



UC/FPCE_2015

Universidade de Coimbra

Faculdade de Psicologia e de Ciências da Educação

**O Impacto das Memórias Afiliativas Precoces na Qualidade de Vida
Psicológica e na Psicopatologia Alimentar**

Ana Laura Martins Mendes

(e-mail: analauramendes@live.com.pt)

Dissertação de Mestrado em Psicologia Clínica e de Saúde (Especialização em Intervenções Cognitivo-Comportamentais nas Perturbações Psicológicas e de Saúde) sob orientação da Professora Doutora Cláudia Ferreira

Ana Laura Martins Mendes

**O IMPACTO DAS MEMÓRIAS AFILIATIVAS PRECOCES
NA QUALIDADE DE VIDA PSICOLÓGICA E NA
PSICOPATOLOGIA ALIMENTAR**

Dissertação de Mestrado em Psicologia Clínica,
sob a orientação da Professora Doutora Cláudia Ferreira

Faculdade de Psicologia e Ciências da Educação

Universidade de Coimbra

Julho 2015

Agradecimentos

À Professora Doutora Cláudia Ferreira, minha orientadora, agradeço-lhe por todo o apoio e disponibilidade ao longo de todo este trabalho; pela incansável revisão crítica e orientação científica dos artigos; pelos valiosos ensinamentos, opiniões, críticas e sugestões que me motivaram sempre a fazer mais e melhor e pelo constante estímulo que foi decisivo na elaboração desta tese. Estou certa de que ter sido a “aluna mais chata” me permitiu aprender muito consigo!

À Inês Trindade um muito obrigada pela disponibilidade e simpatia constante com que desde o primeiro dia me ajudou na realização deste trabalho. Desde já lhe agradeço o desenvolvimento do meu gosto pela estatística e todos os comentários e sugestões que foram fundamentais em todo o processo.

Aos meus pais e à minha irmã um agradecimento muito especial que, não tendo de todo palavras que o descrevam, são sempre incondicionais no apoio que me prestam neste e em todos os momentos da minha vida. Ao meu pai pela preocupação e dedicação com que acompanhou toda a elaboração deste meu trabalho, pelo incentivo, apoio, força e carinho constante que foram decisivos. À minha mãe pela tranquilidade, calma, apoio, força e motivação que me transmite todos os dias. À Francisca por nunca ter perdido a calma quando o trabalho corria pior e por toda a força. Um “obrigada” do coração!

À Avó Laura e ao avô Né um agradecimento também muito especial por terem incentivado sempre o meu percurso académico, por serem uma constante fonte de força, sabedoria e inspiração, fundamentais ao meu crescimento pessoal e profissional.

Ao Diogo agradeço por me ter acompanhado nesta luta desde o primeiro dia, por ter aturado os meus desabafos e mau feitio em muitos momentos, pela disponibilidade e apoio

incondicional que sempre manifestou para me ajudar em tudo e pelo permanente estímulo que foi fundamental para finalizar esta etapa.

Aos Henrique, Nandinha e Ritinha um forte agradecimento pelos fins-de-semana de pausa obrigatória, pela amizade e por acompanharem e incentivarem sempre o meu percurso.

Às minhas amigas e amigos pela amizade, pelos sorrisos, pelo apoio e incentivo permanente, por serem a minha companhia nos pequenos tempos livres e por os preencherem sempre da melhor maneira, um muito obrigada!

Às minhas colegas de tese agradeço pelo esforço conjunto na recolha da amostra, pelo apoio e entreajuda prestado e por terem partilhado comigo esta experiência, as frustrações e desânimos característicos mas também a alegria do “dever cumprido” e do esforço recompensado.

Finalmente, quero agradecer a todas as pessoas que voluntariamente contribuíram para que este trabalho fosse possível e pelo tempo despendido a responder aos extensos e, muitas vezes, chatos questionários.

Índice

Lista de artigos

I: A relação entre memórias afiliativas precoces e qualidade de vida das mulheres: O papel mediador da vergonha e da autocompaixão.....	3
II: Do shame and perfectionistic self-presentation fuel the link between early affiliative memories and eating psychopathology.....	30

Anexos

A: Guia para autores da revista Análise Psicológica

B: Guia para autores da Appetite

Lista de artigos

I. Mendes, A. L., & Ferreira, C. (2015). *A relação entre memórias afiliativas precoces e qualidade de vida das mulheres: O papel mediador da vergonha e da autocompaição.* Manuscrito submetido para publicação na revista Análise Psicológica.

II. Ferreira, C., & Mendes, A. L. (2015). *Do shame and perfectionistic self-presentation fuel the link between early affiliative memories and eating psychopathology?* Manuscript submitted for publication on Appetite.

I.

Mendes, A. L., & Ferreira, C. (2015). *A relação entre memórias afiliativas precoces e qualidade de vida das mulheres: O papel mediador da vergonha e da autocompaição*. Manuscrito submetido para publicação na revista Análise Psicológica.

**A relação entre memórias afiliativas precoces e qualidade de vida das mulheres: O
papel mediador da vergonha e da autocompaixão.**

Autores

Ana Laura Mendes, B.S.^{1*}

Cláudia Ferreira, M. S., Ph.D¹

Filiação

¹ University of Coimbra, Portugal

* Correspondence concerning this article should be addressed to:

Ana Laura Mendes

CINEIC, Faculdade de Psicologia e Ciências da Educação

Universidade de Coimbra

Rua do Colégio Novo, Apartado 6153

3001-802 Coimbra, Portugal

Email: analauramendes@live.com.pt

Telephone: (+351)239851450

Fax: (+351)203851462

Resumo

A literatura tem demonstrado que as experiências afiliativas precoces poderão ser registadas como memórias autobiográficas, as quais se assumem como centrais na construção do estilo relacional interno e social, com um impacto significativo na qualidade de vida. Paralelamente, é apontado que a relação entre memórias afiliativas precoces e indicadores de bem-estar poderá ser mediada por diferentes fatores ou mecanismos. Assim, o presente estudo pretendeu clarificar o efeito da vergonha e da autocompaixão na relação entre estas memórias e qualidade de vida psicológica, em 612 mulheres com idades entre os 18 e 50 anos.

Os resultados revelaram uma associação significativa entre memórias afiliativas positivas, menor vergonha externa e maiores níveis de autocompaixão e de qualidade de vida. Adicionalmente, os dados sugerem que a vivência de vergonha externa e autocompaixão tem um efeito indireto significativo na relação positiva entre estas memórias e qualidade de vida psicológica das mulheres.

Estes dados parecem constituir um contributo importante no estudo das memórias afiliativas precoces e da qualidade de vida, clarificando o papel mediador da vergonha externa e da autocompaixão e sugerindo a pertinência do desenvolvimento de programas de intervenção na comunidade, focados nestes processos, para a promoção da saúde mental e bem-estar das mulheres.

Palavras-chave: Memórias afiliativas precoces; vergonha externa; auto-compaixão; qualidade de vida, mulheres.

Abstract

The literature has shown that early affiliative experiences may be recorded as autobiographical memories, which are assumed as central in the construction of the internal and external relational style and have a significant impact on quality of life. Similarly, several authors suggest that the relation between early affiliative memories and indicators of quality of life can be mediated by different factors and mechanisms. Thus, the current study aimed to clarify the effect of shame and self-compassion in the relationship between these memories and psychological quality of life in 612 women, aged between 18 and 50 years old.

The results showed a significant relationship between positive affiliative memories, lower external shame, and higher levels of self-compassion and quality of life. Additionally, the data suggest that the experience of external shame and self-compassion has a significant indirect effect on the positive association between these memories and women's psychological quality of life.

These data seem to provide an important contribution in the field of early affiliative memories by uncovering the mediating role of external shame and self-compassion and suggesting the relevance of the development intervention programs in the community, focused on these processes, for the promotion of the mental health and well-being of women.

Keywords: Early affiliative memories; external shame; self-compassion, quality of life; women.

1. Introdução

A literatura tem demonstrado que as experiências afiliativas precoces desempenham um papel central no nosso desenvolvimento emocional e social (e.g., Gilbert & Perris, 2000; Schore, 1998), sendo consideradas como importantes fatores para a saúde mental e bem-estar na idade adulta (Baumeister & Leary, 1995; Bowlby, 1969, 1973; Gilbert, 1989). De facto, a qualidade das experiências precoces com as figuras de vinculação, tanto aquelas que são pautadas por sentimentos de segurança como as caracterizadas pela insegurança ou ameaça, têm sido apontadas como experiências nucleares com impacto significativo nos processos de maturação e funcionamento psicológico, fisiológico e social (e.g., Gerhardt, 2004; Schore, 1994).

Especificamente, ambientes relacionais precoces pautados pelo calor, segurança e carinho têm sido associados ao desenvolvimento de sentimentos positivos de felicidade, auto-estima, bem-estar emocional e a menor vulnerabilidade para a psicopatologia (Cheng & Furnham, 2004; DeHart, Peham, & Tennen, 2006; Mikulincer & Shaver, 2004). Adicionalmente, diversos trabalhos têm sublinhado que estas experiências precoces de segurança, tranquilização e calor se caracterizam, não apenas pela ausência de ameaça, mas principalmente pela presença de sinais afiliativos, os quais se assumem como fundamentais para a promoção de processos adaptativos de regulação de estados afetivos (e.g., Gilbert, Baldwin, Irons, Baccus, & Palmer, 2006; Richter, Gilbert, & McEwan, 2009).

Em contraste, experiências precoces marcadas por baixo calor, negligência, abuso, rejeição ou controlo excessivo por parte das figuras significativas parecem ativar estados emocionais negativos, associados a derrota e ameaça, e comportamentos defensivos maladaptativos (Cunha, Matos, Faria, & Zagalo, 2012; Gilbert, 2003). De facto, tem sido consistentemente documentada a forte associação entre a exposição precoce a ambientes de negligência ou ameaça e um empobrecimento da qualidade de vida na idade adulta, assim

como a um aumento da vulnerabilidade à psicopatologia (e.g., Brewin, Andrews, & Gotlib, 1993; Gilbert et al., 2006; Irons, Gilbert, Baldwin, Baccus & Palmer, 2006; Perris, 1994).

Paralelamente, diferentes autores têm enfatizado que as experiências afiliativas precoces poderão ser registadas como memórias autobiográficas (Gilbert & Irons, 2008), as quais se assumem como centrais na construção da história de vida, na regulação emocional e no desenvolvimento de um estilo relacional interno (eu-eu) e social (eu-outros; Gilbert, 1998, 2002; Mikulincer & Shaver, 2005; Pinto-Gouveia & Matos, 2011). A literatura sugere que as memórias de calor e afeto parecem promover o desenvolvimento de competências mais adaptativas para lidar com situações de vida adversas, caracterizadas por *stress* ou fracasso pessoal (e.g., Gilbert et al., 2006; Gilbert & Procter, 2006), associando-se a níveis superiores de saúde e qualidade de vida percebida (Martin, 2006; Richter et al., 2009). Em oposição, a ausência destas memórias poderá conduzir a estados emocionais negativos, dos quais se destaca a vergonha (e.g., Cunha et al., 2012; Murray, Waller, & Legg, 2000).

A vergonha é conceptualizada como uma emoção especificamente social, autoconsciente e multifacetada (Gilbert, 1998, 2002, 2007; Tangney & Dearing, 2002), a qual deriva de motivos humanos inatos para a vinculação e para o estabelecimento de relações positivas com os outros (e.g., Bowlby, 1969, 1973; Gilbert, 1997, 1998, 2002, 2007). De acordo com a abordagem evolucionária da vergonha, esta experiência adversa surge quando um indivíduo perceciona que determinadas características, atributos ou comportamentos do *self* são percebidos pelos outros como inferiores, inadequados ou pouco atrativos (e.g., Gilbert, 2002). De facto, ao sinalizar alvos de possíveis críticas ou rejeição e ao motivar para comportamentos de autocorreção e de submissão, a experiência de vergonha é conceptualizada como uma estratégia defensiva fundamental para o estabelecimento e manutenção de relações sociais positivas e vantajosas (e.g., para ser escolhido como um amigo, amante, membro de uma equipa; Gilbert, 1997, 2005; Mikulincer & Shaver, 2005).

Contudo, níveis extremos de vergonha têm sido associados a poderosos efeitos adversos (e.g., sentimentos de inferioridade, incapacidade e dificuldades relacionais; Gilbert, Pehl, & Allan, 1994) e a uma vasta gama de psicopatologia (e.g., Cheung, Gilbert, & Irons, 2004).

Evidências clínicas e empíricas suportam que a propensão para a vergonha poderá ter origem em experiências negativas precoces de abuso, agressão, rejeição, negligência ou de controlo excessivo (Gilbert & Perris, 2000; Schore, 2001; Webb, Heisler, Call, Chickering, & Colburn, 2007). Mais recentemente surgiram evidências que suportam, igualmente, a relação entre memórias de afeto positivo e vivências de menores níveis de vergonha externa na idade adulta (Matos, Pinto-Gouveia, Duarte, 2013). Estudos recentes demonstram, ainda, que as experiências precoces desempenham um papel preponderante no desenvolvimento de importantes processos de regulação emocional, nomeadamente na autocompaixão (e.g., Gilbert, McEwan, Matos, & Rivas, 2011).

A autocompaixão é caracterizada por uma atitude calorosa relativamente a aspetos do eu percecionados como negativos, e uma atitude *mindful* da pessoa em relação à sua experiência percecionada como parte da experiência humana comum. Assim, esta estratégia de regulação emocional adaptativa implica bondade e compreensão para consigo mesmo e face às falhas ou insucessos pessoais, em vez de autocriticismo e autojulgamento severos (e.g., Folkman & Moskowitz, 2000; Isen, 2000; Neff, 2003a). Diferentes estudos têm demonstrado que a autocompaixão possibilita a adoção de ações mais úteis e eficazes, associando-se a indicadores de saúde física e psicológica e de qualidade de vida (Neff, 2003a, 2003b; Neff, Hsieh, & Dejitterat, 2005).

Gilbert (2005) sugere que a autocompaixão deriva da estimulação do sistema de vinculação, apontando os indivíduos que se desenvolvem em ambientes seguros (usufruindo de relações de calor, apoio e validação) como mais capazes de se relacionar consigo mesmos numa atitude mais carinhosa, compreensiva e compassiva. Em contraste, a recordação de

memórias emocionais precoces adversas (e.g., de ser envergonhado, humilhado, rejeitado, negligenciado por uma figura significativa) parecem associar-se a severas dificuldades dos indivíduos serem compassivos para consigo e receberem compaixão dos outros (Gilbert et al., 2011; Matos & Pinto-Gouveia, 2014; Rockliff et al., 2011). Desta forma, os estudos sugerem que os indivíduos que experienciaram ambientes afiliativos inseguros, stressantes ou ameaçadores tendem a ser mais autocríticos do que autocompassivos (Gilbert & Procter, 2006).

Embora a literatura enfatize o impacto das memórias precoces de calor e segurança na psicopatologia e na qualidade de vida na idade adulta, diversos autores sublinham que esta relação não é linear, podendo existir diferentes processos de regulação emocional envolvidos (e.g., Gilbert, 2005; Gilbert et al., 2011; Schore, 2001; Webb et al., 2007), no entanto o estudo destes processos é ainda escasso. Assim, o presente estudo teve como objetivo clarificar o efeito da vergonha e da autocompaixão na relação entre estas memórias e a qualidade de vida psicológica em mulheres da população geral. A seleção da amostra deste estudo justifica-se pelo facto de o sexo feminino tender a apresentar uma percepção mais negativa da sua qualidade de vida e maior vulnerabilidade para a psicopatologia.

Dado que a experiência de vergonha pode ter origem nas relações precoces com figuras significativas, é possível hipotetizar que a vivência de vergonha na idade adulta possa atuar como variável mediadora na relação entre as memórias precoces positivas e a qualidade de vida psicológica. Em contraste, espera-se que a autocompaixão surja como uma estratégia de regulação emocional adaptativa, com um efeito indireto na relação entre estas memórias precoces de calor e segurança e bem-estar psicológico.

2. Material e Métodos

2.1. *Participantes*

A amostra do presente estudo é composta por 612 mulheres adultas da população geral, com idades compreendidas entre os 18 e os 50 anos. As participantes apresentaram uma média de idades de 26.79 ($DP = 8.98$) e anos de escolaridade a variar entre 4 e 25 anos ($M = 14.18$; $DP = 2.81$).

