Z = 3.297$; $p < .001$). It was also verified that body appreciation had a direct effect of -.64 on EDE-Q ($b_{BAS\text{-}2} = -.098$; $SE_b = .006$; $Z = -17.132$; $p < .001$).

The analysis of indirect effects showed that early memories of warmth and safeness with family figures, as well as with peers, presented indirect effects on EDE-Q through social safeness and body appreciation of .07 (95% CI = .03 - .14) and .13 (95% CI = .08 - .19), respectively. Early memories of warmth and safeness with family figures showed an indirect effect of -.12 (95% CI = -.18 - -.06) on EDE-Q, which was partially carried throught the mechanisms of social safeness and body appreciation. Results also demonstrated that social safeness presented an indirect effect of -.20 (95% CI = -.27 - -.13) on eating psychopathology, which was partially

mediated through body appreciation. Overall, the analysis of this model accounted for 51% of eating psychopathology's variance, and revealed that social safeness and body appreciation mediate the impact of early memories of warmth and safeness with family figures and with peers on EDE-Q.

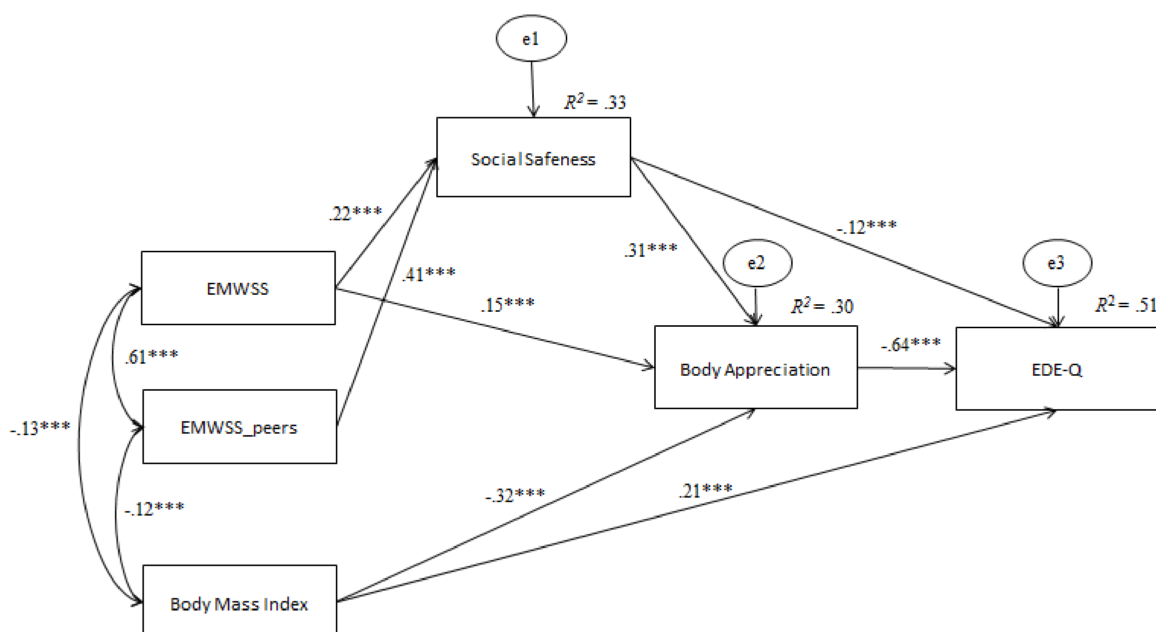

Figure 1. Final path model.

Note. ***p < .001; EMWSS = Early Memories of Warmth and Safeness Scale; EMWSS_peers = Early Memories of Warmth and Safeness Scale – Peers version; EDE-Q = Eating Disorder Examination Questionnaire.

Discussion

Empirical studies have emphasized the existence of a link between early memories of warmth and safeness and adaptive emotional regulation processes and mental health (Ferreira et al., 2016; Richter et al., 2009; Schore, 1994). Additionally, the impact of the recall of early positive memories (within relationships with family

figures and peers) in eating psychopathology was recently documented (e.g., Mendes et al., 2016). Nevertheless, the roles of social safeness and body appreciation as be targeted in psychological interventions to decrease eating psychopathology remained scarcely explored.

This study intended to clarify the relationship between early memories, social safeness, body appreciation and disordered eating attitudes and behaviours. Specifically, the main aim of the current study was to test an integrative model that explored the effect of early memories of warmth and safeness on eating psychopathology's severity and the mediator roles of social safeness and body appreciation in this association, while controlling the effect of BMI.

In accordance with the proposed hypotheses and with prior research, the results of correlation analyses showed that early memories of warmth and safeness (both with family figures and with peers) were significantly associated with adaptive emotions and processes and with lower eating psychopathology's severity (e.g., Ferreira et al., 2016; Mendes et al., 2016; Richter et al., 2009). Particularly, the current study extends current knowledge by demonstrating that the recall of positive emotional experiences is significantly associated with individuals' sense of safeness and connectedness to others, and with a positive attitude towards one's body, regardless of its characteristics. These findings are in line with theoretical and empirical evidence suggesting that the evocation of supportive memories plays a crucial role on the promotion of social and psychological adjustment (Gilbert & Irons, 2009; Gilbert & Procter, 2006). Nonetheless, this is the first study documenting a positive link between these positive mechanisms (evocation being nurtured and cared for within early relationships, current feelings of warmth, acceptance and connectedness, a respecting

and caring attitude towards body image), and its inverse relation with the severity of eating psychopathology's symptoms.

