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**When Body Image Negative Interactions and Safeness Memories Predict Body Image Shame: The Role of Centrality of Body Shame Experiences**

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Dissertação de Mestrado em Intervenções Cognitivo-Comportamentais nas Perturbações Psicológicas e Saúde sob a orientação do Professor Doutor José Pinto-Gouveia

## **When Body Image Negative Interactions and Safeness Memories Predict Body Image Shame: The Role of Centrality of Body Shame Experiences**

### Abstract

Previous research has highlighted the role of body shame and its negative influence on mental and physical well-being. This reality is present in current society where physical appearance plays a crucial role in how the person sees herself and builds its identity as a social agent. Early memories of body shame in childhood and adolescence may cause suffering throughout our lives and can translate into high levels of shame in adulthood.

In this line of reasoning, the present study was tested a mediator model where we examined whether experiences of bullying and teasing in childhood and adolescence by peers and if memories of warmth and safeness in childhood would predict body image shame in adulthood, mediated by the centrality of body shame memories.

This study was conducted in a sample of 566 female subjects college students and womens recruited from general population, who answered a battery of self-report questionnaires assessing: body image shame, centrality of body shame memories, experiences of bullying and teasing in childhood and adolescence and memories of warmth and safeness in childhood.

Path analyses' results revealed that having been victim of bullying and teasing directed to body image by peers seems to predict greater body image shame in adulthood, when partly mediated by the extent to which these experiences of body shame become central to the identity. Furthermore, results suggest a protective effect of experiences of warmth and safeness in childhood on current body shame.

This study highlights the idea that experiences with peers and primary caregivers may influence how negative experiences directed to body image become central to person identity, translating into higher body image shame in adulthood.

**Keywords:** body image shame, centrality of events memories, bullying and teasing by peers, memories of warmth and safeness.

## **Quando Interações Negativas em Relação à Imagem e Memórias de Afeto preveem Vergonha Corporal: O Papel da Centralidade de Experiências de Vergonha Corporal**

### Resumo

Estudos anteriores realçaram o papel da vergonha corporal e a sua influência nefasta no bem-estar físico e mental. Esta realidade está muito presente na sociedade atual onde a aparência física possui um papel crucial na forma como a pessoa se vê e na sua construção enquanto agente social. Memórias de vergonha corporal na infância e na adolescência parecem causar sofrimento ao longo da vida, podendo traduzir-se em elevados níveis de vergonha na idade adulta. Nesta linha de raciocínio, este estudo testou um modelo de mediação onde foi examinado a forma como experiências de bullying e *teasing* na infância e adolescência por parte dos pares e, se memórias de calor e afeto na infância, poderão prever sentimentos de vergonha em relação à imagem corporal em adultos, mediado pela centralidade dessas memórias de vergonha corporal. Este estudo foi conduzido numa amostra de 566 raparigas estudantes e mulheres recrutadas da população geral, que responderam a uma bateria de questionários de auto-resposta que avaliaram: vergonha corporal, centralidade de memórias de vergonha em relação à imagem, experiências de bullying e *teasing* na infância e adolescência e memórias de calor e afeto na infância. Os resultados da *Path analyse* revelaram que ter sido vítima de bullying e *teasing* em relação à imagem corporal parecem prever maior vergonha corporal em adultos, quando parcialmente mediados pela forma como essas experiências de vergonha se tornam centrais para a identidade. Além disso, os resultados sugerem um efeito protetor das experiências de calor e afeto na infância na vergonha corporal atual. Este estudo realça a ideia de que o contacto com pares e com os primeiros cuidadores podem influenciar a maneira como experiências negativas em relação à imagem corporal se tornam centrais para a construção da identidade, podendo traduzir-se em elevados níveis de vergonha corporal aquando adultos.

Palavras-chave: vergonha corporal, centralidade das memórias, bullying e *teasing* pelos pares, memórias de calor e afeto.

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## I – Introduction

In recent years, there has been a rapid expansion of investigations focused on the study of shame and its negative effect on mental well-being. Shame has been acknowledged as one of the most painful affect (Gilbert, 1998; Kaufman, 1989; Lewis, 1971; Nathanson, 1994; Tangney & Dearing, 2002; Tracy, Robins, & Tangney, 2007) involving feelings of inferiority and ridiculous (Gilbert, 1998). Shame is a self-conscious emotion (Gilbert, 1998, 2002; Power & Dalgleish, 1997) and involves negative evaluations of personal characteristics (e.g., being boring), attributes (e.g., body shape) or behaviours (e.g., overeating) (Gilbert, 2000a; Gilbert & McGuire, 1998; Lewis, 1992; Nathanson, 1992; Tangney & Fischer, 1995). Shame occurs from self-reflection or self-perception and involves a fear or expectation of being seen by others as unattractive, which may result in contempt and rejection by them (Gilbert, 1992; Goss & Allan, 2009; Miller, 1997; Power & Dalgleish, 1997). Shame can be distinguished into two types: “internal” and “external” shame. Internal shame relates to negative self-evaluations and a sense of self as inadequate, inferior and unattractive. Is associated with intense self-criticism and one’s attention is directed to information about or from within the self. In external shame the attention is focused in the mind of the other and refers how to we think others see the self (Gilbert, 2002). In external shame, the person believes that others see the self as unattractive or defective.