2.2. *Instrumentos*

- ***Escala de Memórias Precoces de Calor e Segurança (EMWSS; Richter, et al., 2009; Matos, Pinto-Gouveia, & Duarte, 2015)***; A EMWSS é uma medida de autorrelato constituída por 21 itens, que têm como objetivo avaliar as memórias emocionais precoces de calor, cuidado, sentimentos de segurança e afeto positivo (e.g., “Sentia-me amado(a)”; “Sentia que os outros se importavam comigo”). É pedido aos respondentes que selecionem, numa escala de Likert de 5 pontos (de 0 = “Não, nunca” a 4 = “Sim, a maior parte do tempo”), a opção que melhor descreve as suas emoções durante a infância. A presente escala revelou boas qualidades psicométricas, apresentando uma consistência interna muito boa ($\alpha = .97$), tanto para a versão original como para a versão portuguesa. No presente estudo esta escala apresentou um alfa de Cronbach de .98.

- ***Escala de Auto-Compaixão (SELFCS; Neff, 2003b; Castilho & Pinto-Gouveia, 2011)***; A SELFCS é uma escala de autorresposta constituída por 26 itens que visam avaliar a autocompaixão, através de seis domínios (três positivos e três negativos): (1) calor/compreensão (e.g., “Sou tolerante com os meus erros e inadequações”), (2) humanidade comum (e.g., “Tento ver os meus erros e falhas como parte da condição humana”), (3) *mindfulness* (e.g., “Quando me sinto em baixo tento olhar para os meus sentimentos com curiosidade e abertura”), (4) autojulgamento crítico (e.g., “Desaprovo-me e faço julgamentos

acerca dos meus erros e inadequações”), (5) isolamento (e.g., “Quando falho nalguma coisa importante para mim tendo a sentir-me sozinha no meu fracasso”) e (6) sobre identificação (e.g., “ Quando alguma coisa dolorosa acontece tendo a exagerar a sua importância”). A resposta aos itens é apresentada numa escala de Likert de 5 pontos, de 1 (“Quase Nunca”) a 5 (“Quase Sempre”). A escala apresenta, tanto na versão original como na versão portuguesa, altos níveis de consistência interna (respetivamente, $\alpha = .92$ e $\alpha = .89$).

Neste estudo foi utilizado um índice compósito de autocompaição (constituído pelas dimensões positivas desta medida: calor/compreensão, condição humana e mindfulness), cujo alfa de Cronbach é de .74.

- ***Escala de Vergonha Externa (OAS; Goss, Gilbert, & Allan, 1994; Matos, Pinto-Gouveia, & Duarte, 2011)***; Este instrumento de autorresposta pretende medir a vergonha externa, isto é, a percepção de que os outros nos vêem ou avaliam negativamente. É constituído por 18 itens, relativamente aos quais se pede ao sujeito que refira a frequência com que sente ou experiencia esta vivência interna através de uma escala de tipo Likert de 5 pontos (de 0 = “Nunca” a 4 = “Quase sempre”). Pontuações superiores nesta escala são indicadoras de níveis mais elevados de vergonha externa (Goss et al., 1994). No que respeita à consistência interna, esta medida apresentou um alfa de Cronbach de .92 na versão original e de .91 na versão Portuguesa. No presente estudo o alfa de Cronbach é de .93.

- ***Qualidade de Vida: Instrumento de Avaliação da Qualidade de Vida da Organização Mundial de Saúde – Versão Reduzida (WHOQOL-Bref; WHOQOL Group, 1998; Vaz Serra et al., 2006)***; Esta é uma escala multidimensional e multicultural de autorresposta que visa avaliar a percepção subjetiva de qualidade de vida. É composta por 26 questões, sendo que duas são gerais e referentes à percepção geral de qualidade de vida e saúde, e as restantes se encontram distribuídas por 4 domínios, nomeadamente psicológico (e.g., “Com que frequência tem sentimentos negativos, tais como tristeza, desespero,

ansiedade ou depressão?”), físico (e.g., “Em que medida é saudável o seu ambiente físico?”), relações sociais (e.g., “Até que ponto está satisfeito(a) com o apoio que recebe dos seus amigos?”) e ambiente (e.g., “Até que ponto está satisfeito(a) com as condições do lugar em que vive?”). Os respondentes devem assinalar, numa escala de resposta de 5 pontos de Likert (entre 1 = "Nunca"/"Nada Satisffeito" e 5 = "Sempre"/"Muito Satisffeito"), a opção que melhor descreve a forma como percecionam a sua qualidade de vida e saúde. A medida apresenta índices elevados de consistência interna para a versão portuguesa, para o total da escala, com um alpha de Cronbach de .92, e valores bastante aceitáveis para os quatro domínios (Vaz Serra et al., 2006). Na presente investigação, os valores de consistência interna obtidos foram de .78, .82, .72, e .78 para os domínios físico, psicológico, relações sociais e ambiente, respetivamente.

2.3. Procedimento

O presente estudo encontra-se inserido numa investigação mais alargada sobre os fatores e os diferentes processos de regulação emocional que podem ter impacto na qualidade de vida e na saúde mental da população geral.

Os procedimentos deste estudo respeitaram todos os requisitos éticos e deontológicos inerentes à investigação. Assim, e após o consentimento das instituições envolvidas, a aplicação do protocolo de investigação foi realizada presencialmente, tendo-se elucidado todos os participantes não só relativamente aos objetivos e procedimentos do estudo, como no que respeita à confidencialidade e carácter voluntário da sua colaboração, sendo obrigatória a assinatura de consentimento informado prévia ao preenchimento das medidas de autorresposta.

A amostra inicial contou com a participação de 930 indivíduos, com idades a variar entre 18 e 69 anos, tanto do sexo feminino como masculino. Contudo, e considerando os

objetivos delineados para a presente investigação, foram excluídos todos os sujeitos do sexo masculino bem como indivíduos que se encontravam fora dos limites etários definidos (18-50 anos). De referir que se procedeu ainda à eliminação de todos os casos em que os protocolos não foram devidamente preenchidos.

2.4. Estratégia Analítica

A análise de dados foi realizada com recurso ao software IBM SPSS Statistics 22.0 do SPSS (SPSS IBM; Chicago, IL) e ao PROCESS (Hayes, 2013).

De forma a analisar as características da amostra nas variáveis em estudo foram efetuadas estatísticas descritivas (médias e desvios-padrão). Seguidamente, e de forma a compreender as associações entre os diferentes construtos da investigação foram realizadas análises de correlação de *Pearson*. As magnitudes destes resultados foram discutidas de acordo com as *guidelines* de Cohen, segundo as quais se considera de magnitude fraca correlações entre .1 e .3, moderada acima de .3 e forte correlações iguais ou superiores a .5, considerando-se um nível de significância de .05 (Cohen, Cohen, West, & Aiken, 2003).

Finalmente, as análises de mediação foram conduzidas através do PROCESS, uma ferramenta estatística que permite a realização de análises *path* de moderação e mediação (Hayes, 2013). De acordo com os objetivos em estudo foram conduzidos dois modelos de mediação simples (Modelo 4; Hayes, 2013): o modelo 1 testou o efeito indireto das memórias precoces de calor e afeto com as figuras de vinculação (variável independente) na qualidade de vida psicológica (variável dependente), através da vergonha externa (variável mediadora); e o modelo 2 explorou o efeito indireto das memórias precoces de calor e afeto com as figuras de vinculação (variável independente) na qualidade de vida psicológica (variável dependente), através da autocompaição (variável mediadora). Os efeitos indiretos estabelecidos entre as variáveis foram testados a partir de *bootstrapping* (com 5000

amostras), com um intervalo de confiança corrigido de 95% (*bias-corrected and accelerated confidence intervals*) do efeito indireto. Nesta análise, considera-se que o efeito indireto é significativo quando o intervalo de confiança (IC) não inclui o zero (Hayes, 2013).

3. Resultados

3.1. Análise Preliminar de dados

Através da análise dos valores de assimetria (*Skewness - Sk*) e de curtose (*Kurtosis - Ku*), foi possível confirmar o pressuposto da normalidade da distribuição das variáveis (Kline, 1998). As análises preliminares indicam a adequabilidade dos dados, apontando para a independência dos erros, homocedasticidade, linearidade, normalidade, assim como para a ausência de multicolinearidade ou singularidade entre as variáveis (Field, 2004).

3.2. Analises Descritivas

As estatísticas descritivas relativamente às variáveis estudadas são apresentadas, para o total da amostra ($N = 612$), na Tabela 1.

3.3. Análises de Correlação de Pearson

Os resultados das análises de correlação de *Pearson* permitiram observar que as memórias precoces de calor e segurança com figuras de vinculação (EMWSS) apresentam associações positivas e significativas com a autocompaição (SELFCS_AC) e com todas as dimensões da qualidade de vida (WHOQOL). Foi, ainda possível verificar que estas memórias precoces de calor e segurança se associam negativa e moderadamente com a vergonha externa (OAS). A medida de vergonha apresentou também relações negativas, de moderadas a altas, com todas as dimensões da WHOQOL e com a autocompaição (SELFCS_AC). Por sua vez, a autocompaição revelou-se positivamente associada à

qualidade de vida, com uma magnitude forte com a dimensão psicológica (WHOQOL_Psic) e moderada com as restantes dimensões (Tabela 1).

Foi, ainda, conduzida uma análise de correlação parcial para controlar a variável idade. Os resultados mostraram que a direção e a magnitude das correlações das variáveis em estudo não se alterou e, portanto, a variável idade não foi incluída nas análises subsequentes.

Tabela 1

Médias (M), Desvios-Padrão (DP) e Correlações de Pearson entre as variáveis estudadas (N = 612)

Medidas	M	SD	1	2	3	4	5	6
1. EMWSS	64.84	16.85	1	-	-	-	-	-
2. SELFCS_AC	3.10	.65	.27***	1	-	-	-	-
3. OAS	21.13	11.16	-.43***	-.35***	1	-	-	-
4. WHOQOL_Fís	74.84	13.94	.33***	.37***	-.42***	1	-	-
5. WHOQOL_Psic	69.12	14.98	.41***	.51***	-.56***	.64***	1	-
6. WHOQOL_Rel	69.20	18.62	.27***	.32***	-.45***	.44***	.61***	1
7. WHOQOL_Amb	69.90	13.21	.37***	.29***	-.37***	.57***	.54***	.36***

Nota: EMWSS = Escala de Memórias Precoces de Calor e Segurança; SELFC_AC = Escala de Autocompaixão [dimensão autocompaixão (AC)]; OAS = Escala de vergonha externa; WHOQOL = Questionário de Qualidade de Vida, OMS [dimensões: qualidade de vida física (Fís.), psicológica (Psic.), Relações Sociais (Rel.) e ambiente (Amb.)]

***p <.001

3.4. Análises de Mediação

De forma a melhor compreender o papel da vergonha externa (OAS; modelo 1) e da autocompaixão (SELFCS_AC; modelo 2) como possíveis variáveis mediadoras entre as memórias precoces de calor e segurança com figuras de vinculação (EMWSS) e qualidade de

vida psicológica (WHOQOL_Psic.), procedeu-se à realização de duas análises de mediação, tendo como procedimento estatístico o PROCESS (Hayes, 2013).

3.4.1. O efeito indireto das memórias precoces de calor e segurança na qualidade de vida psicológica, através da vergonha externa

Como se pode verificar na Figura 1, a análise individual das relações estabelecidas entre as diferentes variáveis permite verificar que as memórias precoces de calor e segurança com as figuras de vinculação se encontram significativa e negativamente associadas com a vergonha externa ($b = -0.29$; $SE = 0.02$; $p < .001$), num modelo que explica 19% da variância da vergonha externa ($F_{(1,603)} = 138.75$, $p < .001$). Por sua vez, a qualidade de vida psicológica encontra-se negativa e significativamente associada com a vergonha externa ($b = -0.63$; $SE = 0.05$; $p < .001$) e positivamente relacionada com as memórias precoces de calor e segurança com as figuras de vinculação ($b = 0.19$; $SE = 0.03$; $p < .001$), num modelo que explica 34.45% da qualidade de vida psicológica ($F_{(2,602)} = 148.22$, $p < .001$). Foi ainda observado um efeito indireto significativo das memórias de calor e segurança com as figuras de vinculação na qualidade de vida psicológica através da vergonha externa ($b = 0.18$; $SE = 0.02$; IC 95% = [0.14 a 0.23]).

Foi, assim, observado que as memórias precoces de calor e segurança com as figuras de vinculação parecem exercer uma influência positiva na qualidade de vida psicológica. No entanto, os resultados parecem também indicar a presença de um efeito indireto nesta relação, explicado através dos mecanismos da vergonha externa.

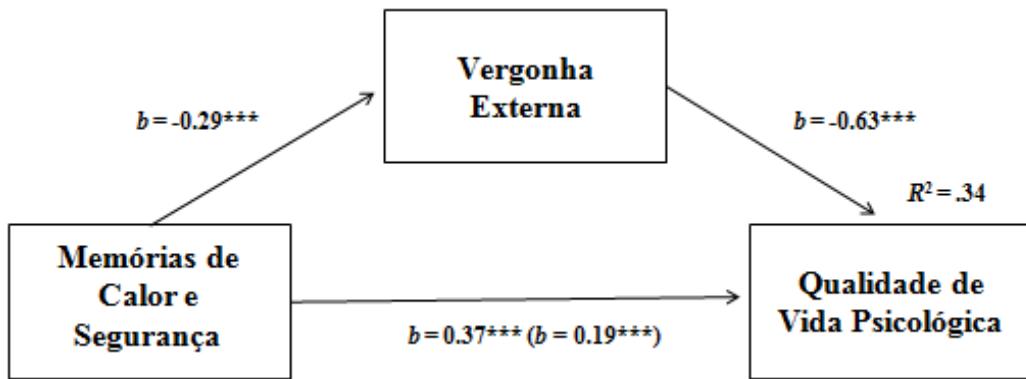


Figura 1. Diagrama estatístico de um modelo de mediação simples que explora a relação entre Memórias Precoces de Calor e Segurança com figuras de vinculação (EMWSS) e Qualidade de Vida psicológica através da mediação da Vergonha externa (OAS). Os valores que se encontram ao lado das setas representam os coeficientes de regressão não estandardizados. O valor que se encontra fora de parênteses na relação entre as memórias precoces de calor e segurança com as figuras de vinculação e a qualidade de vida psicológica diz respeito ao efeito total das memórias precoces de calor e segurança com as figuras de vinculação na qualidade de vida psicológica, enquanto os valores que se encontram dentro dos parênteses representam o efeito direto entre as memórias precoces de calor e segurança com as figuras de vinculação na qualidade de vida, após a inclusão da variável mediadora (vergonha externa) ao modelo;

*** $p < .001$

3.4.2. O efeito indireto das memórias precoces de calor e segurança na qualidade de vida psicológica, através da autocompaixão

Como se pode verificar através da Figura 2, a exploração individual das relações estabelecidas entre as variáveis permite observar que as memórias precoces de calor e segurança com as figuras de vinculação se encontram significativamente associadas com a auto-compaixão ($b = 0.01$; $SE = 0.002$; $p < .001$), num modelo que explica 7.05% da variância da auto-compaixão ($F_{(1,610)} = 46.29$, $p < .001$). Por sua vez, a qualidade de vida psicológica encontra-se significativamente associada com a autocompiação ($b = 9.78$; $SE = 0.78$; $p < .001$) e com as memórias precoces de calor e segurança com as figuras de vinculação ($b = 0.27$; $SE = 0.03$; $p < .001$), num modelo que explica 33.92% da qualidade de vida psicológica ($F_{(2,609)} = 156.31$, $p < .001$). No entanto, os resultados parecem indicar a presença de um efeito indireto significativo das memórias de calor e segurança com as figuras

de vinculação na qualidade de vida psicológica através da auto-compaixão ($b = 0.10$; $SE = 0.02$; IC 95% = [0.07 a 0.14]).

Assim, os resultados parecem demonstrar que existe uma influência positiva das memórias precoces de calor e segurança com as figuras de vinculação na qualidade de vida psicológica. Para além disso, estas análises sugerem que, nesta relação, existe um efeito indireto através da autocompaixão.