Path analysis' findings revealed that the examined model showed an excellent fit to the empirical data, accounting for 51% of the variance of disordered eating attitudes and behaviours. Furthermore, results revealed that 33% of social safeness's variance was explained by early memories of warmth and safeness, both with family figures and with peers. Additionally, this model suggested that 30% of the variance of body appreciation was directly explained by the evocation of early supportive memories with family figures, and by the indirect effect of family and peer-related early positive memories, through social safeness. Also, results revealed that early positive memories explained lower levels of disordered eating via higher levels of social safeness and body appreciation, while controlling for the effect of BMI.

This model proposes that women's ability to recall early positive emotional experiences predicted lower levels of disordered eating behaviours, even when controlling the effect of BMI. However, these results seem to suggest that the relationship between early warmth and safeness memories and eating psychopathology's severity is complex and influenced by different mechanisms. In fact, path analysis' results indicated that the effect of the evocation of positive affiliative memories on disordered eating is mediated by the tendency to perceive the social world as safe, warm, and soothing and by a positive and caring relationship with one's body. Indeed, this study suggests that affiliative memories with family figures and peers promote feelings of warmth, acceptance and connectedness with others. In turn, these positive memories and current feelings of social safeness seem be linked to a more adaptive and positive relation with one´s body, regardless of its characteristics.

Also, feelings of acceptance and connectedness with others and the ability to relate with one´s body in an accepting and caring manner seem to be targeted in psychological interventions to decrease eating psychopathology. These results can be understood in light of the evolutionary model (e.g., Baumeister & Leary, 1995; Gilbert, 2000, 2010), which emphasizes the central role of social acceptance and approval in well-being and mental health. Eating disorders' symptoms, specifically weight and body image control, may arise from the perception of being in an unsafe position in relation to one's social group (e.g., Pinto-Gouveia et al., 2014) and as a strategy to compete for others' acceptance and positive attention (Ferreira et al., 2014). In this line, our results corroborate prior research by showing that nurturing a positive and caring relationship with one's body is negatively associated with eating psychopathology (Tylka & Wood-Barcalow, 2015), and is suggested as an important mediator mechanism in the explanation of disordered eating behaviours.

To sum up, it is possible to hypothesise that feelings of warmth and safeness in social relationships may explain the need to control or conceal body image in order to enhance social acceptance. Furthermore, early emotional experiences and current feelings of connectedness may allow women to recognize that some negative experiences related to body image (e.g., perception of flaws in appearance) are shared among women, which enhances a sense of respect and acceptance towards body image, regardless of undesired characteristics. The promotion of a holistic and positive relationship with one's own body may, therefore, play a powerful role in the prevention of disordered eating attitudes and behaviours.

Nevertheless, these findings cannot be understood without considering some limitations. One important limitation is that the transversal design precludes causal

conclusions to be drawn. Future research should test the relationships between the study's variables in longitudinal or experimental design studies. Also, the use of a sample exclusively composed of female participants represents an important limitation. Even though eating psychopathology is more prevalent in women, men also experience weight and body image-related difficulties and this study sample does not allow the generalization of the obtained results. Thus, upcoming studies should investigate this model in male samples and explore gender differences. Moreover, future research should also investigate these associations in larger samples and, in particular, the plausibility of this mediational model in clinical samples. Also, although the main aim of the current study was to specifically address the mediator role of social safeness and body appreciation, the complex nature of eating psychopathology presupposes the existence of other relevant variables in the link between memories of warmth and safeness and disordered eating. Future studies should then expand on this model by testing different meditators mechanisms. Finally, our data may be constrained by limitations linked to the use self-report measures, specifically retrospective reports; nevertheless some studies have shown that memories of early parenting are relatively reliable and stable over time, even in the face of considerable changes in mood and emotional states (e.g., anxiety, depression, and hostility; Brewin, Andrews, & Gotlib, 1993; Cunha, Xavier, Martinho & Matos, 2014; Gerlsma, Kramer, Scholing, & Emmelkamp, 1994). Future studies should further validate the current findings by using other assessment methodologies, such as face-to-face interviews or observational instruments.

In conclusion, our results seem to support that women who evoke more early warmth and safeness experiences tend to perceive their current interpersonal

interactions as supportive and safe, and present a positive, accepting and respecting attitude towards their body, regardless of its appearance. Moreover, this study offers new insights on how feelings of acceptance and connectedness with others and a positive and kind relationship towards one's own body can be important mediator mechanisms of the link between early affiliative memories and lower tendency to engage in disorder eating, in women. In this line, our results seem to reveal that the impact of these early emotional memories on eating psychopathology may be highly dependent to the existence of feelings of acceptance and connectedness in social interactions and the ability to have compassionate attitudes towards one's own body. Our findings seem to be an important contribution to prevention and therapeutic interventions targeting women with body and eating difficulties. This study seems to suggest that specific work promoting affiliative processes, and particularly a more positive relation with body image may be helpful to attenuate the impact of the lack of early memories of warmth and safeness within family figures and peers.

