

Article

Parental Attachment and Satisfaction With Social Life: The Mediating Role of Gelotophobia

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ABSTRACT

Background: The aim of the present study was to investigate how gelotophobia is related to secure parental attachment, the degree of satisfaction with social life and coping strategies in a non-clinical sample of young Spanish adults. **Method:** the sample consisted of 306 young Spanish adults ($M=21.4$ years; $SD=2.27$; 67.6% women). The relationships between the study variables were analysed and a mediation model was tested in which gelotophobia (M) mediated the relationship between secure parental attachment (IV) and the level of satisfaction with social life (DV). **Results:** a satisfactory social life was related with low levels of gelotophobia and high levels of secure attachment to the father, as well as with the use of positive coping strategies of control and social support. Secure attachment to the father was positively associated with coping strategies focused on seeking social support and negatively associated with gelotophobia. **Conclusions:** High levels of secure attachment to the father are related to higher life satisfaction mediated by low levels of gelotophobia.

Apego Parental y Satisfacción con la Vida Social: el Papel Mediador de la Gelotofobia

RESUMEN

Antecedentes: el objetivo del presente estudio fue investigar la forma en que la gelotofobia se relaciona con el apego seguro parental, el grado de satisfacción con la vida social y las estrategias de afrontamiento en una muestra no clínica de adultos jóvenes españoles. **Método:** la muestra estuvo conformada por 306 jóvenes adultos españoles ($M=21.4$ años; $DT=2.27$; 67.6% mujeres). Se analizaron las relaciones entre las variables del estudio y se puso a prueba un modelo de mediación según el cual la gelotofobia (M) media en la relación entre el apego seguro paterno (VI) y el nivel de satisfacción con la vida social (VD). **Resultados:** una vida social satisfactoria se relacionó con niveles bajos de gelotofobia y altos de apego seguro al padre, así como con el uso de estrategias de afrontamiento positivas de control y apoyo social. El apego seguro al padre se asoció positivamente con las estrategias de afrontamiento centradas en la búsqueda de apoyo social y negativamente con la gelotofobia. **Conclusiones:** altos niveles de apego seguro al padre se relacionan con una mayor satisfacción con la vida con la mediación de bajos niveles de gelotofobia.

Palabras clave:

Gelotofobia

Estrategias de afrontamiento

Apego parental

Satisfacción con la vida social

In the last decade, interest has grown in the psychological disposition of people towards ridicule, especially through one concept: gelotophobia or fear and discomfort of being taken as an object of ridicule (Platt et al., 2010; Platt & Ruch, 2009).

Gelotophobic people feel uncomfortable in the presence of laughter; for example, when they hear someone laugh, they assume that they are being laughed at, and this makes them feel anxious, ashamed, and afraid, and decreases their disposition to happiness (Platt et al., 2010; Platt & Ruch, 2009; Proyer et al., 2012a; Torres-Marín & Carretero-Dios, 2017). They also tend to underestimate their own intelligence (Ruch & Proyer, 2009), their strength of character (Ruch et al., 2010), and their abilities in general (Platt et al., 2010).

Several studies have shown that a person's psychological disposition toward ridicule changes with age. Childhood and adolescence are the stages of life in which people are more sensitive to ridicule and, in fact, boys and girls are more gelotophobic than adults (Führ, 2010; Ruch & Proyer, 2009). Different factors have been related to this phenomenon, for example, parent-child relationships based on excessive punishment or overprotective education (Proyer et al., 2012a), or poor social support and the search for an identity typical in adolescence (Führ, 2010). Being ridiculed repeatedly in childhood and adolescence in different primary contexts (family, school, peer group) can cause people to become gelotophobic in adulthood (Proyer et al., 2012b; Ruch et al., 2010; Titze, 2009). All these studies unanimously agree that the transition from adolescence to adulthood plays a key role in an individual's psychological disposition toward ridicule. Despite this, the way in which gelotophobia changes in early adulthood remains largely unexplored, with scarce research available in the literature (Miczo, 2017; Papousek et al., 2009; Torres-Marín et al., 2017).

Which variables may be related to this universal disposition to ridicule (Proyer et al., 2009) that allow us to understand its origins and subsequent evolution? This study highlights three potentially interesting variables that have received little attention to date: parental attachment, coping strategies, and satisfaction with social life.

Firstly, it has been verified that the way ridicule is handled within a family plays an important role in the development of gelotophobia (Proyer et al., 2012b). Additionally, certain psychosocial origins of gelotophobia can be traced back to family functioning: the acquisition of social skills is poor in gelotophobic people and this is generally related to family dynamics in which disobedient behaviour is punished with shame-inducing practices, such as ridicule (Proyer et al., 2012b; Titze, 2009). The feeling of shame is particularly characteristic of persons with extreme levels of gelotophobia, subjected to the use of simulated extra-family scenarios based on ridicule (Platt, 2021).