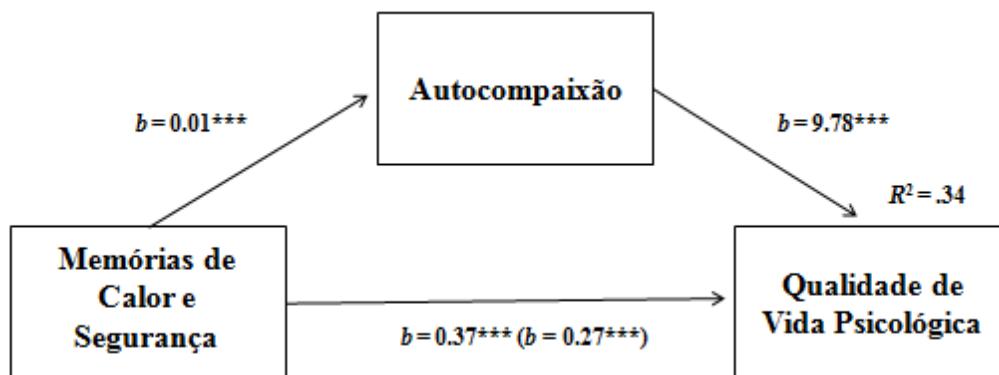


Figura 2. Diagrama estatístico de um modelo de mediação simples que explora a relação entre Memórias Precoces de Calor e Segurança com figuras de vinculação (EMWSS) e Qualidade de Vida psicológica através da mediação da autocompaixão (SELFCS_AC). Os valores que se encontram ao lado das setas representam os coeficientes de regressão não estandardizados. O valor que se encontra fora de parênteses na relação entre as memórias precoces de calor e segurança com as figuras de vinculação e a qualidade de vida psicológica diz respeito ao efeito total das memórias precoces de calor e segurança com as figuras de vinculação na qualidade de vida psicológica, enquanto os valores que se encontram dentro dos parênteses representam o efeito direto entre as memórias precoces de calor e segurança com as figuras de vinculação na qualidade de vida, quando a variável mediadora (auto-compaixão) é adicionada ao modelo;

*** $p < .001$

4. Discussão

A literatura tem demonstrado que as experiências afiliativas precoces têm um impacto significativo na qualidade de vida na idade adulta (e.g., Cheng et al., 2004; Dehart et al., 2006; Gilbert et al., 2006). Adicionalmente, tem sido sugerido que estas experiências poderão ser registadas como memórias autobiográficas (Gilbert & Irons, 2008), as quais parecem ser

centrais na definição da relação eu-eu e eu-outro (Gilbert, 1998, 2002; Mikulincer & Shaver 2005; Pinto-Gouveia & Matos, 2011). Embora a investigação pareça apontar uma relação positiva entre memórias de calor e segurança e melhores indicadores de qualidade de vida na idade adulta, os autores sublinham que nesta relação poderão estar envolvidos diferentes fatores e processos de regulação emocional (e.g., Gilbert, 2005; Gilbert et al., 2011; Schore, 2001; Webb et al., 2007).

Assim, o presente estudo pretendeu testar o papel mediador da vergonha externa e da autocompaixão na relação entre memórias precoces de calor e segurança com figuras de vinculação e qualidade de vida psicológica, em mulheres da população geral.

Os resultados obtidos permitiram confirmar as hipóteses previamente apontadas, evidenciando uma relação positiva e significativa entre memórias de calor e segurança com figuras de vinculação e níveis superiores de autocompaixão e de qualidade de vida, em todos os domínios. Em contraste, a presença de memórias de calor e segurança com figuras de vinculação surgem negativamente associadas a vergonha externa. Estes dados estão de acordo com a literatura (e.g., Gilbert, 2005) e com estudos anteriores, confirmando a relação positiva entre memórias afiliativas positivas precoces, maior autocompaixão e menores níveis de vergonha externa (e.g., Matos et al., 2013), mas acrescentam também novos dados ao revelar a relação positiva e significativa entre estas memórias positivas e os diferentes domínios da qualidade de vida em mulheres da população geral.

Por sua vez, estes dados sugerem que a vivência de vergonha externa está negativamente associada a todos os domínios da qualidade de vida. De salientar a relação positiva e alta entre a vivência de vergonha (i.e., a percepção de que características, atributos ou comportamentos do self são percebidos pelos outros como pouco atrativos, inadequados ou inferiores; e.g., Gilbert, 2002) e a dimensão psicológica da qualidade de vida. Estes resultados são consistentes com dados de estudos prévios que demonstram o impacto

negativo desta vivência de sentimentos de inferioridade, incapacidade e inadequação no bem-estar e na saúde psicológica (Cheung et al., 2004; Gilbert et al., 1994). Em contraste, os dados deste estudo permitiram corroborar a associação de uma relação eu-eu autocompassiva e indicadores de bem-estar físico e psicológico (e.g., Neff, 2003a, 2003b; Neff et al., 2005).

Os resultados dos estudos das análises de mediação indicaram que as memórias precoces de calor e segurança com figuras de vinculação parecem exercer uma influência positiva na qualidade de vida psicológica das mulheres. Contudo, sugerem igualmente um efeito indireto nesta relação, mediada através dos mecanismos da vergonha externa e da autocompaixão.

Mais especificamente, os resultados obtidos parecem indicar que a presença de memórias positivas precoces na relação com figuras de vinculação se associa, na idade adulta, a menor vergonha externa, a qual medeia a relação entre as referidas memórias e uma melhoria no bem-estar psicológico das mulheres. Adicionalmente, a presença destas memórias positivas associa-se a capacidades mais autocompassivas na relação eu-eu, processo que parece mediar a relação positiva entre as memórias afiliativas precoces e qualidade de vida. Em suma, este estudo parece assim apontar que as memórias afiliativas precoces têm um impacto positivo direto na qualidade de vida psicológica das mulheres mas que existe, simultaneamente, um efeito indireto nesta relação, através dos mecanismos da vergonha externa e da autocompaixão.

Estes resultados parecem representar um contributo significativo para a investigação acerca do impacto das experiências precoces afiliativas na qualidade de vida de mulheres adultas, sublinhando o papel mediador da experiência de vergonha externa e do processo de regulação emocional de autocompaixão. Contudo, estes dados não deverão ser lidos sem ter em conta algumas limitações neste estudo. A principal limitação deste trabalho deve-se à natureza transversal do estudo, a qual não permite retirar conclusões de causalidade. Uma

outra limitação metodológica diz respeito à utilização exclusiva de questionários de autorresposta, os quais poderão estar associados a subjetividade e a possíveis enviesamentos nos resultados. Investigações futuras devem, assim, testar estes efeitos de mediação recorrendo a um *design* longitudinal e com recurso a entrevistas, de forma a ultrapassar estas limitações. Dado que tem sido sugerido que o sexo feminino tende a apresentar uma percepção mais negativa da sua qualidade de vida e maior vulnerabilidade para a psicopatologia, esta investigação foi conduzida numa amostra de mulheres da população geral. No entanto, a utilização de uma amostra exclusivamente constituída por mulheres pode ser considerada como uma limitação, uma vez que não permite a generalização dos resultados para outro tipo de amostras, assim estudos futuros deverão replicar estas análises em diferentes amostras (e.g., população masculina e populações de outros contextos culturais).

Os resultados do presente estudo parecem, no entanto, constituir um contributo significativo para o desenvolvimento de futuras investigações e intervenções. De facto, o efeito mediador da vergonha e da autocompaixão na relação entre memórias precoces de calor e segurança com figuras de vinculação e bem-estar psicológico parece apontar para a pertinência do desenvolvimento de intervenções baseadas na diminuição de vergonha e no treino da autocompaixão (e.g., Gilbert, 2000; Gilbert & Irons, 2005; Gilbert & Procter, 2006), que tenham em vista a promoção da qualidade de vida psicológica na comunidade.

5. Referências

- Baumeister, R. F., & Leary, M.R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin, 117*(3), 497-529. doi: 10.1037/0033-2909.117.3.497
- Bowlby, J. (1969). *Attachment: Attachment and loss, Vol. 1*. London: Hogarth Press.
- Bowlby, J. (1973). *Separation, Anxiety and Anger: Attachment and Loss, Vol. 2*. London: Hogarth Press.
- Brewin, C., Andrews, B., & Gotlib, I. (1993). Psychopathology and early experience: A reappraisal of retrospective reports. *Psychological Bulletin, 113*(1), 82-98. doi: 10.1037/0033-2909.113.1.82
- Castilho, P., & Pinto-Gouveia, J. (2011). Autocompaixão: Estudo de validação da versão portuguesa da Escala de Autocompaixão e da sua relação com as experiências adversas da infância, a comparação social e a psicopatologia. *Psychologica, 54*, 203-230
- Cheng, H., & Furnham, A. (2004). Perceived parental rearing style, self-esteem and self-criticism as predictors of happiness. *Journal of Happiness Studies, 5*(1), 1-21
- Cheung, M., Gilbert, P., & Irons, C. (2004). An exploration of shame, social rank and rumination in relation to depression. *Personality and Individual Differences, 36*(5), 1143-1153. doi: 10.1016/S0191-8869(03)00206-X
- Cohen, J., Cohen, P., West, G., & Aiken, S. (2003). *Applied multiple regression/correlation analysis for the behavioral sciences* (3rd ed.). Mahwah, NJ: Erlbaum
- Cunha, M., Matos, M., Faria, D., & Zagalo, S. (2012). Shame memories and psychopathology in adolescence: the mediator effect of shame. *International Journal of Psychology and Psychological Therapy, 12*(2), 203-218.

- DeHart, T., Peham, B. W., & Tennen, H. (2006). What lies beneath: Parenting style and implicit self-esteem. *Journal of Experimental Social Psychology*, 42(1), 1-17. doi: 10.1016/j.jesp.2004.12.005
- Field, A. (2004). *Discovering statistics using SPSS* (3th ed.). London: Sage Publications.
- Folkman, S., & Moskowitz, J. T. (2000). Stress, positive emotions, and coping. *Current Directions in Psychological Science*, 9(4), 115-118. doi: 10.1111/1467-8721.00073
- Gerhardt, S. (2004). *Why Love Matters. How Affection Shapes a Baby's Brain*. London: Bruner-Routledge.
- Gilbert, P. (1989). *Human nature and suffering*. Hove: Lawrence Erlbaum Associates.
- Gilbert, P. (1997). The evolution of social attractiveness and its role in shame, humiliation, guilt and therapy. *British Journal of Medical Psychology* 70, 113-147. doi: 10.1111/j.2044-8341.1997.tb01893.x
- Gilbert, P. (1998). What is Shame? Some Core Issues and Controversies. In P. Gilbert and B. Andrews. (Eds.). *Shame: Interpersonal Behaviour, Psychopathology and Culture* (pp. 3-36). New York: Oxford University Press.
- Gilbert, P. (2002). Body shame: A biopsychosocial conceptualization and overview, with treatment implications. In P. Gilbert, & J. Miles (Eds.), *Body shame: Conceptualisation, research and treatment* (pp. 3-54). London: Brunner.
- Gilbert, P. (2003). Evolution, Social Roles and the Differences in Shame and Guilt. *Social Research*, 70(4), 1205-1230.
- Gilbert, P. (2005). Compassion and cruelty: A biopsychosocial approach. In P. Gilbert (Ed.). *Compassion: Conceptualisation, research and use in psychotherapy* (pp. 9-74). London: Routledge

- Gilbert, P. (2007). The evolution of shame as a marker for relationship security: a biopsychosocial approach. In J. Tracy, R. Robins, & J. Tangney (Eds.), *The self-conscious emotions: theory and research* (pp. 283-309). New York: Guilford.
- Gilbert, P., & Irons, C. (2008). Shame, self-criticism, and self-compassion in adolescence. In N.B. Allan & L.B. Sheeber (Eds.), *Adolescence Emotional Development and the Emergence of Depressive Disorders* (pp. 195-214). London: Cambridge University Press.
- Gilbert, P., & Perris, C. (2000). Early experiences and subsequent psychosocial adaptation. An introduction. *Clinical Psychology and Psychotherapy*, 7(4), 243-245. doi: 10.1002/1099-0879(200010)7:4<243::AID-CPP254>3.0.CO;2-H
- Gilbert, P., & Procter, S. (2006). Compassionate mind training for people with high shame and self-criticism: Overview and pilot study of a group therapy approach. *Clinical Psychology and Psychotherapy*, 13(6), 353-379. doi: 10.1002/cpp.507.
- Gilbert, P., Baldwin, W. M., Irons, C., Baccus, R. J. & Palmer, M. (2006). Self-Criticism and Self-Warmth: An Imagery Study Exploring Their Relation to Depression. *Journal of Cognitive Psychotherapy. An International Quarterly*, 20(2), 183-200. doi: 10.1891/jcop.20.2.183
- Gilbert, P., McEwan, K., Matos, M., & Rivas, A. (2011). Fear of compassion: a study of psychological processes that block compassion. *Psychology and Psychotherapy: Theory, Research and Practice*, 84, 239-255. doi: 10.1348/147608310X526511.
- Gilbert, P., Pehl, J., & Allan, S. (1994). The phenomenology of shame and guilt: An empirical investigation. *British Journal of Medical Psychology*, 67, 23-36. doi: 10.1111/j.2044-8341.1994.tb01768.x

- Goss, K., Gilbert, P. & Allan, S. (1994). An exploration of shame measures: I: The ‘other as shamer’ scale. *Personality and Individual Differences*, 17(5), 713-717. doi: 10.1016/0191-8869(94)90149-X
- Hayes, A. F. (2013). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. New York: The Guilford Press.
- Irons, C., & Gilbert, P., & Baldwin, M.W., Baccus, J.R., & Palmes, M. (2006). Parental recall attachment relating and self-attacking/ self-reassurance: Their relationship with depression. *British Journal of Clinical Psychology*, 45, 297-308. doi: 10.1348-014466505X68230.
- Isen, A.M. (2000). Some perspectives on positive affect and self-regulation. *Psychological Inquiry*, 11, 184-188. doi: 10.1207/S15327965PLI1103.
- Kline, R. (1998). *Principles and Practice of Structural Equation Modeling* (2nd Edition ed.). New York: The Guilford Press.
- Martin, P. (2006). *Making happy people: the nature of happiness and its origins in childhood*. London: Fourth Estate
- Matos, M., & Pinto-Gouveia, J. (2014). Shamed by a parent or by others: The role of attachment in shame memories relation to depression. *International Journal of Psychology and Psychological Therapy*, 14(2), 217-244.
- Matos, M., Pinto-Gouveia, J., & Duarte, C (2013). Internalizing early memories of shame and lack of safeness and warmth: the mediating role of shame on depression. *Behavioral Cognitive Psychotherapy*, 41(4), 479-93. doi: 10.1017/S1352465812001099
- Matos, M., Pinto-Gouveia, J., & Duarte, C. (2011). *Other as Shamer: Versão Portuguesa e propriedades psicométricas de uma medida de vergonha externa*. Manuscript submitted for publication.

Matos, M., Pinto-Gouveia, J., & Duarte, C. (2015). *Psychometric properties of the Portuguese version of the Early Memories of Warmth and Safeness Scale*. Manuscript in preparation.

Mikulincer, M., & Shaver, P. (2005). Mental representation and attachment security. In M. W. Baldwin, (Ed.), *Interpersonal cognition* (pp. 233-266). New York: Guilford press.

Mikulincer, M., & Shaver, R.P. (2004). Security-based self-representations in adulthood: Contents and processes, In N.S. Rholes, & J.A. Simpson (Eds.), *Adult attachment: Theory, research, and clinical implications* (pp. 159-195). New York: Guilford.

Murray, C., Waller, G., Legg, C. (2000). Family dysfunction and bulimic psychopathology: The mediating role of shame. *International Journal of Eating Disorders*, 28(1), 84-89.
doi: 10.1002/(SICI)1098-108X(200007)28:1<84::AID-EAT10>3.0.CO;2-R

Neff, K. D. (2003a). Self-compassion: An alternative conceptualization of a healthy attitude toward oneself. *Self and Identity*, 2(2), 85-102. doi: 10.1080/15298860390129863.