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KINDNESS TOWARDS THE SELF AND ONE'S OWN BODY: EXPLORING MEDIATIONAL PATHS BETWEEN EARLY MEMORIES AND DISORDERED EATING

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Abstract

Early affiliative experiences seem to play an important role in our physical and psychological well-being. Additionally, the recall of positive rearing memories have been inversely associated with a series of indicators of greater emotional difficulties and psychopathology in adulthood.

In the field of body image and eating-related psychopathology, recent literature highlighted the impact of the lack of early memories of warmth and safeness on disordered eating attitudes and behaviours. Nevertheless, the study of underlying mechanisms in this link is still scarce.

Therefore, the aim of this study was to explore a model in which it is hypothesized that early memories of safeness and warmth are negatively associated with disordered eating through higher levels of self-compassion and a more positive and caring relationship with one's body (body appreciation). This study's sample comprised 490 women, who completed the self-report measures of interest displayed on an online tool. Path analysis results showed that, when controlling the effect of age and body mass index, self-compassion and body appreciation fully mediated the impact of early positive emotional memories on disorder eating attitudes and behaviours. Findings confirmed the plausibility of this model, which accounted for 49% of eating psychopathology's variance.

The current study offers important insights for future research and for the development of intervention programs by emphasizing the importance role of self-compassion and body appreciation against body image and eating-psychopathology.

Keywords: Early supportive memories; Self-compassion; Body appreciation; Disordered eating

Introduction

Several studies have emphasised that the quality of care received in childhood impacts on genes expression, brain maturation and cognitive, emotional and relational systems (e.g., Mikulincer & Shaver, 2004; Panksepp, 2010). Particularly, literature has highlighted the association between early emotional experiences with parents and family members and emotional regulation adjustment (Gilbert & Perris, 2000). In this line, consistent body of research documented that early interactions with responsive, sensitive and available attachment figures promote an optimal development of the attachment system, which in turn uphold a sense of security and connectedness, and foster the ability to deal with challenging contexts and adversity (e.g., Gilbert, 2009). More specifically, early experiences involving warmth, reassuring, care and affection have been associated with well-being and resilience towards psychopathology (e.g., Gilbert, Baldwin, Irons, Baccus, & Palmer, 2006). In contrast, when primary attachment figures are experienced as not reliably, secure or available, a sense of security is not attained, and defensive strategies are activated (e.g., Gilbert, 2005). The pervasive impact of these early adverse interactions on later life has been attested by several reviews (e.g., Gerhardt, 2004). In fact, early experiences within family, characterized by rejection, over protection/control or a lack of care, have been associated with different psychopathological indicators (e.g., Gilbert & Perris, 2000).

Several accounts pointed out that these early experiences can act as conditioned emotional memories (Gilbert & Irons, 2009), which seem to have a crucial impact on emotional regulation (e.g., Matos & Pinto-Gouveia, 2010). Literature suggests that the recall of early negative relational experiences may operate as threat-activating memories and functioning like emotional hot-spots, highly available in the mind

(Cheng & Furnham, 2004). In the other hand, the evocation of rearing experiences regulated by warmth, safeness, soothing and care seem to promote positive emotional states and adaptive emotional resources (such as self-compassion) (e.g., Gilbert & Irons, 2009).

Self-compassion is a construct derived from Buddhist psychology (Neff, 2003a, 2003b) and define the ability to be open and accept one's own suffering, and a genuine desire to alleviate it (Neff, 2003b). According to Neff (2003b), self-compassion comprises a mindful attitude toward internal experiences which involves the ability of offering a kind, nonjudgmental understanding to one's pain, inadequacies and failures, which are perceived as common experiences shared by all. Consistent evidences suggested that self-compassion is positively associated with positive affect, social connectedness and adaptive coping (e.g., Gilbert, 2005; Neff, 2003a; Neff, 2009). Additionally, extensive data demonstrated that the cultivation of self-compassion can have an effective impact against negative affect and psychopathology, and promotes physical and psychological well-being (e.g., Ferreira, Matos, Duarte, & Pinto-Gouveia, 2014; Raes, 2011). Furthermore, in the field of body image, self-compassion is also linked to a healthier body image. More specifically, recent studies revealed a significant association between self-compassion and lower levels of body dissatisfaction, body shame and body surveillance, as well as higher body image flexibility and body appreciation (Daye, Webb, & Jafari, 2014; Ferreira et al., 2014; Kelly, Vimalakanthan, & Miller, 2014; Wasylkiw, MacKinnon, & MacLellan, 2012).