Shame has been explored thought the lens of an evolutionary biopsychosocial approach (Gilbert, 1998, 2002) that argues that humans are a social species, whose survival and reproductive chances depends on how we exist in the minds of the others and how they think and feel about us. Consequently, evolution has made us to be highly motivated to create a positive image in the minds of others, which is essential for the formation of affiliative relationships. Thus, experiences of shame emerge in the interaction with others, and involve the threatening perception (real or imagined) of inferiority in relation to others and the inability to create an enhanced image in their minds, with others viewing the self as an unattractive social agent, so that one may be placed in a unwanted social

rank position (Gilbert, 1998, 2002) and thus be rejected, criticized, attacked, bullied or teased by others (e.g., about one's physical appearance, weight, height, body shape). These early experiences in childhood may become the foundations for self-beliefs, recorded in autobiographical memory (Gilbert, 2002).

Memories of shame events can become an important part of our life story and identity and may cause suffering throughout our lives (Bluck & Habermas, 2001; McAdams, 2001; Pillemer, 1998; Singer & Salovey, 1993). Particularly, early experiences of shame, may become the basis for self-experience and negative self-evaluations (Matos, Pinto-gouveia & Duarte, 2012). Growing evidence suggests that shame experiences from childhood and adolescence can become a central component of personal identity, a turning point in the life story and a reference point for attribution of meaning to other events (Matos & Pinto-Gouveia, 2011, 2014). These findings support the centrality of event theory by Berntsen and Rubin (2006, 2007), proposing that a memory of a trauma or a negative emotional event, like shame memories, can become central to one's life story and identity, reflecting on feelings of shame in adulthood. Empirical evidence suggests that higher centrality of shame memories, was found to be related to elevated levels of depression, stress, anxiety, dissociation, paranoid symptoms, worse physical health (Berntsen & Rubin, 2006, 2007; Berntsen, Rubin & Siegler, 2011), traumatic stress reactions and heightened feelings of shame in adulthood (Pinto-Gouveia & Matos, 2011).

It has been suggested that shame relating specifically to the body (body shame) can also have a significant negative impact on mental health (Gilbert, 2002). Body shame has been delineated into shame that is experienced in relation to one's current body size, shape, weight and body functions (Troop, Sottrilli, Serpell, & Treasure, 2006). According to McKinley (1999), the experience of body shame involves a self-consciousness and embarrassment evoked when individuals view their body shape or appearance as failing to compare with the ideal society's representation. Bodies can become "adverts", originating feelings in others. As such the body can become something to show and a source of pleasure for both self and other, or something that can be a reason to rejection (Gilbert, 2002). To reduce these aversive feelings of bodily shame, we

modify our behavior, (Russell, 1995) through avoidance of social situations in which one's body image may be criticized and behaviors attempts to control body image (e.g. concealment), for example attempting weight loss. Individuals endeavor to avoid body appearance shame like avoid public exposure of their bodies for fear to activating social shaming interactions or control over eating behavior and body size .These behaviours serve to prevent the threat of negatively exist in the minds of others and the possibility of being rejected, excluded or attacked. Particularly, for women, physical appearance is used as a central self-evaluative dimension to estimate one's social position (Gilbert, Price, & Allan, 1995; Troop, Allan, Treasure, & Katzman, 2003). Specific interactions with social groups define what is socially reinforced in terms of attractiveness (Cunha, Matos, Faria & Zagalo, 2012) particularly in western societies where it is valued an extremely thin body shape. Body shame emerges when the individual perceives that is/her body image is different from the body image valued by the group and may be failing in creating an attractive image in the minds of others. Physical appearance seems to be determinant in social status and social relationships. Many girls who cannot achieve this thinness standard and a desired attractive body image in the minds of others, experiences shame and a sense of inadequacy (Bartky, 1990). Because, adolescents focuses on peer-group relationships, they become more targeted on compete for acceptance and social status (Wolfe, Lennox, & Cutler, 1986). So, negative interactions related to body image from childhood or adolescence appears as threatening in creating a positive image in the minds of others.