Research on the internal dynamics of family groups has been neglected from the standpoint of attachment styles (secure, insecure-avoidant, insecure-anxious, and disorganised; Meyer & Pilkonis, 2001), despite the interesting results obtained in some pioneering studies (Miczo, 2017; Wu et al., 2019). Gelotophobia has been positively correlated with anxiety and insecure-avoidant attachment in non-clinical young adults (Miczo, 2017). Secure attachment to the father (but not to the mother) has been correlated with low levels of gelotophobia in adolescents with autism, while

in non-autistic adolescents it has been correlated with secure attachment to both parents (Wu et al., 2015). It is interesting to note how gelotophobia affects not only parental attachment but also romantic attachment. In fact, it is positively associated with insecure-avoidant and insecure-anxious romantic attachment styles (Brauer & Proyer, 2020; Brauer et al., 2020). In addition, various studies have shown that secure attachment to the father can play a mediating role between gelotophobia and cybervictimisation in Italian young adults (Canestrari et al., 2019; Canestrari et al., 2021a; Canestrari et al., 2021b).

Secondly, humour has been recognised as a successful tool for coping with difficulties and improving personal well-being (Consoli et al., 2018; Dionigi & Canestrari, 2018a; 2018b; Proyer & Wolf, 2017). Turning a worry into something to laugh about is a way to buffer difficulties. However, very few studies have examined the way in which gelotophobia is related to coping strategies in general.

Several theoretical models have been developed to explain the ways in which people cope with difficult events of various kinds. As described by Tap et al. (1997), four types of coping strategies may be used: control, social support, rejection and withdrawal. The first two are described as positive or active strategies and the last two as negative or passive strategies. Focusing on positive strategies, people who adopt a control strategy actively try to overcome a difficult situation, set goals to achieve (cognitive control), coordinate their activities (behavioural control), and avoid panic (emotional control). People who use social support strategies ask for help from competent people to receive advice and suggestions (informative support). They also share their experiences (emotional support) and do activities with other people to contain the stress they are experiencing (cooperation to distract themselves).

Interestingly, self-assessments of gelotophobia have not been correlated with the use of humour as a coping strategy in adolescence (Führ et al., 2013), while they have been negatively correlated in adulthood (Ruch et al., 2009). These differences in the use of coping strategies in gelotophobic people based on age, despite being interesting, have received little attention.

Thirdly, literature suggests that gelotophobia affects a very important component of the development of adolescents and young adults: satisfaction with social life. If an individual develops a fear of being laughed at, this negatively influences their social relationships and decreases their satisfaction with social life, which can, in turn, lead to social withdrawal and low social skills (Platt et al., 2010). Isolation is a typical strategy of gelotophobic subjects, reducing the risk of being ridiculed in social situations, even paying the price of increasing dissatisfaction with their social life; this strategy is one of the contact points identified between gelotophobia and vulnerable narcissism (Blasco-Belled et al., 2022), as well as satisfaction in the workplace (Ruch & Stahlmann, 2020).

Despite the interest in the subject of disposition to ridicule, as well as its cross-cultural nature and its potential relationship with psychosocial variables, few studies have focused on gelotophobia in the Spanish population (Carretero-Dios et al., 2010; Torres-Marín et al., 2017; 2018; 2019) and none have explored its relationship with variables such as parental attachment, coping strategies or satisfaction with social life.

For all the above reasons, a more in-depth analysis of this interesting line of work is considered necessary and justified. Based on this premise, the present study proposed the following objectives:

- 1) To examine the differences in a sample of young Spanish adults in terms of levels of gelotophobia, secure attachment to parents and coping strategies used, in relation to satisfaction with social life.
- 2) To measure the impact of secure attachment to parents in relation to gelotophobia, coping strategies and satisfaction with social life.
- 3) To verify the hypothesis that gelotophobia mediates the relationship between parental attachment and satisfaction with social life in young adults.

It was hypothesized that a tendency toward gelotophobia would negatively correlate with the individual's secure attachment to their father and mother, in line with previous studies in non-clinical individuals (i.e. the control group in the study by Wu et al., 2015). Regarding coping strategies, the aim was to explore whether gelotophobia is related to the use of positive coping strategies identified by Tap et al. as part of their strategic approach (1997). It was hypothesized that young adults who score high in gelotophobia would tend to use lower levels of positive coping strategies as reported in previous studies (Canestrari et al., 2019). Similarly, secure attachment to parental figures would positively correlate with the use of coping strategies based on control and social support and greater satisfaction with social life. Finally, gelotophobia would mediate the relationship between secure attachment to parental figures and satisfaction with social life: high levels of secure attachment to the father and the mother would be related to high levels of satisfaction with social life if low levels of gelotophobia were present.