Body appreciation is conceptualized as the ability to accept, respect and to be kind towards perceived defects in appearance and, at the same time, to recognize the perceived body flaws as part of the common human experience (Avalos, Tylka &

Wood-Barcalow, 2005; Tylka & Wood-Barcalow, 2015). Thus, body appreciation can be seen as the ability to adopt a compassionate and understanding attitude towards one's own body features and characteristics (Homan & Tylka, 2015; Tylka & Wood-Barcalow, 2015). Several studies have shown that body appreciation has been positively associated with adaptive characteristics and behaviours, such as optimism, proactive coping, positive affect, life satisfaction (Avalos et al., 2005; Tylka & Kroon Vandiest, 2013; Wasylkiw et al., 2012), and favourable appearance evaluations, body esteem (Avalos et al., 2005), and intuitive eating (Tykla & Kroon Van Diest, 2013). In contrast, body appreciation is negatively linked with body dissatisfaction and maladaptive body-related behaviours (such as body surveillance and body checking behaviours; Avalos et al., 2005; Tylka, 2013) and eating psychopathology (Tylka & Kroon Van Diest, 2013). Although, a greater investment on adaptive and healthy body image is recommended, due its association with self-care behaviours and well-being, literature regarding body appreciation is still scarce.

The current study aimed to test an integrative model that explores the impact of the recall of early memories of warmth and safeness on eating psychopathology, and examines whether self-compassion and body appreciation significantly act on this association. It was hypothesized that the recall of early positive and affiliative experiences (with family figures) may be associated with lower eating psychopathology's severity, through higher levels of self-compassion and body appreciation.

Materials and methods

Participants

A total of 490 women from the Portuguese general population, with ages ranging from 18 to 54 years old (*M* = 24.76; *SD* = 7.66) participated in this study. Participants' Body Mass Index (BMI) ranged between 15.24 and 42.24 (*M* = 22.29; *SD* = 3.87), which corresponding to normal weight values (BMI ranging from 18.5 to 24.9). Moreover, the sample´s BMI distribution revealed to be equivalent to the female Portuguese population´s BMI distribution (Poínhos et al., 2009).

Measures

Body Mass Index (BMI); BMI was calculated through the Quetelet Index from self reported participants' current height and weight (Kg/m^2).

Early Memories of Warmth and Safeness Scale (EMWSS; Richter, Gilbert, & McEwan, 2009; Portuguese version by Matos, Pinto-Gouveia, & Duarte, 2014); EMWSS is a self-report instrument, composed by 21 items, designed to measure the recall of early positive affiliate experiences with family figures. Participants are asked to indicate the frequency of the recall of emotional experiences regulated by warmth, safeness and affection in their relationships (e.g., "I felt that I was a cherished member of my family") during childhood. The response options are rated in a 5-point scale (0 = "No, never" to 4 = "Yes, Most of the time"). This measure presented good psychometric properties, with a high level of internal consistency (α = .97), both for the original and the Portuguese versions.

Self-Compassion Scale (SCS; Neff, 2003a; Portuguese version by Costa, Marôco, Pinto-Gouveia, Ferreira, & Castilho, 2015); This 26-item self-report measure assesses self-compassion through two main components: a positive one, which includes self-kindness (e.g., "I'm tolerant of my own flaws and inadequacies"),

common humanity (e.g., “I try to see my failings as part of the human condition”) and mindfulness (e.g., “When I fail at something important to me I try to keep things in perspective”); and a negative one, comprising self-judgment, isolation and over-identification. The response options are rated using a Likert-type scale ranging from 1 (“almost never”) to 5 (“almost always”). SCS presents good internal consistency in the original version (α = .92) and in the Portuguese version (α = .89). In the current study, the three positive dimensions were used to compute a global measure of self-compassion.

Body Appreciation Scale *(*BAS-2; Tylka, Wood-Barcalow, 2015; Portuguese version by Marta-Simões, Mendes, Oliveira, Trindade, & Ferreira, 2016); BAS-2 is a self-report instrument composed by 10 items that assesses respecting and accepting attitudes towards one’s own body’s features, regardless of its appearance (e.g., “I take a positive attitude towards my body”). The response options are rated using a 5-point Likert-type scale (1 = “never” to 5 = “always”). This instrument reveals a good internal consistency in the original version (with Cronbach’s alpha values ranging from .93 to .97 in different samples; Tylka & Wood-Barcalow, 2015) and in Portuguese version (α =.95).

Eating Disorder Examination Questionnaire *(*EDE-Q; Fairburn & Beglin, 1994; Portuguese version by Machado et al., 2014); EDE-Q is a 36-item self-report measure, adapted from the Eating Disorder Examination Interview, which assesses the presence and severity of eating psychopathology. It comprises four subscales, namely restraint (e.g., “Have you tried to exclude from your diet any foods that you like in order to influence your shape or weight?”), weight concern (e.g., “Have you felt fat?”), shape concern (e.g., “How dissatisfied have you been with your shape?”) and

eating concern (e.g., “Have you had a strong desire to lose weight?”). The items are rated for frequency of occurrence and for severity of key disordered eating attitudes and behaviours. This measure presented good internal consistency in both the original and the Portuguese versions (α = .94).

Cronbach’s alphas of these measures for the present study are reported in Table 1.

Procedures

The present study is part of a wider Portuguese project about the impact of different emotional regulation processes in psychological functioning and mental health. The sample was collected through online advertisements on social networks and all ethical requirements inherent to scientific research were respected. Furthermore, all participants were fully informed about the purpose and objectives of the study, the voluntary nature of their participation and the confidentiality of the data. Participants provided their written informed consent, before the completion of the battery of self-report questionnaires.