In this line of reasoning, empirical studies have found that childhood experiences of being bullied and teased by peers about appearance may have negative consequences. In particular, Sweetingham and Waller (2008) found that shame was a perfect mediator of the relationship between teasing about appearance by peers in childhood and body dissatisfaction in adult life. Bullying is a subjective experience, which has been defined in different ways (e.g. Craig, 1998; Farrington, 1993). Olweus's (1991) definition includes the following elements of bullying, involving: an aggressive act; a behaviour that occurs frequently; an imbalance of power and a verbal, physical or indirect attack. Some researchers perceive teasing to be a non-intentional verbal act of making fun of someone (Freedman, 2002) and



others view teasing as a form of aggression (Freedman, 2002). For Roth, Coles & Heimberg (2002), teasing is defined as a specific type of bullying or peer victimisation whereby the victims experience verbal taunts regarding some aspects of their appearance, personality or behaviour. Many empirical reports demonstrated an association between bullying and teasing about appearance (weight and shape) and significantly greater level of body dissatisfaction and body shame in adulthood (Eisenberg, Neumark-Sztainer & Story, 2003; Jackson, Grilo & Masheb, 2000; Myers & Rosen, 1999; Neumark-Sztainer et al., 2002; Sweetingham and Wallera, 2008). Wertheim & Paxton (2011) have found that the adolescents frequently took the taunts about their weight by their friends as reflecting a truth about themselves. Furthermore, it has been suggested that when the reasons that lead to social rejection are internalized, children tend to believe that they are the source of the rejection, developing negative views about the self and their body aspects (Harder & Greenwald, 2000).

Furthermore, an increasing number of studies suggest that early experiences with primary caregivers can influence an individual vulnerability to psychopathology. It seems to be evidence that the quality of care received in childhood may have an impact on brain maturation and emotional adjustment system (Malekpour, 2007; Schore, 1994). Family environments characterized by low levels of parental care (warmth, affection, empathy) are associated with increased shame in adulthood (Dunlop, Burns, & Bermingham, 2001; Murray, Waller, & Legg, 2000). Studies have demonstrated that parental practice characterized by negative commentary regarding appearance has been associated with eating psychopathology. Thus, parental criticism of a child's appearance may activate feelings of inadequacy and vulnerability to experience body-image shame in adulthood (Gilbert, 2002; Gilbert & Gerlsma, 1999). On the contrary, early positive interactions, especially by the family members, characterized by a sense of being loved, accepted, valued, nurtured, cared and safe stimulate the ability to be connected to others, to deal with the adversity and adaptive physiological and emotional regulation (e.g. Schore, 1994). In fact, evidences show that memories of warmth and safeness in childhood are associated with mental well-being (Martin, 2006) heightened self-accepting and nurturing abilities and protect against psychopathology (e.g. depression)

(Schoore, 1994; Richter, Gilbert and McEwan, 2009). However, it is unclear whether memories of warmth and affection in the family environment may have a protective role on the impact of negative body image -related interaction experiences with the peers.

So, the main goal of this study was to examine if the experiences of bullying and teasing by peers in childhood or adolescence were a significant predictor of body image shame and associated behaviors (avoidance and concealment). It was intended to understand whether this relationship could be explained by the fact that these experiences are associated with a higher centrality of a body image shame memory as key to construction of self-identity and life story. In addition, it was investigated whether the experiences of warmth and affection in parenting practices in early life would have a protective effect on the influence of how body shame memories become central and on current body shame, predicting a lower centrality of a recalled body shame experience and a lower current body shame.

Thus, this study first explores the relationship between: experiences of bullying and teasing in childhood and adolescence, memories of warmth and safeness in childhood, centrality of shame memories relative to body image, current body image shame, and BMI. Then to further examine these associations a mediator model was tested in which centrality of body image shame memories were predicted to be a mediator on the association between experiences of bullying/teasing and experiences of warmth and safeness in parenting practices in childhood, and current body image shame.

## **II – Method**

### *Participants*

Six hundred twenty-seven (627) females from Portuguese general population were recruited for participation in this study. Responses from nineteen women who did not complete at least 90% of any given measure were not entered into the data. Twenty-nine subjects who were older than 55 years and thirteen participants whose education was below the 5<sup>th</sup> grade were also eliminated. So, the final sample obtaining account five hundred and

sixty-six female subjects ( $N = 566$ ), with 283 undergraduate students recruited from the University of Coimbra, Portugal (50%) and 283 subjects recruited from a convenience sample from the community (50%). This sample presented an age mean of 29.18 ( $SD = 11.16$ ) years, with ages ranging from 18 to 55 years, and they presented a years of education' mean of 13 ( $SD = 2.66$ ). Regarding socioeconomic status, one hundred and thirty-three participants (23.5%) have medium socioeconomic status, one hundred and ten (19.5%) have low socioeconomic status, seventeen (3%) have high socioeconomic status, two hundred and eighty-three (50%) are students, seventeen (3%) are unemployed and six participants (1.1%) are others. The participants BMI mean is 22.83 ( $SD = 3.76$ ). 67,4% of the sample have a calculated Body Mass Index (BMI; from self-reported weight and height) within normal range ( $18.5 \text{ kg/m}^2 < \text{BMI} < 25 \text{ kg/m}^2$ ), with 7.9% classified as “underweight”, 18.4% classified as “overweight” and 5.90% classified as “obese” (WHO, 1995).