Although, in light of the results of research carried out to date, gelotophobia does not seem to be affected by gender (Führ et al., 2009; Platt et al., 2010; Ruch et al., 2014), it was included as a covariate in the present study because it is a variable that requires further study in terms of its relationship with the disposition to ridicule and due to its relationship with other study variables, for example, attachment. Previous literature has shown that, at least during adolescence, belonging to a gender influences parental attachment style (Buist et al., 2002), although it has not been possible to verify whether attachment styles towards parental figures in their relationship with gelotophobia are affected by gender (Wu et al., 2015).

Method

Participants

The convenience sample consisted of 306 young Spanish adults (67.6% women and 32.4% men), all of them students at Pablo de Olavide University (Spain), who participated voluntarily and anonymously in the study. The age of the participants ranged from 19 to 29 years ($M = 21.4$; $SD = 2.27$). The inclusion criteria were having Spanish nationality and being between 18 and 29 years of age, in other words, emerging young adults, as defined in previous

literature (Arnett, 2000; Arnett et al., 2014; Fermani et al., 2016; Fermani et al., 2020).

Instruments

To evaluate gelotophobia, the *PhoPhiKat<30> questionnaire* (Ruch & Projecter, 2009) was used. On the scale, 10 of the 30 statements measure gelotophobia (e.g. "If they laugh in my presence, it makes me suspicious"), another 10 measure gelotophilia, and finally, the last 10 measure katagelasticism.

In the present study, only the gelotophobia factor was considered, understood as the fear of being considered an object of ridicule. The 10 items on the scale were extrapolated from the *GELOPH<15> scale* (Carretero-Dios et al., 2010), which was translated and validated into Spanish from the *PhoPhiKat<30> scale*.

Responses were expressed on a 4-point Likert-type scale (from 1 = strongly disagree to 4 = strongly agree). In this case, a higher score on the scale was equivalent to a higher score on the gelotophobia construct to be measured. Ruch and Proyer (2009) reported a high reliability of the scale (Cronbach's alphas greater than .84) and a high test-retest reliability. It has been widely used by authors (Proyer et al., 2010; Renner & Heydasch, 2010; Samson & Meyer, 2010; Samson et al., 2011). In this study, the Cronbach's alpha coefficient for the gelotophobia scale was .74.

To evaluate the attachment relationships with the father and with the mother, we used the *Inventory of Parent and Peer Attachment* (IPPA) (Armsden & Greenberg, 1987) in its shortened version (Raja et al., 1992) adapted to Spanish (Delgado et al., 2016; Gallarin & Alonso-Arbiol, 2013). The IPPA has been developed to determine young people's perceptions of the negative or positive affective/cognitive dimension towards father and mother, as well as the degree to which attachment to the two parental figures is secure, from the psychological standpoint. The scale comprises 24 items (12 items for attachment to the father and 12 items for attachment to the mother). It requires participants to respond on a 6-point Likert-type scale (from 1 = *completely false* up to 6 = *completely true*). Examples of items include: "My father/mother respects me"; "I talk to my father/mother about my problems and concerns." A higher score on the scale is equivalent to a higher secure attachment score.

This scale has been successfully applied in previous studies (Canestrari et al., 2021a; Fermani et al., 2016; 2020; Wu et al., 2015; 2019). The same scale has also been used by Wu et al. (2015, 2019) to investigate the association between parental attachment and gelotophobia.

Based on all the analyses of the factors and convergent validity indices obtained in the adapted Spanish version of the inventory (Gallarin & Alonso-Arbiol, 2013; Delgado et al., 2016), it was concluded that the scale could be considered monofactorial, measuring secure attachment to the father and mother separately. Specifically, in the process of validating the Spanish version of the questionnaire, a principal component analysis with oblimin rotation was carried out, which confirmed the unidimensionality of the questionnaire. The Kaiser-Meyer-Olkin (KMO) index was calculated, as well as a sphericity test for each subscale (mother and father), obtaining values of .95. Bartlett's test was statistically significant: $\chi^2(120) = 4093.55$, $p < .0001$, on the mother scale; $\chi^2(120) = 4488.89$, $p < .0001$, on the father scale (Gallarin & Alonso-

Arbiol, 2013; Delgado et al., 2016). In the present study, optimal levels of Cronbach's Alpha were obtained ($\alpha = .82$, attachment to the mother scale; and $.89$, attachment to the father scale).