Neff, K. D., Hsieh, Y., & Dejitterat, K. (2005). Self-compassion, achievement goals and coping with academic failure. *Self and Identity*, 4(3), 263-287. doi: 10.1080/13576500444000317.

Neff, K. D. (2003b). The development and Validation of a scale to measure self-compassion. *Self and Identity*, 2(3), 223-250.doi: 10.1080/15298860390209035

Perris, C. (1994). Linking the experience of dysfunctional parental rearing with manifest psychopathology: A theoretical framework. In C. Perris, W.A. Arrindeu & M. Eisemann (Eds.), *Parenting and psychopathology* (pp. 3-32). Chichester: John Wiley & Sons.

- Pinto-Gouveia, J., & Matos, M. (2011). Can shame memories become a key to identity? The centrality of shame memories predicts psychopathology. *Applied Cognitive Psychology*, 25, 281-290. doi: 10.1002/acp1689.
- Richter, A., Gilbert, P., & McEwan, K. (2009). Development of an early memories of warmth and safeness scale and its relationship to psychopathology. *Psychology and Psychotherapy: Theory, Research and Practice*, 82, 171-184. doi: 10.1348/147608308X395213
- Rockliff, H., Karl, A., McEwan, K., Gilbert, J., Matos, M., & Gilbert, P. (2011). Effects of intranasal oxytocin on compassion focused imagery. *Emotion*, 11(6), 1388-1396. doi: 10.1037/a0023861.
- Schore, A. (1998). Early shame experiences and infant brain development. In a Gilbert, & B. Andrews (Eds.), *Shame: Interpersonal behavior psychopathology and culture* (pp. 57-77). New York: Oxford University Press.
- Schore, A. (2001). The effects of relational trauma on right brain development, affect regulation and infant mental health. *Infant Mental Health Journal*, 22(1-2), 201-269. doi: 10.1002/1097-0355(200101/04)22:1<201::AID-IMHJ8>3.0.CO;2-9
- Schore, A.N. (1994). *Affect regulation and the origin of the self: The neurobiology of emotional development*. Hillsdale, N.J: Erlbaum.
- Tangney, J.P. & Dearing, R.L. (2002). *Shame and Guilt*. New York: Guilford Press.
- Vaz Serra, A., Canavarro, C., Simões, M., Pereira, M., Gameiro, S., Quartilho, J., Rijo, D., Carona, C., Paredes, T. (2006). Estudos Psicométricos do instrumento de Avaliação da Qualidade de Vida da Organização Mundial de Saúde (WHOQOL-Bref) para Português de Portugal. *Psiquiatria Clínica*, 27(1), 44-49

- Webb, M., Heisler, D., Call, S., Chickering, S. A., & Colburn, T.A. (2007). Shame, guilt, symptoms of depression, and reported history of psychological maltreatment. *Child Abuse & Neglect*, 31(11-12), 1143-1153. doi: 10.1016/j.chab.2007.09.003
- WHO (1998). Development of World Health Organization WHOQOL-BREF Quality of Life Assessment. *Psychological Medicine*, 28(3), 551-558. doi: 10.5.12.

II.

Ferreira, C., & Mendes, A. L. (2015). *Do shame and perfectionistic self-presentation fuel the link between early affiliative memories and eating psychopathology?* Manuscript submitted for publication on Appetite.

**Do shame and perfectionistic self-presentation fuel the link between early affiliative
memories and eating psychopathology?**

Authors

Cláudia Ferreira, M. S., Ph.D¹

Ana Laura Mendes, B.S. ^{1*}

Affiliation

¹ University of Coimbra, Portugal

* Correspondence concerning this article should be addressed to:

Ana Laura Mendes

CINEIC, Faculdade de Psicologia e Ciências da Educação

Universidade de Coimbra

Rua do Colégio Novo, Apartado 6153

3001-802 Coimbra, Portugal

Email: analauramendes@live.com.pt

Telephone: (+351)239851450

Fax: (+351)203851462

Abstract

Literature has been consistently demonstrating that early affiliative experiences may be recorded as conditioned emotional memories, which have a central role in the development of one's inner self and social relational schema. Additionally, several studies have suggested that these early memories play an important impact on well-being and psychopathology vulnerability. However, the association between early affiliative memories and psychopathology does not seem to be linear. Thus, this study aimed to test an integrative model that explored the effect of external shame and body image-related perfectionistic self-presentation on the relationship between these particular memories (either with attachment figures and with peers) and eating psychopathology severity, in a sample of 361 female college students that completed validated self-report measures.

Path analysis' results showed significant indirect and negative associations between memories of warmth and safeness (with attachment figures and with peers) and eating psychopathology severity, mediated by external shame and the use of perfectionistic self-presentation strategies of body image. This model explained 49% of eating psychopathology's variance and presented excellent fit indices.

These findings seem to suggest that the absence of warmth and safeness affiliative memories is associated with higher levels of shame (i.e., feelings of inferiority and unattractiveness), and also with higher tendency to adopt body-image related perfectionistic self-presentation strategies, which seems to explain over concerning and pathologic control of one's eating behaviors.

These data appear to provide an important contribution in the field of early affiliative memories and seems to offer important implications for research and intervention programs by revealing the importance of assessing and targeting shame and perfectionist strategies, as

well as promoting adaptive emotion regulation strategies (e.g., self-compassion, acceptance) to deal with adverse internal events.

Highlights

- Early memories with attachment figures and peers are linked to eating difficulties
- Shame and perfectionistic self-presentation of body image mediate this link
- This integrative model explained 49% of eating psychopathology
- Interventions on eating difficulties should promote one's attachment system

Keywords: Early affiliative memories; external shame; perfectionistic self-presentation; eating psychopathology.

1. Introduction

The study of early emotional experiences has motivated the interest of researchers and clinicians, due to the presumption of its impact on adults' quality of life and mental health (e.g., Gilbert, Allan & Goss, 1996; Schore, 1994). In fact, either positive experiences (characterized by warmth, protection, safeness and care) and negative experiences (characterized by threat, insecurity, and rejection) seem to play a key role on psychological, physiological and social development and functioning (Gerhardt, 2004; Richter, Gilbert & McEwan, 2009; Schore, 1994).

Literature has highlighted the relationship between positive early emotional and relational experiences with attachment figures and the development of feelings of emotional well-being, self-esteem and happiness, and also lower levels of psychopathology (Cheng & Furnham, 2004; DeHart, Peham, & Tennen, 2006; Mikulincer & Shaver, 2004). Additionally, several authors have pointed out that these positive early experiences are not only defined by the absence of feelings of threat, but mainly by the presence of affiliative signs, which hold a primary role in the development of adaptive emotion regulation strategies (Baldwin & Dandeneau, 2005; Gilbert et al., 2006; Richter et al., 2009). In this perspective, it has been suggested that early relationships with caregivers and peers, when associated to the perception of being loved, accepted, and valued, can shut down the threat system and stimulate the attachment system (e.g., Cacioppo et al., 2000; Porges, 2003, 2007). Moreover, the development of the attachment system seems to be linked to the promotion of positive feelings of safeness and connection to others, enabling the capacity to deal effectively with adverse experiences (e.g., stress and perception of personal failure (Cheng & Furnham, 2004; Dehart et al., 2006; Martin, 2006; Masten, 2001; Richter et al., 2009)).

In contrast, early experiences of low warmth, abandonment, rejection, neglect, abuse, shame or excessive control by significant caregivers can be registered as negative relational

experiences with a significant impairment and are linked to higher vulnerability to develop psychopathology (e.g., Bifulco & Moran, 1998; Bowlby, 1988; Brewin, Andrews & Gotlib, 1993; Richter et al., 2009), namely eating psychopathology (Vertanian, Smyth, Zawadzki, Heron, & Coleman, 2014).

Research has consistently shown that these affiliative experiences, either positive or negative, can be recorded as conditioned emotional memories (e.g., Gilbert & Irons, 2008), playing a central role on self-identity and emotional regulation (Brewin, 2006). Also, these memories seem to be particularly relevant on the development of the relational schema for the self and others (Gilbert, 1998, 2002; Mikulincer & Shaver, 2005; Pinto-Gouveia & Matos, 2011). In this context, while safe and supportive environments promote mental health and well-being, facilitating adaptative coping during setbacks and personal failures (Gilbert et al., 2006; Irons & Gilbert, 2005), negative early experiences can activate negative emotional states (such as shame) and the subsequent adoption of defensive behaviors (Cunha, Matos, Faria, & Zagalo, 2012; Dunlop, Burns, & Bermingham, 2001; Murray, Waller, & Legg, 2000).

Shame is defined as a self-conscious emotion characterized by the perception that others see the self negatively, i.e. as inferior, inadequate, undesirable or unattractive (e.g., Gilbert, 2002, Lewis, 1992; Nathanson, 1996). The social focused-emotion as it emerges in an interaction context (Lewis, 1995; Tangney & Dearing, 2002), serves an important defensive function (e.g., Gilbert, 2000, 2002). In fact, shame is a painful affect, which acts as a warning signal that one's characteristics and/or behaviors are unable to create positive feelings in others, and may put the self at risk of being criticized or rejected (Gilbert, 2000; Tangney & Dearing, 2002). In this context, this emotion motivates a series of defense behaviors such as correction, concealment, escape or appeasement, in order to attenuate social negative consequences (e.g., Gilbert, 2002; Tangney & Dearing, 2002). Nevertheless,

intense feelings of shame have been strongly associated to several social difficulties (e.g., isolation or alienation) and different psychopathological conditions (Gilbert, 2000, 2002). Specifically, shame has been highlighted as a central emotion in body- image difficulties and eating psychopathology (e.g., Gee & Troop, 2003; Grabhorn, Stenner, Stanger, & Kaufold, 2006; Pinto-Gouveia, Ferreira, & Duarte, 2014; Swan & Andrews, 2003).

In fact, research has suggested that some individuals facing shame experience may endorse maladaptive compensatory strategies, aiming at the public concealment of characteristics or attributes perceived as inadequate, defective, inferior or unattractive (Ferreira, Trindade & Ornelas, 2015; Hewitt et al., 2003).

Perfectionistic self-presentation is one of those maladaptive interpersonal strategies which reflect the belief that looking perfect in the eyes of others assures acceptance and belonging to the group (Peterson, 2003). However, consistent evidence demonstrates that this need to present a perfect public image is associated with different clinical conditions, namely eating disorders (Bardone-Cone et al., 2007; Ferreira & Trindade et al., 2015; Steele, O'Shea, Murdock, & Wade, 2011).

Specifically, research has demonstrated an association of perfectionistic self-presentation strategies with higher levels of body dissatisfaction and eating psychopathology severity in women (e.g., bulimia symptomatology and eating restraint; Cockell et al., 2002; Hewitt et al., 1995; McGee, Hewitt, Sherry, Parkin, & Flett, 2005). Indeed, since the female body shape is a particularly used dimension in self and social evaluations, especially in modern Western societies (Ferreira, Pinto-Gouveia, & Duarte, 2013; Gilbert et al., 1995; Troop, Allan, Treasure, & Katzman, 2003), women of these cultures tend to overvalue this dimension and to establish rank positions inside the social group, based on physical appearance (Buote et al., 2011; Ferreira et al., 2013; Macedo et al., 2007). Furthermore, qualities such as success, status and happiness are usually associated to a thinner female

body-image (Strahan, Wilson, Cressman & Buote, 2006) which may further explain women's involvement in maladaptive attitudes and behaviors with the purpose of controlling body shape, when coping with feelings of inferiority (Cockell et al., 2002; Ferreira & Trindade et al., 2015; Hewitt, Flett & Ediger, 1995; McGee et al., 2005).

In accordance with previous literature, the current study aimed to test an integrative model that explores the impact of early positive affiliative memories (in relationships with attachment figures and also with peers) on eating psychopathology symptomatology, and whether external shame and body image-related perfectionistic self-presentation act on this association. To this concern, it was hypothesized that external shame and perfectionist self-presentation focused on body image mediate the relationship between the absence affiliative memories of warmth and higher eating psychopathology severity.

2. Materials and methods

2.1. Participants

The sample of this study comprised 361 female college students, with a mean age of 21.37 years ($SD = 3.66$) and 13.90 ($SD = 1.62$) years of education. Concerning marital status, the majority of the participants reported to be single (352; 97.5%), 6 (1.7%) married or living together and 3 (.8%) divorced or separated. Participants' BMI mean was 21.90 ($SD = 3.21$), corresponding to normal weight values (WHO, 1995).

2.2. Measures

- ***Early Memories of Warmth and Safeness Scale (EMWSS; Richter et al., 2009; Matos, Pinto-Gouveia & Duarte, 2015)***; The EMWSS is a self-report measure, with 21 items, that aims to assess a set of childhood emotional memories related with care, feelings of warmth, safeness, soothing and positive affection with attachment figures. The response

options are displayed on a 5-point Likert scale (0 = No, Never to 4 = Yes, Most of the time), in which the respondent should select the value that better describes his/her emotions and feelings during childhood in statements such as “ I felt understood” and “I felt safe and secure”. The measure was found to have good psychometric properties, with a high level of internal consistency ($\alpha = .97$) both for the original as well as for the Portuguese versions. In the current study, the measure presented a Cronbach’s Alpha of .98.

- ***Early Memories of Warmth and Safeness Scale – Peers version (Ferreira, Matos, Cunha, Duarte & Pinto-Gouveia, 2015)***; This is 21-items a self-report measure adapted from the EMWSS (Richter, Gilbert & McEwan, 2009) in order to regard relationship with peers. The respondents are thus asked to state the frequency of emotional experiences regulated by warmth, affection, care and safeness in their relationships with peers (e.g., “I felt safe and secure with my peers/friends” or “I felt loved by my peers/friends”), in a 5-point Likert scale (ranging from 0 = No, Never to 4 = Yes, Most of the time). In the current study, the EMWSS_peers presented a Cronbach’s alpha of .99.

- ***Other as Shamer Scale (OAS; Goss, Gilbert, & Allan, 1994; Matos, Pinto-Gouveia, & Duarte, 2011)***; The OAS is a self-report measure composed by 18 items that aims to measure external shame, that is, the perception of how one exists in the mind of others. Thus, participants are asked to indicate in a 5-point Likert scale (0 = Never to 4 = Almost always) the frequency of their perceptions about others’ negative evaluations. Higher results in this scale are indicators of higher levels of external shame (Goss et al., 1994). In what concerns internal consistency, this measure presented a Cronbach’s alpha of .92 in the original version and of .91 in the Portuguese validation study. In the current sample, the Cronbach’s alpha was .93.

- Perfectionistic Self Presentation Scale – Body Image (PSPS-BI; Ferreira, Duarte, Pinto-Gouveia, & Lopes, 2015); This is a self-report instrument comprising 19 items that evaluate the need to present a perfect physical appearance to others (e.g., “It is important to have an attractive physical appearance”). Participants select in a 7-point Likert (1 = totally disagree to 7 = totally agree), the value that better quantifies their degree of agreement towards each item. PSPS-BI’s internal consistency was revealed to be high in the original version ($\alpha = .93$). In this study its Cronbach’s alpha was .95.

- Eating Disorder Examination Questionnaire (EDE-Q; Fairburn & Beglin, 1994; Machado et al., 2014); The EDE-Q is a 36 item self-report measure adapted from the Eating Disorder Examination interview (EDE; Fairburn & Cooper, 1993). It consists of four subscales (restraint, eating concern, weight concern and body shape concern) and evaluates the frequency and intensity of disordered eating attitudes and behaviors. The items are rated for 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”). The instrument presented good psychometric qualities in both the original and Portuguese versions ($\alpha = .94$). In the current study it was only used the global value of the scale (obtained through the calculation of the average of the four subscales), which presented a Cronbach’s alpha of .93.

2.3. Procedures

The current study is part of a wider research about the impact of different factors and emotion regulation processes on quality of life and mental health.

The procedures of the current study have respected all the ethical and deontological issues inherent to scientific research. Thus, the institutions involved approved the administration of the research protocol (composed of a set of self-report measures) and

participants were clarified about the objectives, procedures of the study, the confidentiality issues and voluntary character of this participation, and gave their written informed consent.