Initially self-report measures were completed by 514 participants of both genders (494 women and 20 men), with ages ranging from 17 to 57 years old. However, according to the purposes of this study, data was cleaned and only 490 women, with ages ranging from 18 to 54 years old, were selected. The data cleaning procedure excluded participants younger than 18 years old and older than 55 years old and male participants.

Data Analyses

Data analyses were executed using the software IBM SPSS Statistics 22.0 (SPSS

IBM; Chicago, IL) and path analyses with the software AMOS.

Descriptive statistics (means and standard deviations) were performed in order to examine the characteristics of the final sample. Furthermore, product-moment Pearson correlations analyses were used to explore the associations between BMI, age, early memories of warmth and safeness with family figures (EMWSS), self-compassion (SC), body appreciation (BAS-2) and eating psychopathology (EDE-Q). The magnitudes of these relationships were discussed taking into account Cohen's guidelines, in which correlations ranging between .1 and .3 are considered weak, moderate above .3, and strong when equal to or superior than .5, while considering a significance level of .05 (Cohen, Cohen, West, & Aiken, 2003).

Finally, path analyses were conducted to estimate the presumed relations within the proposed model (Figure 1), specifically the mediator effects of self-compassion (SC) and body appreciation (BAS-2), in the relationship between early memories of warmth and safeness with family figures (EMWSS) and the engagement in disordered eating attitudes and behaviours (EDE-Q). Therefore, early memories of warmth and safeness was considered as exogenous variables, self-compassion and body appreciation were hypothesized as endogenous mediator variables, and eating psychopathology as an endogenous variable, concomitantly controlling error (Kline, 2005). Age and BMI were included as exogenous variables in order to controlling its effect on the studied variables. To test regression coefficients and to compute fit statistics was used the Maximum Likelihood method. Additionally, a series of goodness-of-fit indices were used to examine the adequacy of the overall model (e.g., CMIN/DF; TLI; CFI; RMSEA). Concerning the Bootstrap resampling method, the significance of the paths was also examined, with 5000 Bootstrap samples, and 95%

bias-corrected confidence intervals around the standardized estimated of total, direct and indirect effects.

Results

Preliminary data analyses

The suitability of the current data for correlation analyses was examined. The analyses of Skewness and Kurtosis values seems to confirm the assumption of normality of the distribution of the variables in study (Kline, 2005)

Preliminary analyses indicated that data followed the assumptions of homoscedasticity, normality, linearity, independence of errors and multicollinearity and singularity among the variables (Field, 2004).

Descriptive analysis

The descriptive statistics for the study variables are presented on Table 1.

Table 1

Means (M), standard deviations (SD), Cronbach alphas and Intercorrelation scores on self-report measures (N = 490)

Measures	*M*	*SD*	α	1.	2.	3.	4.	5.
1. Age	22.29	3.87	-	1	-	-	-	-
2. BMI	24.76	7.66	-	.42***	1	-	-	-
3.EMWSS	62.58	17.64	.98	-.14***	-.14***	1	-	-
4.SC	3.14	.67	.91	.16***	-.03	.29***	1	-
5.BAS-2	36.45	8.23	.95	-.05	-.37***	.34***	.43***	1
6.EDE-Q	1.35	1.25	.95	.08	.44***	-.20***	-.22***	-.67***

Note: BMI = Body Mass Index; EMWSS = Early Memories of Warmth and Safeness Scale; SC = Self-Compassion dimension of SCS; BAS-2 = Body Appreciation Scale; EDE-Q = Eating Disorder Examination Questionnaire; ***$p < .001$

Correlations

Results showed that early memories of warmth and safeness were positively associated to self-compassion and body appreciation, with weak and moderate magnitudes, respectively. Furthermore, a negative and weak association was found between early memories of warmth and safeness and EDE-Q. Results, also, indicated that self-compassion and body appreciation were positively associated with each other, and negatively correlated with EDE-Q.

Moreover, results showed that age revealed non-significant associations with body appreciation and with EDE-Q. However, age presented positive correlations with BMI and self-compassion (SC), with moderate and weak magnitudes respectively. In contrast, a negative and weak relationship between age and early memories of warmth and safeness with family figures (EMWSS) was found. Finally, BMI presented negative associations with early memories of warmth and safeness and body appreciation, and positively linked to EDE-Q, with a moderate magnitude (Table 1).

Path Analysis

The path model was initially tested through a fully saturated model (i.e., with zero degrees of freedom), consisting of 27 parameters. However, analyses suggested the progressive removal of the following nonsignificant paths: the direct effect of early memories of warmth and safeness with family figures on EDE-Q ($b_{EMWSS} = .001$; $SE_b = .002$; $Z = .599$; $p = .549$); the direct effect of age on EDE-Q ($b_{age} = -.009$; $SE_b = .006$; $Z = -1.585$; $p = .113$); the self-compassion's direct effect on EDE-Q ($b_{SC} = .110$; $SE_b = .067$; $Z = 1.630$; $p = .103$); the direct effect of age on body appreciation ($b_{age} = .086$; $SE_b = .044$; $Z = 1.934$; $p = .053$), and the direct effect of BMI on self-compassion

(b_{BMI}= -0.16; SE_b = .008; Z = -1.947; p = .052). These paths were progressively eliminated and the model was readjusted (Figure 1). The final model revealed that all path coefficients were statistically significant ($p < .050$), and presented an excellent model fit [$\chi^2_{(5)}$ = 13.012, p = .023, CMIN/DF = 2.062; TLI = .967; CFI = .989; RMSEA = .057, p = .323; 95% CI = .019 to .096].