To evaluate the different coping strategies in problem solving, the *Echelle Toulouse de Coping* (ETC) scale (Esparbès et al., 1993) was used. The Spanish version of the scale was also validated and adapted (López-Vázquez & Marvan, 2004). The scale consists of 44 items with responses on a 5-point Likert-type scale (from 1 = *never* to 5 = *forever*) from which 4 factors may be extracted: control of problematic events; social support; retreat; rejection. A higher score on the scale is equivalent to a higher score in the use of the coping strategy evaluated. In this study, the first two factors were considered. Examples of items were: "I think of the strategies I could use to solve the problem" (Control); "I feel the need to share what I feel with those around me" (Social support).

Based on all the exploratory and confirmatory factorial analyses and convergent validity indices obtained, López-Vázquez & Marvan (2004) concluded that the questionnaire reliably and validly assesses positive and negative coping strategies. The Cronbach's Alpha levels obtained in this study for control and social support were $.88$ and $.73$, respectively.

Social satisfaction was assessed using an item measuring their current degree of satisfaction with their social life on a 10-point Likert-type scale (from 1 = *completely dissatisfied* to 10 = *completely satisfied*); the mean obtained was 7.98 ($SD = 1.3$). This item was recoded into 3 groups based on previous studies (Canestrari et al., 2019): low satisfaction (8.2%), moderate satisfaction (56.6%) and high satisfaction (35.2%). Other studies have investigated the satisfaction of one's social life with a single item, considering it sufficiently clear and predictive in this context. For example, in Italy, the National Statistics Institute (ISTAT, 2014) uses the same item on a 10-point Likert-type scale.

There is a debate in the literature regarding the use of a single item in terms of predictive validity (Diamantopoulos et al., 2012). However, some authors (Bergkvist & Rossiter, 2009; Sackett & Larson, 1990) have stated that when a construct is small in scope, one-dimensional, and unambiguous to the respondent, using a single item is the best approach, even economically speaking.

Procedure

The questionnaire was applied in a classroom individually based on the university group (university class) and under the supervision of a researcher who explained the purposes of the research, remaining on hand to answer questions and resolve doubts. All the participants gave their informed consent and respected the rules of the *APA Ethics Codes* and the ethical principles of the Declaration of Helsinki (World Medical Association, 2013). Only one subject decided not to participate in the study. The completion of the questionnaire took approximately 30 minutes.

Data analysis

The descriptive analyses related to the participants (frequencies and percentages) and on the factors (means and standard deviation), the Multivariate Analysis of Variance (MANOVA), the Cronbach's Alpha coefficients, the bivariate correlations and the simple linear

regressions were calculated using SPSS software (IBM SPSS Statistics, version 22).

To test the hypothesized mediation model according to which the quality of parental secure attachment works as an independent variable (IV), gelotophobia as a mediating variable (M) and the level of satisfaction with life as a dependent variable (DV), with gender introduced as a control variable, an SPSS software add-on called "PROCESS" (version 1; Hayes, 2013) was used and a *bootstrapping* analysis was performed to verify the significance of the indirect effects (Shrout & Bolger, 2002). The technique generates an estimate of effects at a 95% confidence interval. If zero is not within the 95% confidence interval, it can be concluded that the indirect effect is significantly different from zero and, therefore, that the effect of the independent variable on the dependent variable is mediated by the proposed mediating factor.

Results

The first objective of this study was to examine the differences between the participants in terms of levels of gelotophobia, secure attachment to parents and coping strategies used in relation to satisfaction with social life. The MANOVA results showed statistically significant differences (Table 1).

Table 1.

Descriptive statistics (means and standard deviation) and MANOVA of the study variables according to satisfaction with social life.

	Low satisfaction	Average satisfaction	High satisfaction	F (2, 301)	η^2
1 PhoPhiKat <30>	M (SD)	M (SD)	M (SD)		
1.1 Gelotophobia ($\alpha=.74$)	2.55a (.68)	2.13b (.52)	1.95b (.42)	15.16***	.09
2 IPPA					
2.1 Father attachment ($\alpha=.89$)	3.65a (1.36)	4.45b (.92)	4.53b (.92)	8.67*	.06
2.2 Mother attachment ($\alpha=.82$)	4.72a (.92)	4.93a (.68)	4.99a (.73)	1.40	.01
3 ETC					
3.1 Control ($\alpha=.88$)	3.25a (.78)	3.58b (.62)	3.88c (.56)	13.38**	.08
3.2 Social support ($\alpha=.73$)	3.13a (.89)	3.42b (.62)	3.69b (.57)	10.05**	.06