The initial sample was constituted by 930 individuals of both genders (692 women and 236 men), with ages ranging from 18 to 69 years old. However, having in mind the objectives outlined for the current study only 361 female students were selected, having all the other individuals that did not fit the required criteria to constitute the sample been excluded, that is, all the male individuals and all the non-college student females. All the protocols incorrectly filled in by the participants were also excluded.

2.4. Data analyses

Data analyses was performed using the software IBM SPSS Statistics 22.0 (SPSS IBM; Chicago, IL) and path analyses was explored using the software AMOS (Arbuckle, 2006). In order to analyze the characteristics of the selected sample, the descriptive statistics of the constructs in study were performed (mean and standard deviation). Afterwards, product-moment Pearson correlation analyses were performed to observe the relationship established between the different study variables. The magnitudes of these results were discussed taking into account Cohen's guidelines, in which correlations ranging between .1 and .3 are considered of weak magnitude, moderate above .3 and strong, those correlations equal or superior to .5, considering a significance level of .05 (Cohen, Cohen, West, & Aiken, 2003).

Path analysis (MacKinnon, 2008), a structural equation modeling (SEM), was performed in the proposed theoretical model to estimate the presumed relations among variables. It enables the concurrent examination of structural relationships as well as direct and indirect effects among multiple variables (endogenous and exogenous), concomitantly controlling error (Kline, 2005).

In the path model proposed in this study, we intended to examine whether early experiences of warmth and safeness with attachment figures and with peers would predict eating psychopathology's severity, with indirect effects mediated by external shame and perfectionistic self-presentation of body image. Thus, early experiences of warmth and safeness with attachment figures and with peers were considered as exogenous variables; external shame and perfectionistic self-presentation of body image were hypothesized as endogenous mediator variables, and eating psychopathology as endogenous variable. The Maximum Likelihood the method used for the estimation of the regression coefficients and fit statistics. Additionally, a set of goodness-of-fit indices were used to examine the adequacy of the model to the empirical data. Resorting to the Bootstrap resampling procedure the significance of the paths was also examined, with 5000 samples, and 95% bias-corrected confidence intervals (CI) around the standardized estimates of total, direct and indirect effects.

3. Results

3.1. Preliminary analyses

The analysis of Skewness and Kurtosis values seems to confirm the assumption of normality of the distribution of the variables in study (Kline, 1998). The suitability of the data is indicated by preliminary analyses, pointing to linearity, independence of errors, normality, homocedasticity, as well as to the singularity and absence of multicollinearity among the variables (Field, 2004).

3.2. Descriptive analyses

The descriptive statistics referring to the variables in study are presented for the total sample ($N = 361$) on Table 1.

Table 1

Means (M), Standard Deviations (SD), and Intercorrelation scores on self-report measures (N=361)

Measures	M	SD	1	2	3	4
1. EMWSS	65.87	17.06	1	-	-	-
2. EMWSS_peers	62.43	18.14	.57***	1	-	-
3. OAS	21.13	11.17	-.45***	-.50***	1	-
4. PSPS_BI	77.50	23.32	-.24***	-.32***	.52***	1
5. EDE_Q	1.32	1.17	-.22***	-.30***	.51***	.68***

Note: EMWSS = Early Memories of Warmth and Safeness Scale; EMWSS_peers = Early Memories of Warmth and Safeness Scale - Peer version; OAS = Other As Shamer; PSPS_BI = Perfectionistic Self-Presentation Scale – Body Image; EDE_Q = Eating Disorder Examination Questionnaire

*** $p < .001$

3.3. Correlations

Results demonstrated that both early memories of warmth and safeness with attachment figures (EMWSS) and early memories of warmth and safeness with peers (EMWSS_peers) presented negative associations (with moderate and strong magnitudes, respectively) with external shame (OAS), weak and moderate negative associations with perfectionistic self-presentation of body image (PSPS-BI), and weak and moderate correlations with eating psychopathology's severity (EDE-Q). Moreover, results showed that the OAS presented positive and strong correlations with PSPS-BI and EDE-Q. Also a positive and strong relationship was found between PSPS-BI and EDE-Q. (Table 1).

Additionally, a partial correlation analysis controlling for Body Mass Index (BMI) was conducted. Results showed that both the direction and magnitude of the correlations of the variables in study remained similar and therefore BMI was not included in later analyses.

3.4. Path Analysis

The goal of path analysis was to test of whether external shame and perfectionistic self-presentation of body image mediate the effects of early memories of warmth and safeness with attachment figures and with peers, on eating psychopathology severity.

The theoretical model was tested through a saturated model, that is, with zero degrees of freedom, which contained 30 parameters.

The initial model explained 49% of the eating psychopathology's variance. In this model, the following paths were not significant: the direct effect of early memories of warmth and safeness with peers on eating psychopathology ($b_{EMWSS_peers} = -.002$; $SE_b = .003$; $Z = -.523$; $p = .601$) and on perfectionist self-presentation of body image ($b_{EMWSS_peers} = -.111$; $SE_b = .066$; $Z = -1.675$; $p = .094$); the direct effect of early memories of warmth and safeness with figures of attachment on eating psychopathology ($b_{EMWSS_total} = -.001$; $SE_b = .003$; $Z = .394$; $p = .694$) and on perfectionist self-presentation of body image ($b_{EMWSS_total} = .051$; $SE_b = .077$; $Z = .659$; $p = .510$). In the face of these results, these paths were eliminated and the model was readjusted (Figure 1).

The new model presented an excellent fit with a non-significant chi-square [$\chi^2_{(4)} = 3.657$; $p = .914$]. Different well-known and recommended fit indices were also used to assess the quality of fit of the model (Kline, 2005); these indices indicated that the model presented an excellent fit to the empirical data (CMIN/DF = .914; CFI = 1.000; TLI = 1.000; RMSEA = .000, $p = .790$, IC = .000 - .077).

In Figure 1, the final model is presented with standardized estimations of the regression coefficients and the R^2 of external shame, perfectionistic self-presentation of body image and the index of severity of eating psychopathology.

As it can be observed, this model explains 49% of the variability of eating psychopathology. Simultaneously, 29% of external shame is explained by the EMWSS and

the EMWSS_peers; and 27% of perfectionist self-report of body image is explained by the effect of the EMWSS and EMWSS_peers through external shame.

Early memories of warmth and safeness with the attachment figures predicted external shame, with a direct effect of -.25 ($b_{EMWSS_total} = -.162$; $SE_b = .036$; $Z = -4.558$; $p < .001$). Early memories of warmth and safeness with peers also predicted external shame, with a direct effect of -.35 ($b_{EMWSS_peers} = -.218$; $SE_b = .033$; $Z = -6.543$; $p < .001$). In turn, external shame had a direct effect of .52 on the perfectionist self-presentation of body image ($b_{OAS} = 1.189$; $SE_b = .094$; $Z = 11.611$; $p < .001$) and of .21 on the severity of eating psychopathology ($b_{OAS} = .022$; $SE_b = .005$; $Z = 4.753$; $p = <.001$). It was also verified that perfectionist self-presentation of body image had a direct effect of .57 on eating psychopathology ($b_{PSPS-BI} = .028$; $SE_b = .002$; $Z = 12.972$; $p < .001$).

The analysis of the indirect effects revealed that early memories of warmth and safeness with the attachment figures as well as with peers presented indirect effects through external shame on the perfectionist self-presentation of body image, of -.13 (95% CI = -.20 -- .07) and -.19 (95% CI = -.25 -- -.12), respectively. The EMWSS and EMWSS_peers also presented indirect effects in eating psychopathology, of -.13 (95% CI = -.19 -- -.06) and -.18 (95% CI = -.25 -- -.11), respectively, which were totally explained by external shame and by the perfectionist self-presentation of body image. Results also demonstrated that external shame presented an indirect effect of -.30 (95% IC = .24 - .36) on eating psychopathology which was partially mediated through the perfectionist self-presentation of body image. Overall, the model account for 49% of eating psychopathology severity and revealed that external shame and body image-related perfectionistic self-presentation totally mediate the impact of early memories of warmth and safeness with attachment figures and with peers on eating psychopathology.

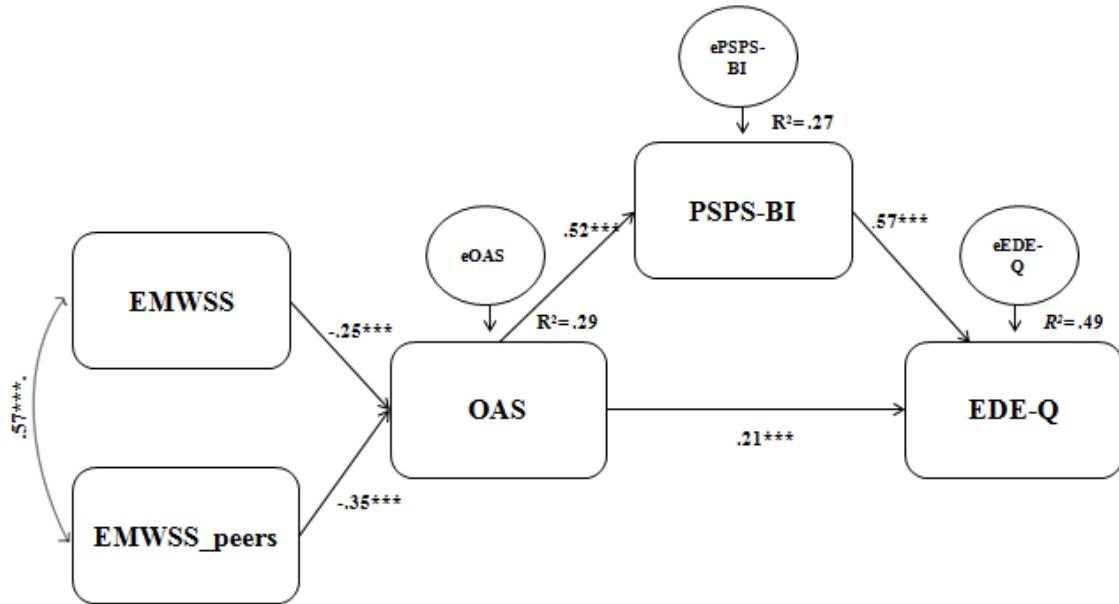


Figure 1. Final path model. *Note:* Standardized path coefficients among variables are presented. All path coefficients among variables are presented. All path coefficients are significant at the 0.5 level; *** $p < .001$
 EMWSS = Early Memories of Warmth and Safeness Scale; EMWSS_peers = Early Memories of Warmth and Safeness Scale - Peer version; OAS = Other As Shamer; PSPS_BI = Perfectionistic Self-Presentation Scale – Body Image; EDE_Q = Eating Disorder Examination Questionnaire.

4. Discussion

This study presents an integrative model to explain the link between early memories of warmth and safeness and eating psychopathology severity, in a sample of 361 female college students. In accordance to the literature (e.g., Cunha et al., 2012; Gee & Troop, 2003; Pinto-Gouveia et al., 2014), it was hypothesized that external shame and body image-related perfectionistic self-presentation mediate the negative impact of the absence of early memories of warmth and safeness, both with attachment figures and with peers, on the engagement on disordered eating behaviors and attitudes.

The tested model showed an excellent fit to the empirical data, explaining 49% of the variance of eating psychopathology and confirming our hypotheses. Furthermore, it was also revealed that 29% of external shame was explained by early memories of warmth and safeness with attachment figures and with peers, and that 27% of perfectionistic self-

presentation of body image was explained by the lack of these affiliative memories through increased levels of external shame.

More specifically, data seemed to show that the absence of early memories of warmth and safeness presented a negative effect on eating psychopathology severity, which goes in line with preceding literature regarding the impact of affiliative memories on psychopathology (Cheng & Furnham, 2004; DeHart et al., 2006; Mikulincer & Shaver, 2004). These findings further extend previous research by exploring the role of these memories specifically on disordered eating. Also, the present study adds new data suggesting the importance of affiliative memories with peers (e.g., friends and colleagues) in childhood and adolescence on the later vulnerability to present higher levels of shame, perfectionistic self-presentation focused on body image and disordered eating. In fact, this is the first study that explores the role of both early memories with attachment figures and with peers in these outcomes.

Furthermore, another important contribution of the present study seems to be the suggestion that the relationship between early affiliative memories and eating psychopathology is mediated by the negative effect of external shame and by the endorsement of compensatory perfectionistic strategies (such as striving to present a perfect body image) aiming to cope with feelings of inferiority and unattractiveness. In fact, our findings seem to indicate that the perception that others see the self negatively (i.e., external shame) may trigger the striving to present a perfect body image which seem to promote pathological eating behaviors and attitudes. In other words, these findings seem to corroborate that the lack of early affiliative memories may activate the threat system (e.g., Caciopo et al., 2000; Porges, 2003, 2007) associated with adverse experiences (such as shame), which may lead to the adoption of perfectionistic strategies towards body image in order to assure acceptance and belonging in the group (Ferreira, Trindade, et al., 2015). In

turn, these maladaptive strategies can have paradoxical effects fueling heightened concern and control about body shape and weight and consequently the adoption of disordered eating behaviors.

The results present in this study should be interpreted in the light some limitations. Firstly, the cross-sectional nature of this investigation does not allow the inference of causal relationships between the variables. Furthermore, another limitation lies on the use of self-report measures that may be susceptible to biases. Thus, future research should focus on the development of studies with longitudinal designs and with the inclusion of another assessment methods, such as interviews, in order to confirm this paper's findings. In addition, the use of a sample exclusively composed of college female students does not allow the generalization of the results for other populations; therefore, future work should test our hypotheses in samples of women from the general population or clinical populations, for example. Nevertheless, the present study offers new empirical data that may be relevant for research and for the development of intervention programs. In fact, intervention programs in the community (namely with female college students) aiming to target body image and eating difficulties should promote adaptive emotion regulation strategies (e.g., self-compassion, acceptance) to deal with adverse internal events.

5. References

- Arbuckle, J. L. (2006). Amos (Version 7.0) [Computer Program]. Chicago: SPSS.
- Baldwin, M. W., & Dandeneau, S. D. (2005). Understanding and modifying the relational schemas underlying insecurity. In M. W. Baldwin (Ed.), *Interpersonal cognition* (pp. 33-61). New York: Guilford Press.
- Bardone-Cone, A. M., Wonderlich, S. A., Frost, R. O., Bulik C. M., Mitchell J. E., Uppala, S., & Simonich, H. (2007). Perfectionism and eating disorders: Current status and future directions. *Clinical Psychology Review*, 27(3), 384-405. doi:10.1016/j.cpr.2006.12.005
- Bifulco, A., Moran, P. (1998). *Wednesday's child: Research into women's experience of neglect and abuse in childhood, and adult depression*. London: Routledge.
- Bowlby, J. (1988). *A secure base: Parent-child attachment and healthy human development*. New York: Basic Books.
- Brewin, C. (2006). Understanding cognitive behaviour therapy: A retrieval competition account. *Behaviour Research and Therapy*, 44(6), 765-784. doi: 10.1016/j.brat.2006.02.005
- Brewin, C., Andrews, B., & Gotlib, I. (1993). Psychopathology and early experience: A reappraisal of retrospective reports. *Psychological Bulletin*, 113(1), 82-98. doi: 10.1037/0033-2909.113.1.82
- Cacioppo, J. T., Berston, G. G., Sheridan, J.F., & McClintock, M. K. (2000). Multilevel integrative analysis of human behavior: Social neuroscience and the complementing nature of social and biological approaches. *Psychological Bulletin*, 126(6), 829-843. doi: 10.1037/0033-2909.126.6.829

Cheng, H., & Furnham, A. (2004). Perceived parental rearing style, self-esteem and self-criticism as predictors of happiness. *Journal of Happiness Studies*, 5 (1), 1-21.

Cockell, S. J., Hewitt, P. L., Seal, B., Sherry, S., Goldner, E. M., Flett, G. L., & Remick, A. (2002). Trait and self-presentational dimensions of perfectionism among women with anorexia nervosa. *Cognitive Therapy and Research*, 26(6), 745-758. doi: 10.1023/A:1021237416366.

Cohen, J., Cohen, P., West, S. G., & Aiken, L. S. (2003). *Applied multiple regression/correlation analysis for the behavioral sciences* (3rd Edition ed.). Hillsdale: Erlbaum.

Cunha, M., Matos, M., Faria, D., & Zagalo, S. (2012). Shame memories and psychopathology in adolescence: the mediator effect of shame. *International Journal of Psychology and Psychological Therapy*, 12(2), 203-218.