### *Procedures*

A battery of self-report questionnaires was complete by all participants, taking approximately 20 to 25 minutes. The sample of students was obtained in the context of the classroom, with previous knowledge and authorization of the professor in charge. In the general population, a convenience sample was collected on various labor institutions and social contexts. According to the ethical requirements, the participants were informed about the nature of the study. It was emphasized the voluntary nature of their participation and the confidentiality of their responses, only used for the research purposes of the study. They were also assured the possibility to stop their collaboration on the study. Data collection was conducted with the approval of all the institutions involved (educational and professional) and after participants provided their informed consent.

### *Measures*

*Body Mass Index (BMI)* – Body Mass Index was calculated dividing current weight (in Kilograms) by height squared (in Meters):  $\text{kg/m}^2$ .

*Centrality of Event Scale* – Body Image Shame (CES-BI; Berntsen & Rubin, 2006; Portuguese version by Matos, Pinto-Gouveia, & Gomes, 2010); Adaptation to body image shame memory by Duarte & Pinto-Gouveia, 2013). CES measures how central a memory for a stressful event is to the construction a person’s identity and influences other experiences in the life story. This self-report questionnaire contains 20 items, rated on a Five point Likert scale (1= Totally disagree; 5= Totally agree). CES evaluates the three characteristics of highly negative emotional memories: reference points for everyday inferences (“This event has become a reference point for the way I understand new experiences.”), turning points in life stories (“This event permanently changed my life.”) and components of personal identity (“This event tells a lot about who I am.”). Higher scores on the total scale indicate a higher degree to which the memory becomes central to one’s identity. In its original study, CES was found to have good psychometric properties and reliability: a Cronbach's alpha of .94. In the Portuguese version, CES reported also a high internal consistency (0.96). In this study, adaptations were made to the instrument instructions directing the focus of the questions to a memory of body image shame. It’s given to participants an explanation of what body image shame is, and asked them to record one memory that has been significant in their childhood or adolescence. Participants are then asked to answer the questions of scale from this memory. In this study, CES also reported a high internal consistency (.97).

*Body Image Shame Scale* (BISS; Duarte, Pinto-Gouveia, Ferreira, & Batista, 2013) The BISS is a scale used to evaluate the experience and phenomenology of body image shame. It comprises two subscales: Externalized body image shame (avoidance of social situations where one’s body image may be criticized) and Internalized body image shame (negative self-evaluations and attempts to control body image exposure (i.e., concealment). The scale comprises 14 items and the participants are asked to rate each item using a 5-points Likert scale (0 = ‘Never’ to 4 = ‘Almost always’) according to the extent to which they experience body image shame. In the original study, BISS was found to have good psychometric properties and reliability: the Cronbach's alpha for the factor Externalized

body image shame was .89, for the factor Internalized body image shame was .90, and for total scale was .92. In the present study, the BISS subscales had Cronbach's alphas of .92 for Externalized body image shame, .93 for Internalized body image shame, and .95 for total scale.

*Bullying and Teasing Scale – Body Image* (BTS- BI; Duarte & Pinto-Gouveia, 2012) - This scale was projected to evaluate experiences of being victim of bullying and teasing related to physical appearance by peers and parents or other care givers in childhood and adolescence. The scale assesses two domains of body image bullying and teasing: frequency of the occurrence of the experience; and its impact or emotional intensity. The scale contains 18 items and the participants answer the questions using a 5-point Likert scale (1="never" and "nothing"; 5="very often" and "very much"). Preliminary evidence suggests that this scale have good psychometrics properties (Duarte & Pinto-Gouveia, 2012). In this study, Internal consistency of the four sub-scales was high with Cronbach's Alpha of .94 for Frequency of bullying by peers subscale, .93 for Impact of bullying by peers, .93 for Frequency of bullying by parents, .92 for Impact of bullying by parents and .96 for the total scale.

*Early memories of warmth and safeness scale* (EWMSS; Richter, Gilbert & McEwan, 2009; translated and adapted to Portuguese by Matos & Pinto-Gouveia, 2010). This scale focuses on recall of one's own inner positive feelings, emotions and experiences in childhood. It is designed to measure recall of *feeling* warm, safe, and cared for in childhood. This self-report questionnaire contains 21 items and participants were asked to rate on a Likert scale how frequently each statement applied to them in their childhood (0 = No, never; 4 = Yes, most of the time). In the original study, EMWSS was found to have good psychometric properties and reliability: the Cronbach's alpha for this scale is .97. In this study, the Cronbach's alpha was also .97.

#### *Analytic strategy*

Statistical analyses were conducted using IBM SPSS (v.20; SPSS Inc.,

Chicago, IL, USA), and path analyses were examined using the software AMOS (v.20; SPSS Inc., Chicago, IL, USA).

*Product-moment Pearson correlations* analyses were conducted to explore the relationship between: the centrality of shame memories relative to body image, current body shame, experiences of bullying and teasing in childhood and adolescence, memories of warmth and safeness in childhood and BMI.

*Path analyses* were used to estimate the relations presumed in the proposed theoretical model. This technique is a form of structural equation modelling and considers hypothetical causal relations. Path analyses is used to study structural relations (direct and indirect effects) between manifest variables (exogenous and endogenous) from the correlational structure observed between these variables (Maroco, 2010).