Note. *** $p < .001$; ** $p < .01$; * $p < .05$

Tukey's post hoc test: a > b > c

Specifically, it was shown that a more satisfactory social life corresponded to low levels of gelotophobia ($F(2, 301) = 15.16, p < .001, \eta^2 = .09$) and high levels of secure attachment to the father ($F(2, 301) = 8.67, p < .05, \eta^2 = .06$). Participants who expressed high satisfaction with social life resorted more to positive "control coping" strategies ($F(2, 301) = 13.38, p < .01, \eta^2 = .08$) and social support ($F(2, 301) = 10.05, p < .01, \eta^2 = .06$). The results did not show significant differences according to gender: gelotophobia ($F(2, 301) = .84, p = ns, \eta^2 = .00$); attachment to the father ($F(2, 301) = .01, p = ns, \eta^2 = .00$); secure attachment to the mother ($F(2, 301) = 2.98, p = ns, \eta^2 = .01$); control ($F(2, 301) = 3.15, p = ns, \eta^2 = .01$); social support ($F(2, 306) = .05, p = ns, \eta^2 = .00$).

To measure the impact of secure attachment to parents with respect to gelotophobia, coping strategies and satisfaction with social life, correlation and linear regression analyses were performed. The correlations between the variables of interest were significant and in the expected theoretical direction (see Table 2).

Table 2.
Bivariate Pearson correlations.

	1	2	3	4	5	6
1. Gelotophobia	1					
2. Father attachment	-.166***	1				
3. Mother attachment	-.105	.318***	1			
4. Control	-.243***	.105	-.008	1		
5. Social support	-.031	.133**	.057	.379***	1	
6. Social satisfaction	-.357***	.274***	.146**	.332***	.289***	1

Note. *** $p < .001$; ** $p < .01$

Regarding coping strategies, Pearson's correlations showed that gelotophobia was negatively associated with positive coping strategies such as control ($r = -.243$; $p < .001$). Secure attachment to the father was positively associated with coping strategies focused on seeking social support ($r = .133$; $p < .01$) and negatively with gelotophobia ($r = -.166$; $p < .001$). Secure attachment to the mother did not show significant associations in this study with regard to gelotophobia and coping strategies. Satisfaction with social life was positively associated with secure attachment to both parents (father: $r = .274$; $p < .001$; mother: $r = .146$; $p < .01$) and coping strategies (control: $r = .332$; $p < .001$; social support: $r = .289$; $p < .001$) and negatively to gelotophobia ($r = -.357$; $p < .001$).

These results were confirmed through simple linear regressions. Three simple linear regression analysis models were developed, introducing secure attachment to the father as the only independent variable and gelotophobia, satisfaction with social life and social support coping strategies as dependent variables, one in each model. Then, the same analysis was carried out inserting secure attachment to the mother in its place. For this reason, no collinearity analysis was performed in the proposed analysis since there were not two predictor variables in the same model (in each model the collinearity statistics - tolerance and VIF - were equal to 1). We preferred to proceed with the analyses separately, referring to existing scientific literature (Canestrari et al., 2019; Crocetti et al., 2008).

The independence of the errors was studied with the Durbin-Watson test: in relation to secure attachment to the father, values equal to 1.902 (gelotophobia) were obtained (1,862 (social support) and 1,961 (satisfaction with social life)); and in relation to secure attachment to the mother, 1,890 (gelotophobia) (1,903 (social support) and 1,910 (satisfaction with social life)), suggesting independence between the residuals, since they were in the range 1.5-2.5 considered to assume that there was no autocorrelation (Durbin & Watson, 1971). To verify homoscedasticity, the White statistic was calculated for each simple linear regression by multiplying the R^2 of each model, calculated from the squared non-standardized residuals, by the number of observations. In all cases the p value was greater than .05, so the homoscedasticity hypothesis was accepted.

From the simple linear regression analyses, secure attachment to the father was found to be negatively associated with gelotophobia and positively associated with social support and social life satisfaction. Secure attachment to the mother did not show statistically significant associations with any of the three variables (see Table 3).

To conclude the results section, the proposed mediation analysis is presented below. The results of the first step showed that by controlling the gender variable ($\beta = -.007$, $s.e. = .008$, $p = n.s.$), gelotophobia can be configured as a mediating variable (M)

between secure attachment to the father (IV) and satisfaction with social life (DV).

In addition, a significant direct effect of secure attachment to the father on satisfaction with social life was obtained, c' , ($\beta = .082$; $p < .05$) (Figure 1, Table 4), while no significant results were obtained with secure attachment to the mother. Zero was not included in the 95% confidence interval. ($LLCI = -.0139$; $ULCI = -.1496$).

Gelotophobia intervenes with a mediation effect between secure attachment to the father ($\beta = -.083$; $p < .01$; $LLCI = -.1427$; $ULCI = -.0229$) and satisfaction with social life ($\beta = -.308$; $p < .001$; $LLCI = -.4372$; $ULCI = -.1799$) (see Figure 1).

Therefore, the results suggest that a higher quality of secure attachment to the father was related to a higher satisfaction with social life through the mediation of lower levels of gelotophobia in the sample participating in the study.