DeHart, T., Peham, B. W., & Tennen, H. (2006). What lies beneath: Parenting style and implicit self-esteem. *Journal of Experimental Social Psychology*, 42(1), 1-17. doi: 10.1016/j.jesp.2004.12.005

Dunlop, R., Burns, A., & Bermingham, S. (2001). Parent-child relations and adolescent self-image following divorce: A 10 year study. *Journal of Youth and Adolescence*, 30(2), 117-134. doi: 10.1023/A:1010389923248

Fairburn, C. G., & Beglin, S.J. (1994). Assessment of eating disorders: Interview of self-report questionnaire? *International Journal of Eating Disorders*, 16(4), 363-370. doi: 10.1002/1098-108X(199412)

Ferreira, C., Duarte, C., Pinto-Gouveia, J., & Lopes, C. (2015). *The need to present a perfect body image and its impacts on disordered eating*. Manuscript under review

Ferreira, C., Matos, M., Cunha, M., Duarte, C., & Pinto-Gouveia, J. (2014). *Development and validation studies of early memories of warmth and safeness with peers*. Manuscript in preparation.

Ferreira, C., Pinto Gouveia, J., & Duarte, C. (2013). Drive for thinness as a women's strategy to avoid inferiority. *International Journal of Psychology and Psychological Therapy*, 13(1), 15- 29.

Ferreira, C., Trindade, I. A., & Ornelas, L. (2015). Exploring drive for thinness as a perfectionistic strategy to escape from shame experiences. *The Spanish journal of psychology*, 18. doi:10.1017/sjp.2015.27.

Field, A. (2004). *Discovering statistics using SPSS* (3th ed.). London: Sage Publications.

Gee, A., & Troop, N. N. (2003). Shame, depressive symptoms and eating weight and shape concerns in a nonclinical sample. *Eating and Weight Disorders*, 8(1), 72–75. doi: 10.1007/BF03324992

Gerhardt, S. (2004). *Why Love Matters. How Affection Shapes a Baby´s Brain*. London: Bruner-Routledge.

Gilbert, P. (1998). What is shame? Some core issues and controversies. In P. Gilbert & B. Andrews (Eds.), *Shame: Interpersonal behavior, psychopathology and culture* (pp. 3–38). New York: Oxford University Press.

Gilbert, P. (2000). The relationship of shame, social anxiety and depression. The role of the evaluation of social rank. *Clinical Psychology and Psychotherapy*, 7(3), 174-189. doi: 10.1002/1099-0879(200007)7:3<174::AID-CPP236>3.0.CO;2-U

Gilbert, P. (2002). Body shame: A biopsychosocial conceptualization and overview, with treatment implications. In P. Gilbert, & Miles (Eds.), *Body shame: Conceptualisation, research and treatment* (pp. 3-54). New York: Brunner Routledge

Gilbert, P., & Irons, C. (2008). Shame, self-criticism, and self-compassion in adolescence. In N. B. Allan & L. B. Sheeber (Ed.), *Adolescence Emotional Development and the Emergence of Depressive Disorders* (pp. 195-214). London: Cambridge University Press.

Gilbert, P., Allan, S., & Goss, K. (1996). Parental representations, shame, interpersonal problems, and vulnerability to psychopathology. *Clinical Psychology and Psychotherapy*, 3(1), 23-34. doi: 10.1002/(SICI)1099-0879(199603)3:1<23::AID-CPP66>3.3.CO;2-F

Gilbert, P., Baldwin, W. M., Irons, C., Baccus, R. J., & Palmer, M. (2006). Self-Criticism and Self-Warmth: An Imagery Study Exploring Their Relation to Depression. *Journal of Cognition Psychotherapy. An International Quarterly*, 20(2), 183-200. doi: 10.1891/jcop.20.2.183

Goss, K., Gilbert, P. & Allan, S. (1994). An exploration of shame measures: I: The 'other as shamer' scale. *Personality and Individual Differences*, 17(5), 713-717. doi: 10.1016/0191-8869(94)90149-X

Grabhorn, R., Stenner, H., Stangier, U., & Kaufhold, J. (2006). Social anxiety in anorexia and bulimia nervosa: The mediating role of shame. *Clinical Psychology and Psychotherapy*, 13(1), 12-19. doi: 10.1002/cpp.463

Hewitt, P. L., Flett, G. L & Ediger, E. (1995). Perfectionism trait and perfectionistic self-presentation in eating disorder attitudes, characteristics and symptoms. *International Journal of Eating Disorders*, 18(4), 317-326. doi: 10.1002/1098-108X(199512)18:4<317::AID-EAT2260180404>3.0.CO;2-2

- Hewitt, P. L., Flett, G. L., Sherry, S. B., Habke, M., Parkin, M., Lam, R. W., McMurtry, B., Ediger, E., Stein, M., Fairlie, P. (2003). The interpersonal expression of perfectionism: Perfectionistic self-presentation and psychological distress. *Journal of Personality and Social Psychology*, 84(6), 1303-1325. doi: 10.1037/0022-3514.84.6.1303.
- Irons, C., & Gilbert, P. (2005). Evolved mechanisms in adolescence anxiety and depression symptoms: The role of attachment and social rank systems. *Journal of adolescence*, 28(3), 325-341. doi: 10.1016/j.adolescence.2004.07.004
- Kline, R. (1998). *Principles and Practice of Structural Equation Modeling* (2nd Edition ed.). New York: The Guilford Press.
- Kline, R. (2005). *Principles and Practice of Structural Equation Modeling* (2nd ed.). New York: Guilford.
- Lewis, M. (1992). *Shame: The exposed self*. New York: The Free Press.
- Lewis, M. (1995). Self-conscious emotions. *American Scientists*, 83, 68-78.
- Macedo, A., Soares, M. J., Azevedo, M. H., Gomes, A., Pereira, A. T., Maia, B., & Pato, M. (2007). Perfectionism and Eating Attitudes in Portuguese University Students. *European Eating Disorders Review*, 15(4), 296-304. doi: 10.1002/erv.735
- Machado, P. P., Martins, C., Vaz, A. R., Conceição, E., Bastos, A.P., Gonçalves, S. (2014). Eating disorder Examination questionnaire: psychometric properties and norms for the Portuguese population. *European Eating Disorders Review*, 22(6). 448-453. doi: 10.1002/erv.2318.
- MacKinnon, D. P. (2008). *Introduction to Statistical Mediation Analysis*. Mahwah, NJ: Erlbaum.

Martin, P. (2006). *Making happy people: the nature of happiness and its origins in childhood*. London: Fourth Estate.

Masten, A. S. (2001). Ordinary Magic: Resilience processes in development. *American Psychologist*, 56(3), 227-238. doi: 10.1037/0003-066X.56.3.227

Matos, M., Pinto-Gouveia, J., & Duarte, C. (2011). *Other as Shamer: Versão Portuguesa e propriedades psicométricas de uma medida de vergonha externa*. Manuscript submitted for publication.

Matos, M., Pinto-Gouveia, J., & Duarte, C. (2015). *Psychometric properties of the Portuguese version of the Early Memories of Warmth and Safeness Scale*. Manuscript in preparation.

McGee, B. J., Hewitt, P. L., Sherry, S. B., Parkin, M., & Flett, G. L. (2005). Perfectionistic self-presentation, body image, and eating disorder symptoms. *Body Image*, 2(1), 29-40. doi: 10.1016/j.bodyim.2005.01.00.

Mikulincer, M., & Shaver, P. R (2004). Security-based self-representations in adulthood: Contents and processes. In N.S. Rholes, & J.A. Simpson (Eds.), *Adult attachment: Theory, research, and clinical implications*. (pp. 159-195). New York: Guilford.

Mikulincer, M., & Shaver, P. R (2005). Mental representation and attachment security. In M. W. Baldwin (Ed.), *Interpersonal cognition* (pp. 233-266). New York: Guilford press.

Murray, C., Waller, G., Legg, C. (2000). Family dysfunction and bulimic psychopathology: The mediating role of shame. *International Journal of Eating Disorders*, 28(1), 84-89. doi: 10.1002/(SICI)1098-108X(200007)28:1<84::AID-EAT10>3.0.CO;2-R

Nathanson, D. L (1996). Knowing Feeling. Affect, Script and Psychotherapy. In D.L. Nathanson (Ed.), *About Emotion* (pp. 1-21). New York: W. W. Norton & Company.

Peterson, J. (2003). An argument for proactive attention to affective concerns of gifted adolescents. *The Journal of Secondary Gifted Education*, 14(2), 62-70

Pinto Gouveia, J., & Matos, M. (2011). Can shame memories become a key to identity? The centrality of shame memories predicts psychopathology. *Applied Cognitive Psychology*, 25, 281-290. doi: 10.1002/acp1689.

Pinto-Gouveia, J., Ferreira, C., & Duarte, C. (2014). Thinness in the pursuit for social safeness: an integrative model of social rank mentality to explain eating psychopathology. *Clinical psychology and psychotherapy*, 21(2), 154 - 165. doi: 10.1002/cpp.1820

Porges, S. (2003). The polyvagal theory: phylogenetic contributions to social behavior. *Physiology & Behavior*, 79(3), 503-513. doi:10.1016/S0031-9384(03)00156-2

Porges, S. (2007). The polyvagal perspective. *Biological Psychology*, 74(2), 116-143. doi:10.1016/j.biopspsycho.2006.06.009.

Richter, A., Gilbert, P., & McEwan, K. (2009). Development of an early memories of warmth and safeness scale and its relationship to psychopathology. *Psychology and Psychotherapy: Theory, Research and Practice*, 82(2), 171-184. doi: 10.1348/147608308X395213

Schore, A. (1994). *Affect regulation and the origin of the self: The neurobiology of emotional development*. Hillsdale, N. J: Erlbaum.

Steele, A.L., O'Shea, A., Murdock, A., Wade, T, D. (2011). Perfectionism and its relation to overvaluation of weight and shape and depression in an eating disorder sample. *International Journal of Eating Disorders*, 44(5), 459-464. doi: 10.1002/eat.20817

- Strahan, E. J., Wilson, A. E., Cressman, K. E., & Buote, V. M. (2006). Comparing to perfection: How cultural norms for appearance affect social comparisons and self image. *Body Image*, 3(3), 211-227. doi: 10.1016/j.bodyim.2006.07.004.
- Swan, S., & Andrews, B. (2003). The relationship between shame, eating disorders and disclosure in treatment. *British Journal of Clinical Psychology*, 42(4), 367-378. doi: 10.1348/014466503322528919
- Tangney, J. P., & Dearing, R. L. (2002). *Shame and Guilt*. New York: Guilford Press.
- Vertanian, L.R., Smyth, J.M., Zawadzki, M.J., Heron, K.E., & Coleman, S.R. (2014). Early adversity, personal resources, body dissatisfaction, and disordered eating. *International Journal of Eating Disorders*, 47(6). doi: 10.1002/eat.22313
- WHO (1995). Physical status: the use and interpretation of anthropometry. Reports of a WHO Expert Committee. *WHO Technical Report series 854*. Geneva: World Health Organization

Anexos

A

Guia para autores da Revista Análise Psicológica

NORMAS DE PUBLICAÇÃO

ANÁLISE PSICOLÓGICA

A revista **Análise Psicológica** publica artigos e notas de investigação, revisão ou discussão teórica, nos domínios da Psicologia e das outras ciências sociais, humanas e do comportamento.

Os artigos recebidos estão sujeitos à apreciação do Conselho de Redacção. A Revista não se responsabiliza pela devolução de artigos não solicitados. O conteúdo dos artigos é da responsabilidade dos autores.

Os originais devem ser dactilografados a dois espaços com margens amplas, em folhas brancas normalizadas (tipo A4), devidamente numeradas e não deverão exceder as 30 páginas. A primeira página deve conter apenas o título do artigo, o nome do autor ou autores e os respectivos endereços profissionais. As notas de investigação e didácticas seguem o modelo dos artigos, mas não devem exceder as 6 páginas.

Os artigos devem ser acompanhados de resumos em português e inglês, que não devem exceder as 200 palavras. Devem ainda ser indicadas entre 3 e 5 palavras-chave que facilitem a indexação do artigo.

Os artigos devem ser escritos segundo as recomendações feitas pela APA (Publication Manual of the American Psychological Association, edição de 2001) relativamente à sua edição, referências e citações.

As notas de fim de página devem ser evitadas. É igualmente de evitar o uso de itálico, mas as palavras em que esse formato seja indispensável devem ser sublinhadas no original.

Os quadros e figuras deverão ser usados apenas se contribuírem fortemente para a clarificação ou encurtamento do texto. Devem ser apresentados em folhas separadas, devidamente numerados, e acompanhados de breves legendas. A sua localização no texto deve ser claramente indicada. As figuras devem possuir elevada qualidade gráfica (*.jpg ou

*.tif), de modo a permitir a sua reprodução sem perda apreciável de nitidez, e a sua eventual redução.

As provas tipográficas poderão ser revistas pelos autores, que não podem, em caso algum, acrescentar ou alterar o texto original. As provas corrigidas devem ser devolvidas no prazo máximo de 8 dias.

Os artigos e notas para publicação, assim como notícias de reuniões científicas ou outros acontecimentos de relevo para a Psicologia, e as obras para recensão, deverão ser enviadas para **analise.psicologica@ispa.pt**

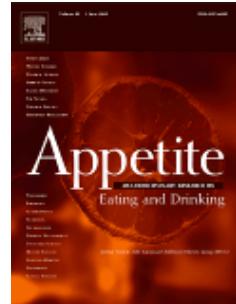
B

Guia para autores da Appetite



TABLE OF CONTENTS

● Description	p.1
● Audience	p.1
● Impact Factor	p.1
● Abstracting and Indexing	p.2
● Editorial Board	p.2
● Guide for Authors	p.4



ISSN: 0195-6663

DESCRIPTION

Appetite is an international research journal specializing in **behavioural nutrition** and the **cultural, sensory, and physiological influences** on choices and intakes of foods and drinks. It covers normal and **disordered eating** and drinking, **dietary attitudes** and practices and all aspects of the bases of human and animal behaviour toward food.

The journal also carries abstracts from major meetings in the social science, psychology or neuroscience of food consumption, including the [Association for the Study of Food in Society](#), the [Society for the Study of Ingestive Behavior](#), and conferences on Food Choice.

Research Areas Include:

- Preventive, experimental and clinical nutrition
- Eating disorders
- Sensory evaluation of foods
- Food attitudes and marketing
- Ethnography of food habits
- Psychology of ingestion
- Zoology of foraging
- Neuroscience of feeding and drinking

Benefits to authors

We also provide many author benefits, such as free PDFs, a liberal copyright policy, special discounts on Elsevier publications and much more. Please click here for more information on our [author services](#).