In the path model investigated in this study, we examined whether experiences of bullying and teasing in childhood and adolescence by peers and if memories of warmth and safeness in childhood would predict the experience and phenomenology of current body image shame, mediated by the centrality of body shame memories.

Experiences of bullying/ teasing and memories of warmth and safeness were considered to be exogenous variables; centrality of shame memories was hypothesized as the endogenous mediator variable; and the body image shame was the dependent, endogenous variable.

The maximum likelihood method was used to test for the significance of all the model path coefficients and to compute fit statistics, with 95% confidence interval. The significance of the direct, indirect and total effects was assessed by chi-square tests. The bootstrap resampling method was further used to test the significance of the mediational paths, using 2000 bootstrap samples and 95% confidence intervals (Kline, 2005).

### **III – Results**

#### *Descriptives*

The means and standard deviations for these variables are similar to those obtained in previous studies (Duarte et al, 2013; Duarte & Pinto-Gouveia, 2012; Matos et al., 2012; Richter et al., 2009). Particularity in CES

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results, we verified that means and standard deviation on CES adapted to a memory of shame (Pinto-Gouveia & Matos, 2011; Matos, Pinto-gouveia & Duarte, 2012) are similar to the adaptation of this study which is used a version adapted to a memory of shame focused on body image (CES-BI).

### *Correlations*

Product-moment Pearson correlation were calculated to explore the relationship between the following variables: the centrality of shame memories relative to body (measured by the Centrality of Event Scale – Body Image [CES-BI]), body shame (measured by Body Image Shame Scale - BISS), experiences of bullying and teasing in childhood and adolescence (BTS-BI), memories of warmth and safeness in childhood (measured by the Early memories of warmth and safeness scale-EMWSS) and BMI. Table 1 illustrates the *Pearson* product-moment correlations between these variables.

In regard to the relationship between the centrality of body shame memories (CES-BI) and the degree of current body shame (BISS), the results show that the centrality of these memories correlates positively and with a moderate magnitude with current body shame and with the two BISS subscales - Externalized body image shame and Internalized body image shame. Regarding the correlations between centrality of shame memories (CES-BI) and experiences of bullying and teasing in childhood (BTS-BI), related to body image, results revealed a positive and moderate correlation between CES-BI and the subscale frequency of experiences of bullying and teasing by peers; a positive and moderate correlation between CES-BI and the impact of experiences of bullying and teasing by peers; a positive and low correlation between CES-BI and the frequency of experiences of bullying and teasing by parents and, a positive and moderate correlation between CES-BI and the impact of experiences of bullying and teasing by parents. Moreover, the results demonstrate that the centrality of shame memories is negatively correlated, with a low magnitude, with experiences of warmth and safeness in childhood (EMWSS).

About the correlations between current body shame (BISS) and experiences of bullying and teasing in childhood (BTS-BI), the following results were observed: a positive and moderate correlation between BISS

and the subscale frequency of experiences of bullying and teasing by peers; a positive and moderate correlation between BISS and the impact of experiences of bullying and teasing by peers; a positive and moderate correlation between BISS and the frequency of experiences of bullying and teasing by parents and, a positive and moderate correlation between BISS and the impact of experiences of bullying and teasing by parents. The BISS subscale Externalized body image shame had a positive and moderate correlation with all subscales of BTS-BI. The BISS subscale Internalized body image shame had a positive and moderate correlation with frequency of experiences of bullying and teasing by peers and with impact of these experiences by peers and by parents, and a positive and low correlation with frequency of being bullied by parents. A negative and moderate correlation between body shame and with the two BISS subscales - Externalized body image shame and Internalized body image shame - and early memories of warmth and safeness in childhood was also verified.

About the correlations between experiences of warmth and safeness (EMWSS) and experiences of bullying and teasing in childhood (BTS-BI), results indicated: a negative and moderate correlation between EMWSS and the subscales frequency of experiences of bullying and teasing by peers, impact of experiences of bullying and teasing by peers and impact of experiences of bullying and teasing by parents; and a negative and low correlation between EMWSS and the frequency of experiences of bullying and teasing by parents.

The results show that BMI correlates positively but with low magnitude, with the centrality of the experiences of body image shame; correlates positively and moderately with body image shame; positively with low magnitude with externalized body image shame; positively and moderately with internalized body image shame; a positive and low correlation with all the BTS-BI subscales (frequency of experiences of bullying and teasing by peers, impact of experiences of bullying and teasing by peers, frequency of experiences of bullying and teasing by parents and impact of experiences of bullying and teasing by parents); and a negative and low correlation with experiences of warmth and safeness in childhood.

We repeated all of these analyzes controlling for the effect of BMI and it was found that the correlation's coefficients between the variables



maintained the same pattern and the same magnitude. This offered support for not considering this as confounding variable and thus BMI was not included in the subsequent analyses.