Table 3.
Simple linear regressions.

Total n = 306	Gelotophobia	Social support	Satisfaction with social life
Father attachment	-.166***	.133*	.250***
Mother attachment	n.s	n.s	n.s
R^2	.03**	.02*	.08***

Note. *** $p < .001$; ** $p < .01$; * $p < .05$

Table 4.
Model coefficients.

Antecedent	Consequent							
	M (Gelotophobia)			Y (Satisfaction)				
	Coeff.	SE	p	Coeff.	SE	p		
X (Father)	A	-.083	.030	< .01	c'	.082	.034	< .05
M (Gelot)	iM	-2.235	-.183	< .000	b	-.308	.065	< .000
Constant				iy	2.661	.252	< .000	
$R^2 = .043$				$R^2 = .108$				
$F(1,294) = 6.6080$, $p < .001$				$F(1,294) = 11.7307$, $p < .01$				

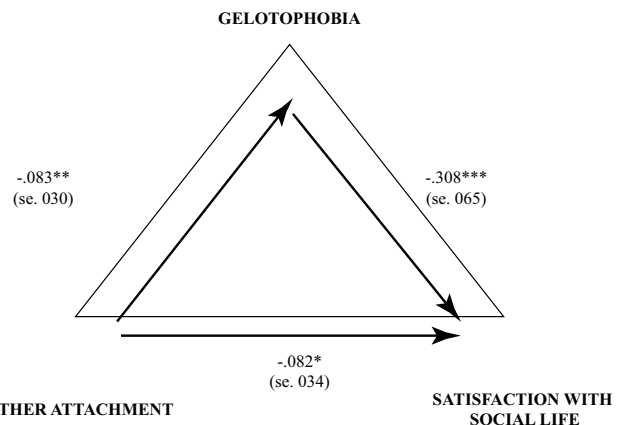


Figure 1.
Simple regression model in the form of a statistical plot.
Note. *** $p < .001$; ** $p < .01$; * $p < .05$

Discussion

The present study broadens research on gelotophobia, particularly in relation to active or positive coping strategies, satisfaction with social life and secure parental attachment, in a sample of young Spanish adults. It responds to the need to study gelotophobia in a generational, early adulthood-related and cultural (Spanish) context,

which are aspects that have scarcely been studied to date. The results obtained also provide evidence on the perception that gelotophobic people have of their parental attachment, their social life and the coping strategies they choose.

Our study shows that the participants with high satisfaction with their social life presented high levels of secure attachment to the father figure. This result is consistent with the findings reported in previous studies showing that people who are satisfied with their social lives also have a secure parental attachment (Crittenden, 2008; Crittenden et al., 2010). In addition, our study highlights the role that gelotophobia plays as a mediator between secure attachment to the father and satisfaction with social life: a high level of secure attachment to the father is related to greater satisfaction with social life if low levels of gelotophobia are present. Family dynamics have been identified as a relevant factor for the development of gelotophobia (Miczo, 2017; Proyer and Neukom, 2013; Ruch et al., 2014; Wu et al., 2019; Wu et al., 2015). In line with previous studies carried out with autistic adolescents (Wu et al., 2015) and non-clinical young adults (Canestrari et al., 2021a) that had shown the connection between secure attachment to the father and the presence of gelotophobia, our data revealed secure attachment to the father (and not to the mother) is a predictor of gelotophobia. In this sense, it could be thought that security in parental attachment could be related to the ability to explore personal aspects, which could in turn be related to being the object of ridicule. It may be that the management of sense of humour and the ability to laugh at oneself within the family is more related, within the cultural context of this study, to the relationships and interactions with the father versus those with the mother. Thus, a secure attachment with the figure who socializes in a dominant manner in humour and in the disposition to ridicule in the family context could explain lower levels of gelotophobia. Another characteristic of the cultural context that could help to explain this result is related to the different gender mandates depending on the sex of the person. Consequently, the presence in the public sphere and, therefore, the greater likelihood of being exposed to situations of ridicule would be a characteristic traditionally associated with men, while the private-family sphere and a lower likelihood of experiencing situations to model the disposition to ridicule would traditionally be associated with women. This factor related to differential gender socialisation could influence the management of humour at home through the parental attachment relationship.

Future studies could examine this aspect in greater depth to clarify how belonging to a gender, as well as variables related to the differential socialisation process, act as moderators between attachment styles and gelotophobia.

Secure attachment to the father appears to influence not only gelotophobia but also coping strategies. In fact, secure attachment to the father was observed to positively influence the choice of a positive coping strategy such as social support. This choice, together with control, is defined as positive since it presupposes that the subject takes charge of or confronts the problematic situation that causes stress (Tap et al., 1997). Moreover, our results show that the more gelotophobic subjects had a lower tendency to choose positive control-based coping strategies. However, a positive correlation between gelotophobia and the use of social support strategies, reported in previous studies, was not observed (Canestrari et al., 2019).