Please see our [Guide for Authors](#) for information on article submission. If you require any further information or help, please visit our support pages: <http://support.elsevier.com>

AUDIENCE

Psychology, Social Research, Neuroscience, Physiology, Nutrition, Sensory Food Science

IMPACT FACTOR

2013: 2.520 © Thomson Reuters Journal Citation Reports 2014

ABSTRACTING AND INDEXING

Scopus

EDITORIAL BOARD

Executive Editors

- P. Atkins**, Durham University, Durham, UK
N.W. Bond, University of Western Sydney, Penrith, New South Wales, Australia
C. Collins, The University of Newcastle, Callaghan, New South Wales, Australia
C. Davis, York University, Toronto, Ontario, Canada
J.O. Fisher, Temple University, Philadelphia, Pennsylvania, USA
N. Geary
M. Hetherington, University of Leeds, Leeds, UK
S. Higgs, University of Birmingham, Birmingham, UK
Editor
D. Hoffman, Rutgers University, New Brunswick, New Jersey, USA
A. Jansen, University of Maastricht, Maastricht, Netherlands
K. Keller, Pennsylvania State University, University Park, Pennsylvania, USA
L. Lähteenmäki, Aarhus University, Aarhus V, Denmark
H. Raynor, PhD, RD, LDN, University of Tennessee, Knoxville, Tennessee, USA
P. Scholliers, Vrije Universiteit Brussel (VUB), Bruxelles, Belgium
M. Siegrist, Eidgenössische Technische Hochschule (ETH) Zürich, Zurich, Switzerland
N. Zucker, Duke University Medical Center, Durham, North Carolina, USA

Advisory Editors

- W.S. Agras**, Stanford University School of Medicine, Stanford, California, USA
A.S. Anderson, University of Dundee, Dundee, UK
T. Baranowski, PhD, Baylor College of Medicine, Houston, Texas, USA
G.K. Beauchamp, Monell Chemical Senses Center, Philadelphia, Pennsylvania, USA
J. Blissett, University of Birmingham, Birmingham, England, UK
B.J. Cowart, Monell-Jefferson Taste & Smell Clinic, Philadelphia, USA
I. de Garine, Maison Pargade, Paris, France
J.T. Dwyer, Tufts University School of Medicine, Boston, Massachusetts, USA
C. Fischler, Centre National de la Recherche Scientifique (CNRS), Paris, France
M.I. Friedman, Monell Chemical Senses Center, Philadelphia, Pennsylvania, USA
B.G. Galef, McMaster University, Hamilton, Ontario, Canada
S. Garattini, Mario Negri Istituto di Ricerche Farmacologiche IRCCS), Milan, Italy
K.G. Grunert, MAPP Research Center, AARHUS V, Denmark
C.P. Herman, University of Toronto, Toronto, Canada
H. Kissileff, Obesity Research Center, New York, New York, USA
T. Kral, University of Pennsylvania, Pennsylvania, USA
D.G. Laing, University of Western Sydney, Richmond, New South Wales, Australia
W. Langhans
L. Lenard, University of Pécs (Pécs Tudományegyetem), Pecs, Hungary
H. Meiselman
S. Nicolaïdis, Institut Europeen SGCA, Bourg-la-Reine, France
M. Pelchat, Monell Chemical Senses Center, Philadelphia, Pennsylvania, USA
P. Pliner, University of Toronto, Toronto, Canada
B. Popkin, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina, USA
F.D. Provenza, Utah State University, Logan, Utah, USA
M.M. Reicks, PhD, RD, University of Minnesota, Minneapolis-St. Paul, Minnesota, USA
A. Roefs, University of Maastricht, Maastricht, Netherlands
B.J. Rolls, Pennsylvania State University, University Park, Pennsylvania, USA
N.E. Rowland, University of Florida, Gainesville, Florida, USA
S-J. Salvy, The State University of New York at Buffalo, Buffalo, New York, USA
H.G. Schutz, University of California, Davis, Davis, California, USA
A. Sclafani, City University of New York (CUNY), Brooklyn, New York, USA
G.P. Smith
R. Stevenson, Macquarie University, Sydney, New South Wales, Australia
Y. Wada, National Food Research Institute, Tsukuba, Japan
A. Warde, University of Manchester, Manchester, England, UK
J. Wardle, University College London (UCL), London, England, UK
D.A. Zellner, Montclair State University, Montclair, New Jersey, USA

Founding Editor

D.A. Booth, University of Sussex, East Sussex, England, UK

GUIDE FOR AUTHORS

Your Paper Your Way

We now differentiate between the requirements for new and revised submissions. You may choose to submit your manuscript as a single Word or PDF file to be used in the refereeing process. Only when your paper is at the revision stage, will you be requested to put your paper in to a 'correct format' for acceptance and provide the items required for the publication of your article.

To find out more, please visit the Preparation section below.

INTRODUCTION

Appetite publishes the entire range of research relating to eating and drinking.

Submissions for publication should be relevant to the consumption of or attitudes to substances, or to the influences on or the consequences of such choices and appetites. Nevertheless, other matters are not excluded if they are important in a particular study.

This journal specializes in cross-disciplinary communication. Therefore, papers originating in any scholarly discipline or combination of disciplines are considered for publication, following review by peers with research expertise in the main discipline(s) involved in the submission.

Types of article

Full length papers

Full length papers including empirical reports and theoretical reviews are published. Reviews may be of any length consistent with succinct presentation, subdivided as appropriate to the subject matter.

Special Sections or Issues

Proposals for a themed collection, symposium or commentary should be sent to the Contact Editor and appetite@elsevier.com, listing provisional authors, titles and lengths of papers and suggesting Executive, Advisory or Guest Editors with a timetable for recorded peer-reviewing, revision and transmittal in the format required for publication. The reviews or reports in a special section or issue will be subject to the normal process of peer-review.

Commentary sections

Commentary sections may include a keynote paper, brief comments and reply.

Conference Abstracts

Conference Abstracts in guest-edited sets from international multidisciplinary conferences are sometimes published. All the abstracts in a set must be limited to a total word count of no more than 300 (4 per page) and formatted as a single paragraph with no subheadings. The abstract starts with the title (mostly in lower case), name(s) of author(s) (upper case) and one postal address, complete with postcode and country, followed on the same line by one stand-alone e-mail address. Any acknowledgements or references are included within the paragraph: between the cited author(s) and year can be placed the abbreviated title of the journal, volume and pages. Tables, Figures and footnotes are not allowed. A published abstract should not promise findings or discussion, nor refer to presentation at the meeting. The title of the meeting as the main title, the location and dates as a sub-title must be provided to form the heading of the set of abstracts. Any session titles, special lectures or other material must fit into the format and word count for the abstracts in that set.

Please note that questionnaires and interview protocols (in Figure form) are not published.

Contact details for submission

Authors should submit their articles electronically at: <http://ees.elsevier.com/appetite/>.

BEFORE YOU BEGIN

Ethics in publishing

For information on Ethics in publishing and Ethical guidelines for journal publication see <http://www.elsevier.com/publishingethics> and <http://www.elsevier.com/journal-authors/ethics>.

Human and animal rights

If the work involves the use of animal or human subjects, the author should ensure that the work described has been carried out in accordance with The Code of Ethics of the World Medical Association (Declaration of Helsinki) for experiments involving humans <http://www.wma.net/en/30publications/10policies/b3/index.html>; EU Directive 2010/63/EU for animal experiments http://ec.europa.eu/environment/chemicals/lab_animals/legislation_en.htm; Uniform Requirements for manuscripts submitted to Biomedical journals <http://www.icmje.org>. Authors should include a statement in the manuscript that informed consent was obtained for experimentation with human subjects. The privacy rights of human subjects must always be observed.

Conflict of interest

All authors are requested to disclose any actual or potential conflict of interest including any financial, personal or other relationships with other people or organizations within three years of beginning the submitted work that could inappropriately influence, or be perceived to influence, their work. See also <http://www.elsevier.com/conflictsofinterest>. Further information and an example of a Conflict of Interest form can be found at: http://help.elsevier.com/app/answers/detail/a_id/286/p/7923.

Submission declaration

Submission of an article implies that the work described has not been published previously (except in the form of an abstract or as part of a published lecture or academic thesis or as an electronic preprint, see <http://www.elsevier.com/sharingpolicy>), that it is not under consideration for publication elsewhere, that its publication is approved by all authors and tacitly or explicitly by the responsible authorities where the work was carried out, and that, if accepted, it will not be published elsewhere including electronically in the same form, in English or in any other language, without the written consent of the copyright-holder.

Authors are requested to declare if their work has been peer-reviewed previously, and if so they are encouraged to supply along with their manuscript files their responses to previous review comments.

Changes to authorship

This policy concerns the addition, deletion, or rearrangement of author names in the authorship of accepted manuscripts:

Before the accepted manuscript is published in an online issue: Requests to add or remove an author, or to rearrange the author names, must be sent to the Journal Manager from the corresponding author of the accepted manuscript and must include: (a) the reason the name should be added or removed, or the author names rearranged and (b) written confirmation (e-mail, fax, letter) from all authors that they agree with the addition, removal or rearrangement. In the case of addition or removal of authors, this includes confirmation from the author being added or removed. Requests that are not sent by the corresponding author will be forwarded by the Journal Manager to the corresponding author, who must follow the procedure as described above. Note that: (1) Journal Managers will inform the Journal Editors of any such requests and (2) publication of the accepted manuscript in an online issue is suspended until authorship has been agreed.

After the accepted manuscript is published in an online issue: Any requests to add, delete, or rearrange author names in an article published in an online issue will follow the same policies as noted above and result in a corrigendum.

Copyright

Upon acceptance of an article, authors will be asked to complete a 'Journal Publishing Agreement' (for more information on this and copyright, see <http://www.elsevier.com/copyright>). An e-mail will be sent to the corresponding author confirming receipt of the manuscript together with a 'Journal Publishing Agreement' form or a link to the online version of this agreement.

Subscribers may reproduce tables of contents or prepare lists of articles including abstracts for internal circulation within their institutions. Permission of the Publisher is required for resale or distribution outside the institution and for all other derivative works, including compilations and translations (please consult <http://www.elsevier.com/permissions>). If excerpts from other copyrighted works are included, the author(s) must obtain written permission from the copyright owners and credit the source(s) in the article. Elsevier has preprinted forms for use by authors in these cases: please consult <http://www.elsevier.com/permissions>.

For open access articles: Upon acceptance of an article, authors will be asked to complete an 'Exclusive License Agreement' (for more information see <http://www.elsevier.com/OAauthoragreement>). Permitted third party reuse of open access articles is determined by the author's choice of user license (see <http://www.elsevier.com/openaccesslicenses>).

Author rights

As an author you (or your employer or institution) have certain rights to reuse your work. For more information see <http://www.elsevier.com/copyright>.

Role of the funding source

You are requested to identify who provided financial support for the conduct of the research and/or preparation of the article and to briefly describe the role of the sponsor(s), if any, in study design; in the collection, analysis and interpretation of data; in the writing of the report; and in the decision to submit the article for publication. If the funding source(s) had no such involvement then this should be stated.

Funding body agreements and policies

Elsevier has established a number of agreements with funding bodies which allow authors to comply with their funder's open access policies. Some authors may also be reimbursed for associated publication fees. To learn more about existing agreements please visit <http://www.elsevier.com/fundingbodies>.

Open access

This journal offers authors a choice in publishing their research:

Open access

- Articles are freely available to both subscribers and the wider public with permitted reuse
- An open access publication fee is payable by authors or on their behalf e.g. by their research funder or institution

Subscription

- Articles are made available to subscribers as well as developing countries and patient groups through our universal access programs (<http://www.elsevier.com/access>).
- No open access publication fee payable by authors.

Regardless of how you choose to publish your article, the journal will apply the same peer review criteria and acceptance standards.

For open access articles, permitted third party (re)use is defined by the following Creative Commons user licenses:

Creative Commons Attribution (CC BY)

Lets others distribute and copy the article, create extracts, abstracts, and other revised versions, adaptations or derivative works of or from an article (such as a translation), include in a collective work (such as an anthology), text or data mine the article, even for commercial purposes, as long as they credit the author(s), do not represent the author as endorsing their adaptation of the article, and do not modify the article in such a way as to damage the author's honor or reputation.

Creative Commons Attribution-NonCommercial-NoDerivs (CC BY-NC-ND)

For non-commercial purposes, lets others distribute and copy the article, and to include in a collective work (such as an anthology), as long as they credit the author(s) and provided they do not alter or modify the article.

The open access publication fee for this journal is **USD 2200**, excluding taxes. Learn more about Elsevier's pricing policy: <http://www.elsevier.com/openaccesspricing>.

Language (usage and editing services)

Please write your text in good English (American or British usage is accepted, but not a mixture of these). Authors who feel their English language manuscript may require editing to eliminate possible grammatical or spelling errors and to conform to correct scientific English may wish to use the English Language Editing service available from Elsevier's WebShop (<http://webshop.elsevier.com/languageediting/>) or visit our customer support site (<http://support.elsevier.com>) for more information.

Sex and Sexuality

Appetite publishes research across the spectrum of biological to cultural influences on eating. Both sorts of influences interact with sexuality. Appetite encourages attention to these interactions. To this end, authors are asked: to use "sex" rather than "gender" to describe indicators of biological sex, including sex chromosomes, gonads, internal reproductive organs, and external genitalia, and to consider using, in addition to "male" and "female," "intersex" or "other" for combinations of these indicators that do not fit male and female; and to use appropriate terms, such as gay, lesbian, bisexual, transgender, etc., to describe subjects' sexuality if the research addresses this.

Submission

Our online submission system guides you stepwise through the process of entering your article details and uploading your files. The system converts your article files to a single PDF file used in the peer-review process. Editable files (e.g., Word, LaTeX) are required to typeset your article for final publication. All correspondence, including notification of the Editor's decision and requests for revision, is sent by e-mail.

Submit your article

Please submit your article via <http://ees.elsevier.com/appetite/>.

Referees

Please submit, with the manuscript, the names, addresses and e-mail addresses of three potential referees along with your reasons for suggesting them. Note that the editor retains the sole right to decide whether or not the suggested reviewers are used.

PREPARATION

NEW SUBMISSIONS

Submission to this journal proceeds totally online and you will be guided stepwise through the creation and uploading of your files. The system automatically converts your files to a single PDF file, which is used in the peer-review process.

As part of the Your Paper Your Way service, you may choose to submit your manuscript as a single file to be used in the refereeing process. This can be a PDF file or a Word document, in any format or layout that can be used by referees to evaluate your manuscript. It should contain high enough quality figures for refereeing. If you prefer to do so, you may still provide all or some of the source files at the initial submission. Please note that individual figure files larger than 10 MB must be uploaded separately.

Appetite has published an editorial with guidelines on design and statistics, which authors are encouraged to consult.

References

There are no strict requirements on reference formatting at submission. References can be in any style or format as long as the style is consistent. Where applicable, author(s) name(s), journal title/book title, chapter title/article title, year of publication, volume number/book chapter and the pagination must be present. Use of DOI is highly encouraged. The reference style used by the journal will be applied to the accepted article by Elsevier at the proof stage. Note that missing data will be highlighted at proof stage for the author to correct.

Formatting requirements

There are no strict formatting requirements but all manuscripts must contain the essential elements needed to convey your manuscript, for example Abstract, Keywords, Introduction, Materials and Methods, Results, Conclusions, Artwork and Tables with Captions.

If your article includes any Videos and/or other Supplementary material, this should be included in your initial submission for peer review purposes.

Divide the article into clearly defined sections.

Please ensure your paper has consecutive line numbering, this is an essential peer review requirement.

Figures and tables embedded in text

Please ensure the figures and the tables included in the single file are placed next to the relevant text in the manuscript, rather than at the bottom or the top of the file.

REVISED SUBMISSIONS

Number all the pages of the manuscript consecutively and make sure line numbers are included too.

Use of word processing software

Regardless of the file format of the original submission, at revision you must provide us with an editable file of the entire article. Keep the layout of the text as simple as possible. Most formatting codes will be removed and replaced on processing the article. The electronic text should be prepared in a way very similar to that of conventional manuscripts (see also the Guide to Publishing with Elsevier: <http://www.elsevier.com/guidepublication>). See also the section on Electronic artwork.

To avoid unnecessary errors you are strongly advised to use the 'spell-check' and 'grammar-check' functions of your word processor.

Article structure

Subdivision - unnumbered sections

Divide your article into clearly defined sections. Each subsection is given a brief heading. Each heading should appear on its own separate line. Subsections should be used as much as possible when cross-referencing text: refer to the subsection by heading as opposed to simply 'the text'.

Introduction

State the objectives of the work and provide an adequate background, avoiding a detailed literature survey or a summary of the results.

Material and methods

Provide sufficient detail to allow the work to be reproduced. Methods already published should be indicated by a reference: only relevant modifications should be described.

Results

Results should be clear and concise.

Discussion

This should explore the significance of the results of the work, not repeat them. A combined Results and Discussion section is often appropriate. Avoid extensive citations and discussion of published literature.

Conclusions

The main conclusions of the study may be presented in a short Conclusions section, which may stand alone or form a subsection of a Discussion or Results and Discussion section.

Appendices

Appendices are not encouraged. Critical details of Method should be described in that section of the manuscript.