Greater correlation between the variables under study and the subscale Frequency of experiences of bullying and teasing by peers are obtained. Regarding memories of bullying and teasing focused on body image, given that the magnitude of correlations between the frequency of occurrence of these experiences perpetuated by peers presented the highest magnitudes of correlations with the remaining study variables, this offered support for considering this variable in the path model investigated.

Similarly, for BISS scale we chose to use the total scale in mediator model, since prior research found that two scale factors are explained by a second-order factor that includes both dimensions of internalized and externalised body image shame (Duarte et al., 2013).

**Table 1**

*Pearson Product-moment Correlations between Study Variables*

Measure	1	2	3	4	5	6	7	8	9	10
1. CES - BI	1	-	-	-	-	-	-	-	-	-
2.BISS_externalized	.48**	1	-	-	-	-	-	-	-	-
3.BISS_internalized	.41**	.75**	1	-	-	-	-	-	-	-
4.BISS_total	.47**	.92**	.96**	1	-	-	-	-	-	-
5.EMWSS	-.29**	-.36**	-.31**	-.35**	1	-	-	-	-	-
6.BTS-BI_peersF	.42**	.48**	.39**	.45**	-.32**	1	-	-	-	-
7.BTS.BI_peersI	.36**	.40**	.34**	.39**	-.30**	.74**	1	-	-	-
8.BTS-BI_parentsF	.29**	.39**	.28**	.35**	-.24**	.48**	.53**	1	-	-
9.BTS-BI_parentsI	.36**	.40**	.36**	.40**	-.34**	.73**	.93**	.59**	1	-
10.BMI	.18**	.29**	.40**	.38**	-.18**	.19**	.13**	.16**	.12**	1

*Note.* CES - BI = Centrality of Event Scale – Body Image; BISS\_total =Body Image Shame Scale total scale; BISS\_externalized = Externalized body image shame; BISS\_internalized = Internalized body image shame; BTS-BI\_peersF = experiences of bullying and teasing in childhood by peers Frequency; BTS-BI\_peersI = experiences of bullying and teasing in childhood by peers Impact; BTS-BI\_parentsF = experiences of bullying and teasing in childhood by parents Frequency; BTS-BI\_parentsI = experiences of bullying and teasing in childhood by parents Impact; BMI = Body Mass Index

\*\*  $p < .01$ .

### *Path analyses*

The theoretical model was tested through a fully saturated model, that is, with zero degrees of freedom, consisting of 14 parameters. That saturated model produce a perfect fit to the data and all pathways were statistically significant, so model fit indices were not examined. Figure 1 illustrates the *path analyses* results. The model explained 20% of centrality of body image shame memories and 33% of body shame variances. . Results indicated that experiences of bullying and teasing by peers (BTS-BI) had a total effect on body image shame (BISS) of .38, with a direct effect of .27 ( $b_{\text{bts-bi}} = .26$ ;  $\text{SEb} = .04$ ;  $Z = 6.84$ ;  $p < .001$ ) and an indirect effect of .11 mediated by increased centrality of body image shame experiences (95% CI = .07 to .16;  $p < .001$ ). Also, experiences of bullying and teasing by peers (BTS-BI) had a direct effect on centrality of body shame experiences (CES-BI) of .36 ( $b_{\text{bts-bi}} = 7.98$ ;  $\text{SEb} = .87$ ;  $Z = 9.13$ ;  $p < .001$ ).

Moreover, memories of warmth and safeness (EMWSS) had a total effect of -.23 on body image shame (BISS), with a direct effect of -.18 ( $b_{\text{emws}} = -.01$ ;  $\text{SEb} = .00$ ;  $Z = -4.76$ ;  $p < .001$ ) and an indirect effect of -.05 mediated by decreased centrality of body image shame experiences (95% CI = -.09 to -.03;  $p < .001$ ). Memories of warmth and safeness (EMWSS) had a direct effect on centrality of body shame experiences (CES-BI) of -.18 ( $b_{\text{emws}} = -.21$ ;  $\text{SEb} = .05$ ;  $Z = -4.44$ ;  $p < .001$ ).

Furthermore, centrality of body shame experiences (CES-BI) presented a direct effect on body shame (BISS) of .31 ( $b_{\text{ces}} = .01$ ;  $\text{SEb} = .00$ ;  $Z = 7.96$ ;  $p < .001$ ).

Finally, results revealed a negative and moderate correlation between experiences of bullying and teasing by peers (BTS-BI) and memories of warmth and safeness (EMWSS) ( $r = -.32$ ;  $p < .001$ ).

To sum up, path analyses' results revealed that the frequency of having been victim of bullying and teasing directed to body image by peers seems to predict greater body image shame with the consequent involvement in body image concealment and avoidance behaviors. However, this effect appears be partly mediated by the extent to which these experiences predict higher levels of the extent to which a memory of body image shame becomes central to the identity. There is still a protective effect, although

low, of the experiences of warmth and affection in parenting practices in childhood on the centrality of body shame memories as key to construction of identity and its influence on current levels of body image shame.