The use of social support as a coping strategy in gelotophobic subjects is relatively complex. In fact, it has been shown that subjects

with high levels of gelotophobia tend to withdraw socially and, therefore, not depend on others to deal with their problems (Ruch et al., 2014). It has been hypothesized that the use of social support is a strategy that depends on the type of social group to which the person belongs. For example, gelotophobes who use social support to cope are likely to rely on a select and restricted circle of close friends or relatives, while larger social groups are not considered for this purpose (Canestrari et al., 2019; Ruch & Stahlmann, 2020). In the present study, social support did not significantly correlate with levels of gelotophobia. This result may have to do with the fact that proximity to supportive social groups has not been taken into account, so the data may have been dispersed to the point of not converging towards a significant correlation. Further research should be carried out to clarify this aspect.

In conclusion, the present study broadens the scope of previous studies related to the connections between parental attachment, satisfaction with social life and gelotophobia, in an age range (emerging adults) that remains under-researched in the field of studies on gelotophobia. It also proposes researching gelotophobia in relation to coping strategies, since this relationship has hardly been studied in the field of reference and, in particular, in relation to positive coping strategies. These results have important practical implications. It would be important to promote multi-family group training strategies to examine in greater depth the fear of ridicule, in which fathers, mothers, sons and daughters could intervene. Learning to manage the fear of ridicule, together with other manifestations of humour, in the family context and in a guided and safe manner, could be useful to promote the acquisition of coping strategies in situations outside the family. Through group dynamics such as bad joke workshops, the humorous Johari window, or the “*ridiculum vitae*”, the emotion of fear of ridicule could be worked on and the relationships of communication, trust and parent-child closeness could be strengthened (three of the components of secure attachment; Armsden & Greenberg, 1987).

However, the study is not without limitations. The small size of the sample and the sample selection procedure mean that complementary studies are necessary to generalize the findings to the Spanish youth population. Similarly, further research may reveal certain diverging aspects with respect to the reference literature, for example the influence of gender on the development of attachment styles that influence the genesis of gelotophobia. Finally, future studies will be able to investigate in greater depth the connection between gelotophobia and the choice of coping strategies, which is clearly both an innovative aspect of the research presented and also one of its main limitations: the study of the potential mediating role of coping strategies in the relationship between gelotophobia and satisfaction with social life.