More specifically, early memories of warmth and safeness with family figures had a direct effect of .32 (b_{EMWSS} = .012; SE_b = .002; Z = 7.459; $p < .001$) on self-compassion and of .19 (b_{EMWSS} = .089; SE_b = .018; Z = 4.981; $p < .001$) on body appreciation. In turn, BMI have a direct effect of -.34 (b_{BMI} = -.717; SE_b = .078; Z = -.9.180; $p < .001$) and .22 (b_{BMI} = .071; SE_b = .011; Z = 6.305; $p < .001$) on body appreciation and EDE-Q, respectively. It was also verified that age had a direct effect of .20 (b_{age} = .018; SE_b = .004; Z = 4.757; $p < .001$) on self-compassion. Furthermore, self-compassion directly predicted body appreciation (β = .37; b_{SC} = 4.528; SE_b = .468; Z = 9.683; $p < .001$). Finally, body appreciation presented a direct effect of -.59 (b_{BAS-2} = -.090; SE_b = .005; Z = -17.119; $p < .001$) on EDE-Q.

The analysis of indirect effects showed that the recall of early memories of warmth and safeness with family figures presented an indirect effect on EDE-Q, of -.18 (95% CI = -.243 to -.128), which was totally carried by the effects of self-compassion and body appreciation. Also, results revealed that early positive memories with family figures had an indirect effect of .12 (95% CI = .076 to .164) on body appreciation, which was partially mediated by self-compassion. In turn, BMI showed an indirect effect of .20 (95% CI = .155 to .248) on EDE-Q, which was partiality mediated by body appreciation. Results also demonstrated that age presented indirect effects of .08 (95% CI = .037 to .117) and of -.05 (95% CI = -.071 to -.021) on body

appreciation and on EDE-Q, respectively. Self-compassion revealed an indirect effect of -.22 (95% CI = -.275 to -.168) on EDE-Q, which was totally explained by the effects of body appreciation.

Overall, the model accounted for 13%, 34% and 49% of self-compassion, body appreciation and EDE-Q, respectively. Furthermore, result revealing that the impact of early affiliative memories with family figures, BMI and age on disordered eating attitudes and behaviours is partially mediated by the effects of self-compassion and body appreciation. The tested model, with the standardized path coefficients and R^2, is presented in Figure 1.

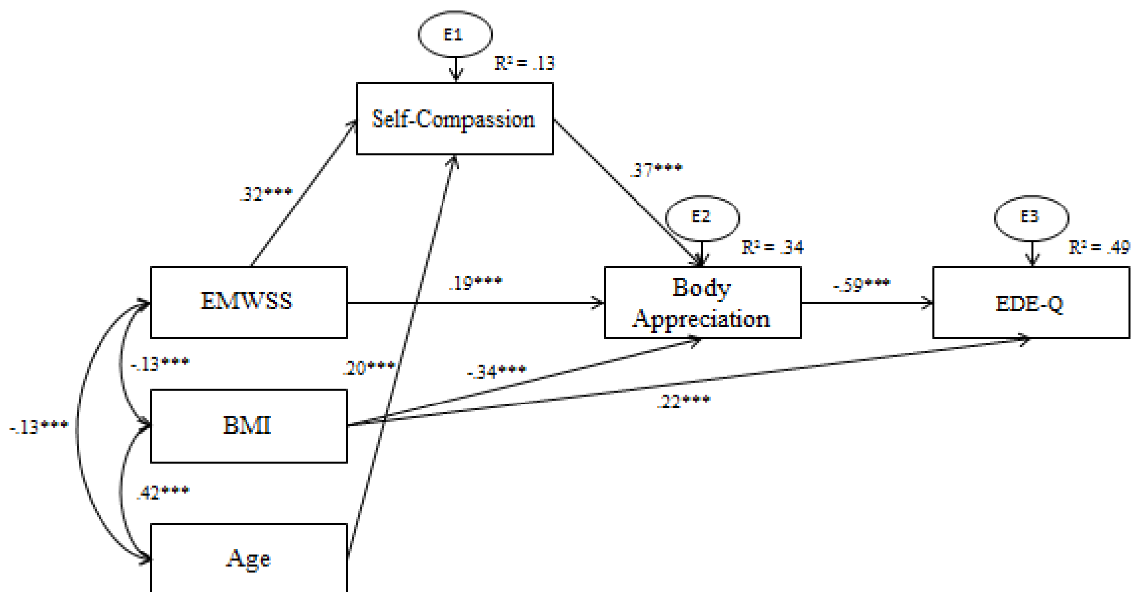

Figure 1. Final path model.