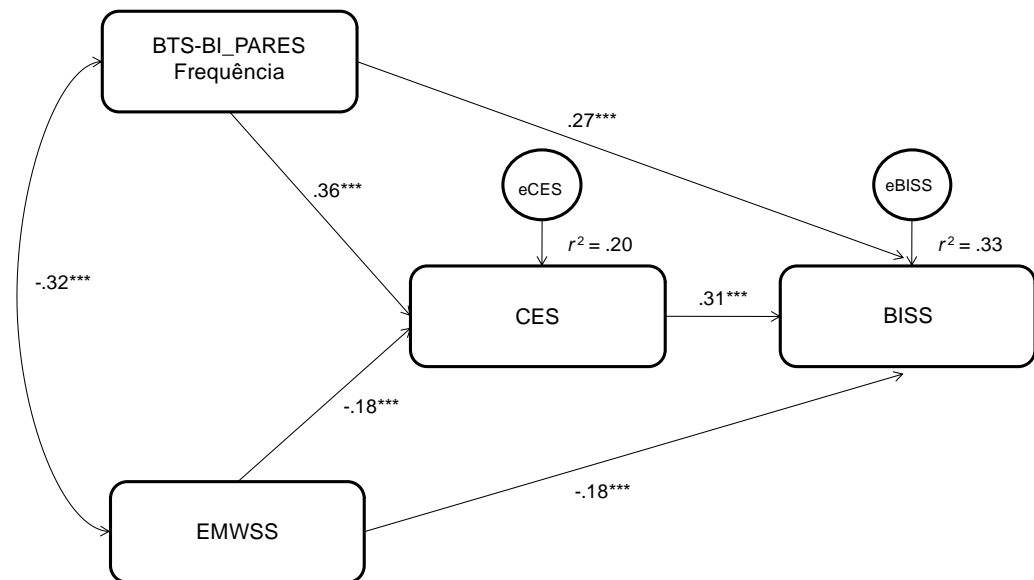


Figure 1 – Mediator model

\*\*\*  $p < .001$

#### IV – Discussion

Previous research has highlighted the role of body shame and its negative effect on mental and physical well-being. Memories of body shame events (e.g. be criticized about one's physical appearance) can become an important part of our life story and identity and may cause suffering throughout our lives (Bluck & Habermas, 2000; McAdams, 2001; Pillemer, 1998; Singer & Salovey, 1993) particularly, early experiences of shame, may become the basis for self-experience and negative self-evaluations (Matos et al., 2012) that can translate into high levels of shame in adulthood. However, it remained unclear whether memories of being victim of bullying and teasing about physical appearance in childhood have an impact on levels of body shame in adulthood and how these memories are associated to the

extent to which a memory of a shame experience about the body image becomes central to identity, and on the other hand, if memories of warmth and safeness within the family in early life may have a protective effect in that it has a predictor effect of lower levels of centrality to the identity of a memory of shame in relation to body image and lower current levels of body image shame.

In this line of reasoning, the present study was designed to explore the relationships between body image shame, experiences of bullying and teasing by peers about body image and experiences of warmth and safeness in childhood and adolescence and if there is a mediating effect of centrality of body shame experiences in these variables and in these relationships. Specifically, it was intended with this study to understand if early negative interactions, such as being victim of bullying or being teased regarding one's physical appearance by peers, and, on the contrary, if early positive interactions, as experiences of warmth and safeness, would have an impact on current body image shame, when considering the mediator effect of the centrality to identity and life's story of a shame memory about body image.

Thus, the results of the product-moment Pearson correlations were as expected, demonstrating a relation with positive direction between the centrality of shame memories in childhood, current body shame and experiences of bullying and teasing by peers and by parents and a negative correlations between these variables and memories of warmth and safeness in childhood. These data suggest that experiences of bullying and teasing in childhood are associated with increased feelings of body shame in adulthood and with a higher degree of centrality of a shame memory about body image. As expected being victim of experiences of bullying and negatively treated by others about physical appearance, particularly by peers, seems to act as associated to experiences of body image shame. Because, adolescent's focuses on peer-group relationships, they become more targeted on compete for acceptance and social status (Wolfe et al., 1986), hence the correlations between experiences of bullying and teasing, centrality of shame memories and body shame be greater between these variables and experiences of bullying by peers. Individuals translates these experiences as a message that the peer group finds her physically unattractive, inferior and target to rejection, developing negative beliefs about the self. These associations may

be understood from previous studies that suggest an association between bullying and teasing about appearance and significantly greater level of body dissatisfaction and body shame in adulthood (Eisenberg et al., 2003; Neumark-Sztainer et al., 2002; Sweetingham and Wallera, 2008).

On the other hand, memories of warmth and affection in childhood were negatively associated with these negative experiences and levels of body shame in adulthood, which in accordance to prior research that early positive interactions characterized by a sense of being loved, accepted, value, nurtured, cared and safe (e.g. Schore, 1994) may have a protective effect on impact on brain maturation, emotional adjustment system and an adaptive physiological and emotional regulation (Malekpour, 2007; Schore, 1994).