Essential title page information

- **Title.** Concise and informative. Titles are often used in information-retrieval systems. Avoid abbreviations and formulae where possible.
- **Author names and affiliations.** Please clearly indicate the given name(s) and family name(s) of each author and check that all names are accurately spelled. Present the authors' affiliation addresses (where the actual work was done) below the names. Indicate all affiliations with a lower-case superscript letter immediately after the author's name and in front of the appropriate address. Provide the full postal address of each affiliation, including the country name and, if available, the e-mail address of each author.
- **Corresponding author.** Clearly indicate who will handle correspondence at all stages of refereeing and publication, also post-publication. **Ensure that the e-mail address is given and that contact details are kept up to date by the corresponding author.**
- **Present/permanent address.** If an author has moved since the work described in the article was done, or was visiting at the time, a 'Present address' (or 'Permanent address') may be indicated as a footnote to that author's name. The address at which the author actually did the work must be retained as the main, affiliation address. Superscript Arabic numerals are used for such footnotes.

Abstract

A concise and factual abstract is required. The abstract should state briefly the purpose of the research, the principal results and major conclusions. An abstract is often presented separately from the article, so it must be able to stand alone. For this reason, References should be avoided, but if essential, then cite the author(s) and year(s). Also, non-standard or uncommon abbreviations should be avoided, but if essential they must be defined at their first mention in the abstract itself. As per the journal style, the abstract text should not be more than 280 words (1500 characters including spaces).

Graphical abstract

Although a graphical abstract is optional, its use is encouraged as it draws more attention to the online article. The graphical abstract should summarize the contents of the article in a concise, pictorial form designed to capture the attention of a wide readership. Graphical abstracts should be submitted as a separate file in the online submission system. Image size: Please provide an image with a minimum of 531 × 1328 pixels (h × w) or proportionally more. The image should be readable at a size of 5 × 13 cm using a regular screen resolution of 96 dpi. Preferred file types: TIFF, EPS, PDF or MS Office files. See <http://www.elsevier.com/graphicalabstracts> for examples.

Authors can make use of Elsevier's Illustration and Enhancement service to ensure the best presentation of their images and in accordance with all technical requirements: [Illustration Service](#).

Highlights

Highlights are mandatory for this journal. They consist of a short collection of bullet points that convey the core findings of the article and should be submitted in a separate editable file in the online submission system. Please use 'Highlights' in the file name and include 3 to 5 bullet points (maximum 85 characters, including spaces, per bullet point). See <http://www.elsevier.com/highlights> for examples.

Keywords

Immediately after the abstract, provide a maximum of 6 keywords, using American spelling and avoiding general and plural terms and multiple concepts (avoid, for example, 'and', 'of'). Be sparing with abbreviations: only abbreviations firmly established in the field may be eligible. These keywords will be used for indexing purposes.

Abbreviations

Define abbreviations that are not standard in this field in a footnote to be placed on the first page of the article. Such abbreviations that are unavoidable in the abstract must be defined at their first mention there, as well as in the footnote. Ensure consistency of abbreviations throughout the article.

Acknowledgements

Collate acknowledgements in a separate section at the end of the article before the references and do not, therefore, include them on the title page, as a footnote to the title or otherwise. List here those individuals who provided help during the research (e.g., providing language help, writing assistance or proof reading the article, etc.).

Units

Follow internationally accepted rules and conventions: use the international system of units (SI). If other units are mentioned, please give their equivalent in SI.

Math formulae

Please submit math equations as editable text and not as images. Present simple formulae in line with normal text where possible and use the solidus (/) instead of a horizontal line for small fractional terms, e.g., X/Y. In principle, variables are to be presented in italics. Powers of e are often more conveniently denoted by exp. Number consecutively any equations that have to be displayed separately from the text (if referred to explicitly in the text).

Footnotes

Footnotes should be used sparingly. Number them consecutively throughout the article. Many word processors build footnotes into the text, and this feature may be used. Should this not be the case, indicate the position of footnotes in the text and present the footnotes themselves separately at the end of the article.

Artwork

Electronic artwork

General points

- Make sure you use uniform lettering and sizing of your original artwork.
 - Preferred fonts: Arial (or Helvetica), Times New Roman (or Times), Symbol, Courier.
 - Number the illustrations according to their sequence in the text.
 - Use a logical naming convention for your artwork files.
 - Indicate per figure if it is a single, 1.5 or 2-column fitting image.
 - For Word submissions only, you may still provide figures and their captions, and tables within a single file at the revision stage.
 - Please note that individual figure files larger than 10 MB must be provided in separate source files.
- A detailed guide on electronic artwork is available on our website:

You are urged to visit this site; some excerpts from the detailed information are given here.
Formats

Regardless of the application used, when your electronic artwork is finalized, please 'save as' or convert the images to one of the following formats (note the resolution requirements for line drawings, halftones, and line/halftone combinations given below):

EPS (or PDF): Vector drawings. Embed the font or save the text as 'graphics'.

TIFF (or JPG): Color or grayscale photographs (halftones): always use a minimum of 300 dpi.

TIFF (or JPG): Bitmapped line drawings: use a minimum of 1000 dpi.

TIFF (or JPG): Combinations bitmapped line/half-tone (color or grayscale): a minimum of 500 dpi is required.

Please do not:

- Supply files that are optimized for screen use (e.g., GIF, BMP, PICT, WPG); the resolution is too low.
- Supply files that are too low in resolution.
- Submit graphics that are disproportionately large for the content.

Color artwork

Please make sure that artwork files are in an acceptable format (TIFF (or JPEG), EPS (or PDF), or MS Office files) and with the correct resolution. If, together with your accepted article, you submit usable color figures then Elsevier will ensure, at no additional charge, that these figures will appear in color online (e.g., ScienceDirect and other sites) regardless of whether or not these illustrations are reproduced in color in the printed version. **For color reproduction in print, you will receive information regarding the costs from Elsevier after receipt of your accepted article.** Please indicate your preference for color: in print or online only. For further information on the preparation of electronic artwork, please see <http://www.elsevier.com/artworkinstructions>.

Please note: Because of technical complications that can arise by converting color figures to 'gray scale' (for the printed version should you not opt for color in print) please submit in addition usable black and white versions of all the color illustrations.

Illustration services

Elsevier's WebShop (<http://webshop.elsevier.com/illustrationservices>) offers Illustration Services to authors preparing to submit a manuscript but concerned about the quality of the images accompanying their article. Elsevier's expert illustrators can produce scientific, technical and medical-style images, as well as a full range of charts, tables and graphs. Image 'polishing' is also available, where our illustrators take your image(s) and improve them to a professional standard. Please visit the website to find out more.

Figure captions

Ensure that each illustration has a caption. A caption should comprise a brief title (**not** on the figure itself) and a description of the illustration. Keep text in the illustrations themselves to a minimum but explain all symbols and abbreviations used.

Tables

Please submit tables as editable text and not as images. Tables can be placed either next to the relevant text in the article, or on separate page(s) at the end. Number tables consecutively in accordance with their appearance in the text and place any table notes below the table body. Be sparing in the use of tables and ensure that the data presented in them do not duplicate results described elsewhere in the article. Please avoid using vertical rules.

References

Citation in text

Please ensure that every reference cited in the text is also present in the reference list (and vice versa). Any references cited in the abstract must be given in full. Unpublished results and personal communications are not recommended in the reference list, but may be mentioned in the text. If these references are included in the reference list they should follow the standard reference style of the journal and should include a substitution of the publication date with either 'Unpublished results' or 'Personal communication'. Citation of a reference as 'in press' implies that the item has been accepted for publication.

Web references

As a minimum, the full URL should be given and the date when the reference was last accessed. Any further information, if known (DOI, author names, dates, reference to a source publication, etc.), should also be given. Web references can be listed separately (e.g., after the reference list) under a different heading if desired, or can be included in the reference list.

References in a special issue

Please ensure that the words 'this issue' are added to any references in the list (and any citations in the text) to other articles in the same Special Issue.

Reference management software

Most Elsevier journals have a standard template available in key reference management packages. This covers packages using the Citation Style Language, such as Mendeley (<http://www.mendeley.com/features/reference-manager>) and also others like EndNote (<http://www.endnote.com/support/enstyles.asp>) and Reference Manager (<http://refman.com/support/rmstyles.asp>). Using plug-ins to word processing packages which are available from the above sites, authors only need to select the appropriate journal template when preparing their article and the list of references and citations to these will be formatted according to the journal style as described in this Guide. The process of including templates in these packages is constantly ongoing. If the journal you are looking for does not have a template available yet, please see the list of sample references and citations provided in this Guide to help you format these according to the journal style.

If you manage your research with Mendeley Desktop, you can easily install the reference style for this journal by clicking the link below:

<http://open.mendeley.com/use-citation-style/appetite>

When preparing your manuscript, you will then be able to select this style using the Mendeley plugins for Microsoft Word or LibreOffice. For more information about the Citation Style Language, visit <http://citationstyles.org>.

Reference formatting

There are no strict requirements on reference formatting at submission. References can be in any style or format as long as the style is consistent. Where applicable, author(s) name(s), journal title/book title, chapter title/article title, year of publication, volume number/book chapter and the pagination must be present. Use of DOI is highly encouraged. The reference style used by the journal will be applied to the accepted article by Elsevier at the proof stage. Note that missing data will be highlighted at proof stage for the author to correct. If you do wish to format the references yourself they should be arranged according to the following examples:

Reference style

Text: Citations in the text should follow the referencing style used by the American Psychological Association. You are referred to the Publication Manual of the American Psychological Association, Sixth Edition, ISBN 978-1-4338-0561-5, copies of which may be ordered from <http://books.apa.org/books.cfm?id=4200067> or APA Order Dept., P.O.B. 2710, Hyattsville, MD 20784, USA or APA, 3 Henrietta Street, London, WC3E 8LU, UK.

List: references should be arranged first alphabetically and then further sorted chronologically if necessary. More than one reference from the same author(s) in the same year must be identified by the letters 'a', 'b', 'c', etc., placed after the year of publication.

Examples:

Reference to a journal publication:

Van der Geer, J., Hanraads, J. A. J., & Lupton, R. A. (2010). The art of writing a scientific article. *Journal of Scientific Communications*, 163, 51–59.

Reference to a book:

Strunk, W., Jr., & White, E. B. (2000). *The elements of style*. (4th ed.). New York: Longman, (Chapter 4).

Reference to a chapter in an edited book:

Mettam, G. R., & Adams, L. B. (2009). How to prepare an electronic version of your article. In B. S. Jones, & R. Z. Smith (Eds.), *Introduction to the electronic age* (pp. 281–304). New York: E-Publishing Inc.

Journal abbreviations source

Journal names should be abbreviated according to the List of Title Word Abbreviations: <http://www.issn.org/services/online-services/access-to-the-ltwa/>.

Video data

Elsevier accepts video material and animation sequences to support and enhance your scientific research. Authors who have video or animation files that they wish to submit with their article are strongly encouraged to include links to these within the body of the article. This can be done in the same way as a figure or table by referring to the video or animation content and noting in the body text where it should be placed. All submitted files should be properly labeled so that they directly relate to the video file's content. In order to ensure that your video or animation material is directly usable, please provide the files in one of our recommended file formats with a preferred maximum size of 150 MB. Video and animation files supplied will be published online in the electronic version of your article in Elsevier Web products, including ScienceDirect: <http://www.sciencedirect.com>. Please supply 'stills' with your files: you can choose any frame from the video or animation or make a separate image. These will be used instead of standard icons and will personalize the link to your video data. For more detailed instructions please visit our video instruction pages at <http://www.elsevier.com/artworkinstructions>. Note: since video and animation cannot be embedded in the print version of the journal, please provide text for both the electronic and the print version for the portions of the article that refer to this content.

AudioSlides

The journal encourages authors to create an AudioSlides presentation with their published article. AudioSlides are brief, webinar-style presentations that are shown next to the online article on ScienceDirect. This gives authors the opportunity to summarize their research in their own words and to help readers understand what the paper is about. More information and examples are available at <http://www.elsevier.com/audioslides>. Authors of this journal will automatically receive an invitation e-mail to create an AudioSlides presentation after acceptance of their paper.

Supplementary material

Elsevier accepts electronic supplementary material to support and enhance your scientific research. Supplementary files offer the author additional possibilities to publish supporting applications, high-resolution images, background datasets, sound clips and more. Supplementary files supplied will be published online alongside the electronic version of your article in Elsevier Web products, including ScienceDirect: <http://www.sciencedirect.com>. In order to ensure that your submitted material is directly usable, please provide the data in one of our recommended file formats. Authors should submit the material in electronic format together with the article and supply a concise and descriptive caption for each file. For more detailed instructions please visit our artwork instruction pages at <http://www.elsevier.com/artworkinstructions>.

Database linking

Elsevier encourages authors to connect articles with external databases, giving readers access to relevant databases that help to build a better understanding of the described research. Please refer to relevant database identifiers using the following format in your article: Database: xxxx (e.g., TAIR: AT1G01020; CCDC: 734053; PDB: 1XFN). See <http://www.elsevier.com/databaselinking> for more information and a full list of supported databases.

Submission checklist

The following list will be useful during the final checking of an article prior to sending it to the journal for review. Please consult this Guide for Authors for further details of any item.

Ensure that the following items are present:

One author has been designated as the corresponding author with contact details:

- E-mail address
- Full postal address

All necessary files have been uploaded, and contain:

- Keywords
- All figure captions
- All tables (including title, description, footnotes)

Further considerations

- Manuscript has been 'spell-checked' and 'grammar-checked'
- All references mentioned in the Reference list are cited in the text, and vice versa
- Permission has been obtained for use of copyrighted material from other sources (including the Internet)

Printed version of figures (if applicable) in color or black-and-white

- Indicate clearly whether or not color or black-and-white in print is required.

- For reproduction in black-and-white, please supply black-and-white versions of the figures for printing purposes.
- For any further information please visit our customer support site at <http://support.elsevier.com>.

AFTER ACCEPTANCE

Use of the Digital Object Identifier

The Digital Object Identifier (DOI) may be used to cite and link to electronic documents. The DOI consists of a unique alpha-numeric character string which is assigned to a document by the publisher upon the initial electronic publication. The assigned DOI never changes. Therefore, it is an ideal medium for citing a document, particularly 'Articles in press' because they have not yet received their full bibliographic information. Example of a correctly given DOI (in URL format; here an article in the journal *Physics Letters B*):

<http://dx.doi.org/10.1016/j.physletb.2010.09.059>

When you use a DOI to create links to documents on the web, the DOIs are guaranteed never to change.

Proofs

One set of page proofs (as PDF files) will be sent by e-mail to the corresponding author (if we do not have an e-mail address then paper proofs will be sent by post) or, a link will be provided in the e-mail so that authors can download the files themselves. Elsevier now provides authors with PDF proofs which can be annotated; for this you will need to download Adobe Reader version 9 (or higher) available free from <http://get.adobe.com/reader>. Instructions on how to annotate PDF files will accompany the proofs (also given online). The exact system requirements are given at the Adobe site: <http://www.adobe.com/products/reader/tech-specs.html>.

If you do not wish to use the PDF annotations function, you may list the corrections (including replies to the Query Form) and return them to Elsevier in an e-mail. Please list your corrections quoting line number. If, for any reason, this is not possible, then mark the corrections and any other comments (including replies to the Query Form) on a printout of your proof and return by fax, or scan the pages and e-mail, or by post. Please use this proof only for checking the typesetting, editing, completeness and correctness of the text, tables and figures. Significant changes to the article as accepted for publication will only be considered at this stage with permission from the Editor. We will do everything possible to get your article published quickly and accurately. It is important to ensure that all corrections are sent back to us in one communication: please check carefully before replying, as inclusion of any subsequent corrections cannot be guaranteed. Proofreading is solely your responsibility.

Offprints

The corresponding author, at no cost, will be provided with a personalized link providing 50 days free access to the final published version of the article on [ScienceDirect](#). This link can also be used for sharing via email and social networks. For an extra charge, paper offprints can be ordered via the offprint order form which is sent once the article is accepted for publication. Both corresponding and co-authors may order offprints at any time via Elsevier's WebShop (<http://webshop.elsevier.com/myarticleservices/offprints>). Authors requiring printed copies of multiple articles may use Elsevier WebShop's 'Create Your Own Book' service to collate multiple articles within a single cover (<http://webshop.elsevier.com/myarticleservices/booklets>).

AUTHOR INQUIRIES

You can track your submitted article at <http://www.elsevier.com/track-submission>. You can track your accepted article at <http://www.elsevier.com/trackarticle>. You are also welcome to contact Customer Support via <http://support.elsevier.com>.

© Copyright 2014 Elsevier | <http://www.elsevier.com>