Note. ****p* < .001; EMWSS = Early Memories of Warmth and Safeness Scale; BMI = Body Mass Index; EDE-Q = Eating Disorder Examination Questionnaire

Discussion

Literature has highlighted the association between early memories of warmth and safeness and adaptive emotional regulation processes and mental health (e.g., Richter et al., 2009). Furthermore, substantial evidences documented the crucial role of self-compassion against psychopathology (e.g., Neff, 2009; Raes, 2011), namely on body and eating-related psychopathology (e.g., Daye et al., 2014; Ferreira et al., 2014; Homan & Tylka, 2015). Recently, Homan and Tylka (2015) highlighted self-compassion as a possible enhancer of body appreciation by revealing the buffering effect of self-compassion against the negative effect of body image-related threats on body appreciation. Furthermore, empirical evidence has demonstrated that body appreciation is inversely associated with maladaptive eating behaviour and positively linked to adaptive eating behaviours (e.g., Tylka & Wood-Barcalow, 2015).

However, to the extent of our knowledge, this is the first study that examines the relationship between early positive memories, compassionate attitudes towards the self and one´s own body, and disordered eating. More specifically, the current study presents an integrative model that explored the effect of early memories of warmth and safeness, body mass index and age on eating psychopathology's severity, and the mediator role of self-compassion and body appreciation in these associations.

According with the proposed hypotheses and with prior research (e.g., Richter et al., 2009), correlational results demonstrated that recall of early positive experiences was positively linked with adaptive emotion regulation processes, and negatively correlated with eating psychopathology's severity. Indeed, these results are in line with theoretical and empirical evidences revealing that the recall of early positive emotional experiences play a key role on the promotion of psychological adjustment

(e.g., Gilbert & Irons, 2009). Also, the present study adds to literature by revealing that evocation of these supportive memories is significantly linked with a positive and compassionate attitude towards one's own body, regardless of its characteristics. Moreover, as far as we know, the present study was the first to test the positive association between these mechanisms (recall supportive memories, self-compassionate abilities, and a respecting and caring attitude towards body image) and its inverse link with disordered eating behaviours and attitudes.

Path analysis's findings showed that tested model revealed an excellent fit to the empirical data, accounting 49% of the variance of eating psychopathology severity. Also, this model demonstrated that 13% of self-compassion's variance was explained by the recall of positive early emotional memories, when controlling for the effect of age. Furthermore, results suggested that early positive memories with family figures had a positive direct effect on body appreciation and an indirect effect mediated by increased self-compassion, explaining 34% of the variance of body appreciation. Additionally, results revealed that positive early memories explained lower levels of disordered eating via higher levels of self-compassion and body appreciation, while controlling the effect of age and BMI. The model proposed in the current study suggests that women's ability to recall early positive emotional experiences predicted lower levels of disordered eating behaviours. Moreover, these findings seem to suggest that the relationship between early warmth and safeness memories with supportive figures and eating psychopathology's severity is complex and influenced by different mechanisms. Indeed, path analysis' results indicated that, when controlling the effect of age and BMI, the impact of the evocation of positive early emotional memories on disordered eating is fully mediated by self-compassionate

attitudes and caring relationship with one's body.

Our results seem to support the conclusion that affiliative memories with family figures promote an internal relationship based on an attitude of kindness, accepting and understanding. In turn, these positive emotional memories and current self-compassionate attitudes seem be linked to a more adaptive and positive relation with one´s body, regardless of its characteristics, which explain lower tendency to adopt disordered eating attitudes and behaviours.

To sum up, building on previous research the present findings seem to reveal that positive body image can be seen as the detention of a compassionate attitude towards one's own self and body image (i.e., the ability to be kind and understanding toward perceived flaws in appearance, and recognize them as shared by all; Homan & Tylka, 2015; Marta-Simões et al., 2016; Wasylkiw et al., 2012), and entails a protective effect against eating psychopatology.

These novel findings cannot be considered without into account some limitations. First, one important limitation is that the transversal design of our study limits causal conclusions that can be drawn from our findings. Thus, upcoming studies should test the relationships between the study's variables in longitudinal or experimental design studies. Furthermore, our data may be constrained by limitations associated to the use self-report measures, particularly retrospective reports; however some studies have shown that memories of early parenting are generally accurate, reliable and stable over time, even in the face of considerable changes in mood and emotional states (e.g., Brewin, Andrews, & Gotlib, 1993; Cunha, Xavier, Martinho & Matos, 2014). Future studies, should seek to replicate the present findings using further other assessment methodologies, such as face-to-face interviews or

observational instruments. The use of women sample represents an important limitation. Although eating psychopathology is more prevalent in women, men also experience weight and body image-related difficulties and this study sample does not allow the generalization of obtained results. Therefore, future research should investigate this model in male samples and explore gender differences. Besides, the use of a nonclinical sample impairs the generalization of the findings to clinical populations. Thus, in the future, studies should also investigate these in clinical samples. Finally, although the aim of the present study was to specifically address the mediator role of self-compassion and body appreciation, the complex nature of disordered eating presupposes the existence of other relevant variables in the association between memories of warmth and safeness eating psychopathology's severity. In this line, future research should then expand on this model by testing different meditators emotional mechanisms.