To deepen the understanding about these variables and how they relate, a mediator model was tested where we examined whether experiences of bullying and teasing in childhood and adolescence by peers and if memories of warmth and safeness in childhood would predict experience and phenomenology of current body image shame, mediated by the centrality of body shame memories.

Path analyses' results revealed that frequency of having been victim of bullying and teasing directed to body image by peers seems explain higher levels of person think that a memory of shame in relation to the body is central in determining their identity and life story. This centrality of a shsme memory may predict greater body image shame and involvement in concealment and avoidance behaviors in adulthood

These results show that individual's victims of bullying and teasing about physical appearance by peers, are likely to become more vulnerable to feelings of body image shame in adulthood, with a higher tendency to engage in defensive behaviors such as concealment and avoidance of social situations in which one's body image may be the cause for criticism, despise and rejection (Russell, 1995). On the other hand, results suggest that there seems to be a protective effect, although low, of the experiences of warmth and affection in parenting practices in childhood on centrality of body image shame experiences as a key to construction of identity and its influence on current body shame.

This corroborates our hypothesis, establishing that early shame

memories, focused on body image, that become central to one's life story and identity, have an important effect on feelings of body shame in adulthood. Body shame emerges when the individual perceives that his/her body image is different from the body image valued by the group and may be failing in creating an attractive image in the minds of others promoting a sense of inadequacy among women in relation to their bodies.

Many empirical accounts go according to the results found in this study. For example, Sweetingham and Waller (2008) found that shame was a perfect mediator of the relationship between teasing about appearance by peers in childhood and body dissatisfaction in adult life and Wertheim & Paxton (2011) have found that the adolescents frequently took the taunts about their weight by their friends as reflecting a truth about themselves. Our results are in line with these studies, but add to current knowledge by demonstrating that experiences of bullying and teasing in childhood and adolescence have a bigger effect on the current body shame when they are taken as truths about the self and become central to the construction of identity and life story.

The results showed that higher levels of memories of warmth and affection are associated with a lower centrality of memories associated with the body image and lower levels of body shame in adulthood. These findings seem to show a protective effect of the experiences of warmth and safeness in parenting practices in childhood on the influence of centrality of body shame experiences as a key to construction of identity and to current body shame. This is supported by numerous studies that claim that early positive interactions characterized by a sense of being loved and accepted stimulate the ability to connect to others, to deal with the adversity and an adaptive psychological and emotional regulation (e.g. Schore, 1994).

In conclusion, these findings suggest that being a victim of negative interactions with peers because one's body image, and the extent to which an early body shame memory becomes a central component to identity and life story and a reference for meaning attribution to other events, influences feelings of shame in adulthood in relation to one's physical appearance. It seems that the more individuals went through negative experiences in the past, more central these memories become, to the extent that the person begins to see these experiences as part of their identity and they become key

to attribute meaning to other experiences in life. Furthermore, these findings are in line with theoretical accounts that early life experiences seem to communicate the message to individuals that how they look will determine how the social group treats them (Gilbert, 2002). In this sense, the engagement in strategies for controlling body image exposure and the avoidance of situations where one can be criticized may function as defensive strategies activated by shame to avoid reliving those painful and threatening memories of being criticized, made fun of, rejected or attacked by the social group.

Moreover, the results suggest that experiences of warmth and affection can have a protective effect on the influence of how body shame memories become central and on current body image shame. That is, that early positive interactions characterized by a sense of being loved and safe change the impact that negative experiences may have on healthy development and physical and psychological well-being.

These findings seem to offer an important contribution respecting the association between experiences of bullying and teasing by peers, experiences of warmth and safeness in childhood and current body shame, namely by clarifying the role of centrality of these memories on this association. This study allows greater understanding about these variables and of what can be in the basis of body image shame.

These conclusions are constrained by some limitations. First, the cross-sectional design of this study means that no causal conclusions can be drawn from our findings. Thus, future studies should use a prospective design to understand the causal relation between the variables. In particular, it would be interesting to assess whether children who pass by these experiences, that is, on the one hand, experiences of bullying and teasing by peers and, on the contrary, by experiences of warmth and safeness in family, exhibit indeed altered levels of body shame in adulthood and engage in attempts to modify behaviors related to body image.

Second, the results cannot be generalized for men's and to clinical populations because our sample contains only women's and it is a general community sample. Future studies should replicate this investigation in a clinical sample and would be interesting to test the model in a male sample because these variables may have different influences and consequences for

males.

Thirdly, this model excludes other variables that may be involved in understanding body shame in adulthood and associated behavior and, finally, some of the instruments used have a retrospective character asking participants to evoke memories from childhood and adolescence, which may cause some level of selective memories in their retrospective reports, not allowing know precisely the context in which the interactions occurred.

This study highlights the idea that it is important to emphasize that feelings of body image shame, cannot be separated from their context. Thus, experiences with peers and primary caregivers may influence how negative experiences directed to body image become central to person identity and they become a key to attribute meaning to other experiences in life, translating into higher body image shame in adulthood.

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