In conclusion, our findings seem to support that women who recall more early positive emotional experiences tend to cultivate a more kind and understanding relationship towards the self and one´s own body, which seem to decreased the women engagement in disordered eating behaviours. In this line, our results seem to indicate that the impact of these early memories on eating disordered attitudes and behaviours may be highly dependent to the existence of the ability to have self-compassionate attitudes.

The present study appears to offer a significant contribution to the literature and clinical practice, by providing preliminary evidence for the relevancy of targeting self-compassionate abilities within interventions programs for body image and eating-related difficulties.

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ANEXOS

A.

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B.

Guia para autores The Spanish Journal of Psychology

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The number of references typically should not exceed 35. The list should include only items that are essential to the argument. According to **APA guidelines** (2010), references on the type of experimental design and data analysis should only be included when they are novel, unusual or controversial. Please note that the reference list can be subject to edition according to these guidelines.

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APPENDIX 1

CHECK LIST

ABSTRACT	**YES**	**NOT APPLICABLE**
Is the abstract prepare according to APA Publication Manual (6th Ed.)? (Please check page 26)		
INTRODUCTION	**YES**	**NOT APPLICABLE**
Have the objectives been clearly defined and the working hypotheses been stated?		
Has it been clearly stated how the experimental design and data analyses will verify all hypotheses formulated to achieve the proposed objectives?		
MÉTHOD: Participants	**YES**	**N/A**
Has the sample been adequately described, especially with regard to characteristics relevant to generalization of results?		
If using groups, have they been proven equivalent in variables that may contaminate results?		
Has the sampling procedure been described?		
METHOD: Measurements	**YES**	**N/A**
Have the materials been described in detail, especially the original instrument's psychometric properties relevant to the research?		
Have the psychometric properties been adequately described with the sample's characteristics?		
If the instrument used has been adapted from a different language or culture, has the adaptation method been described?		
If the instrument has been created "ad hoc", has its need been rationalized?		
METHOD: Procedure (Detail of experimental design)	**YES**	**N/A**
In those experimental designs that entail manipulation or intervention, ...		
.....have the contents of such manipulation or intervention been clearly stated?		
.....has the procedure to perform such manipulation or intervention been explained?		
.....have the duration and intensity of exposure been specified?		
.....has the use of incentives been declared?		
.....has the assignment of participants to experimental groups been explained?		
MÉTHOD: Data Analyses	**YES**	**N/A**
Have the analyses that will be performed been explained?		
Has the program used to perform such analyses and its version been specified?		
Has compliance with precise assumptions for each specific analysis performed been informed?		
RESULTS: Basic information	**YES**	**N/A**
Has an adequate analysis of lost values been performed?		
Has all the descriptive statistics (simple size, mean, standard deviation, varience-covarience matrices, etc...) information necessary to understand the analyses been included?		
Has all the information necessary to include these results in meta-analyses of this field been included?		

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RESULTS: Statistical significance tests	**YES**	**N/A**
Have statistical values, degrees of freedom and critical values (exact value of *p*) been included?		
Has the effect size and direction been stated, both in the original (with confidence intervals) and in standardised units (d, η^2, R^2,...)?		
Has the power been reported, especially if not rejecting the null hypothesis?		
Have the confidence intervals of the parameters been reported?		
If reporting point estimates of a parameter, have the standard errors been specified?		
RESULTS: Tables	**YES**	**N/A**
Are the tables necessary?		
Are all the tables consistent in format?		
Do all tables have a title and is this title short and informative?		
Do all columns have a heading?		
Have all abbreviations been explained?		
Can the probability levels be correctly identified?		
Are all tables referenced in the main body of the manuscript?		
RESULTS: Figures	**YES**	**N/A**
Are the figures necessary?		
Are the figures simple, clear and concise?		
Are all figures consistent in format?		
Are all concept figures in the same scale?		
Do all figures have a title and is this title short and informative?		
Are all figures referenced in the main body of the manuscript?		
DISCUSSIÓN	**YES**	**N/A**
Have you ensured that the discussion is NOT a simple repetition of the exposed results?		
When interpreting the results, have you taken into consideration the potential sources of bias, effect size, alternative explanations, other possible limitations, etc…?		
Have the results of this manuscript been discussed in relation to previous research?		
In case of discrepancy, have you offered some alternative explanation?		
APA ETHICAL ASPECTS: Data	**YES**	**N/A**
AVAILABILITY: The data must be available to the editor during both the review and the publication processes.		
Are your data available at the request of editor or the reviewers?		
DUPLICATION: It is prohibited to present data as original when they have been included in research that has already been published. This may distort the knowledge base by making it appear there is more information available tan really exists.		
Do you confirm that these data have not been used in any other publication?		
REANALYSIS: Data reanalysis is justified in light of new theories or methodologies that may offer a different view of the phenomena and in long–term, longitudinal or multidisciplinary studies. In such cases, authors are obliged to inform of previous publications.		
If you are presenting a data re-analysis, have you adequately justified its appropriateness and have you informed of previous publications?		
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If only part of the data of a study have been used, have you informed the editor and justified the appropriateness of such procedure?.		