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References

- Armsden, G. C. & Greenberg, M. T. (1987). The inventory of parent and peer attachment: Individual differences and their relationship to psychological well-being in adolescence. *Journal of Youth and Adolescence*, 16(5), 427-454. <https://doi.org/10.1007/bf02202939>
- Arnett, J. J. (2000). High hopes in a grim world: Emerging adults' views of their futures and “Generation X”. *Youth & Society*, 31(3), 267-286. <https://doi.org/10.1177/0044118X00031003001>
- Arnett, J.J., Žukauskienė, R., & Sugimura, K. (2014). The new life stage of emerging adulthood at ages 18–29 years: Implications for mental health. *The Lancet Psychiatry*, 1(7), 569-576. [https://doi.org/10.1016/S2215-0366\(14\)00080-7](https://doi.org/10.1016/S2215-0366(14)00080-7)
- Bergkvist, L. & Rossiter, J. R. (2009). Tailor-made single-item measures of doubly concrete constructs. *International Journal of Advertising*, 28(4), 607-621. <https://doi.org/10.2501/S0265048709200783>
- Blasco-Belled, A., Rogoza, R., & Alsinet, C. (2022). Vulnerable narcissism is related to the fear of being laughed at and to the joy of laughing at others. *Personality and Individual Differences*, 190, Article 111536. <https://doi.org/10.1016/j.paid.2022.111536>
- Brauer, K. & Proyer, R. T. (2020). Gelotophobia in romantic life: Replicating associations with attachment styles and their mediating role for relationship status. *Journal of Social and Personal Relationships*, 37(10-11), 2890-2897. <https://doi.org/10.1177/0265407520941607>
- Brauer, K., Proyer, R. T., & Ruch, W. (2020). Extending the study of gelotophobia, gelophilia, and katagelasticism in romantic life towards romantic attachment. *Journal of Individual Differences*, 4(2), 86-100. <https://doi.org/10.1027/1614-0001/a000307>
- Buist, K. L., Deković, M., Meeus, W., & van Aken, M. A. G. (2002). Developmental patterns in adolescent attachment to mother, father and sibling. *Journal of Youth and Adolescence*, 31(3), 167-176. <https://doi.org/10.1023/a:1015074701280>
- Canestrari, C., Bongelli, R., Fermani, A., Riccioni, I., Bertolazzi, A., & Muzi, M. (2021b). Coronavirus Disease Stress Among Italian Healthcare Workers: The Role of Coping Humor. *Frontiers in Psychology*, 11, Article 601574. <https://doi.org/10.3389/fpsyg.2020.601574>
- Canestrari, C., Carrieri, A., Del Moral, G., Fermani, A., & Muzi, M. (2019). Do coping strategies and the degree of satisfaction with one's social life and parental attachment modulate gelotophobia, gelophilia and katagelasticism? A study on young Italian adults. *Current Psychology*. Advance online publication. <https://doi.org/10.1007/s12144-019-00417-4>
- Canestrari, C., Del Moral, G., Carrieri, A., Muzi, M., & Fermani, A. (2021a). Parental attachment and cyberbullying victims: The mediation effect of gelotophobia. *Current Psychology*. Advance online publication. <https://doi.org/10.1007/s12144-021-01642-6>
- Carretero-Dios, H., Proyer, R. T., Ruch, W., & Rubio, V. J. (2010). The Spanish version of the GELOPH< 15>: Properties of a questionnaire for the assessment of the fear of being laughed at. *International Journal of Clinical and Health Psychology*, 10(2), 345-357. <https://www.redalyc.org/articulo.oa?id=33712250009>
- Consoli, A. J., Blears, K., Bunge, E. L., Mandil, J., Sharma, H., & Whaling, K. M. (2018). Integrating culture, pedagogy, and humor in CBT with anxious and depressed youth. *Practice Innovations*, 3(2), 138-151. <https://doi.org/10.1037/prl0000069>
- Crittenden, P. (2008). *Il modello dinamico-maturativo dell'attaccamento* [The dynamic-maturative model of attachment]. Raffaello Cortina.
- Crittenden, P., Kozłowska, K., & Landini, A. (2010). Assessing attachment in school-age children. *Clinical Child Psychology and Psychiatry*, 15(2), 185-208. <https://doi.org/10.1177/1359104509356741>
- Crocetti, E., Rubini, M., & Meeus, W. (2008). Capturing the dynamics of identity formation in various ethnic groups: Development and validation of a three-dimensional model. *Journal of Adolescence*, 31(2), 207-222. <https://doi.org/10.1016/j.adolescence.2007.09.002>
- Delgado, L., Penelo, E., Fornieles, A., Brun-Gasca, C., & Ollé, M. (2016). Estructura factorial y consistencia interna de la versión española del Inventario de Apego a Padres y Pares para Adolescentes (IPPA) [Factorial structure and internal consistency of the Spanish version of the Parent and Peer Attachment Inventory for Adolescents (IPPA)]. *Universitas Psychologica*, 15(1), 327-338. <https://doi.org/10.11144/Javeriana.upsy15-1.efci>
- Diamantopoulos, A., Sarstedt, M., Fuchs, C., Wilczynski, P., & Kaiser, S. (2012). Guidelines for choosing between multi-item and single-item scales for construct measurement: a predictive validity perspective. *Journal of the Academy of Marketing Science*, 40(3), 434-449. <https://doi.org/10.1007/s11747-011-0300-3>
- Dionigi, A. & Canestrari, C. (2018a). The role of laughter in Cognitive-Behavioral Therapy: case studies. *Discourse Studies*, 20(3), 323-339. <https://doi.org/10.1177/1461445618754426>
- Dionigi, A. & Canestrari, C. (2018b). The use of humour by therapists and clients in cognitive therapy. *European Journal of Humour Research*, 6(3), 50-67. <https://doi.org/10.7592/EJHR2018.6.3.dionigi>
- Durbin, J. & Watson, G. S. (1971). Testing for serial correlation in least squares regression. III. *Biometrika*, 58(1), 1-19. <https://doi.org/10.1093/biomet/58.1.1>
- Esparbès, S., Sordes-Ader, F., & Tap, P. (1993). *L'Échelle Toulousaine de coping: Un instrument pour l'analyse des liens entre personnalisation et stratégies de coping* [The Toulouse Coping Scale: An instrument for analyzing the links between personalization and coping strategies]. Data report 1993. Journées du Labo PCS, Université de Toulouse Le-Mirail.
- Fermani, A., Bongelli, R., Canestrari, C., Muzi, M., Riccioni, I., & Burro, R. (2020). “Old wine in a new bottle”. Depression and romantic relationships in Italian emerging adulthood: The moderating effect of gender. *International Journal of Environmental Research and Public Health*, 17(11), 4121. <https://doi.org/10.3390/ijerph17114121>
- Fermani, A., Muzi, M., Crocetti, E., & Meeus, W. H. J. (2016). I genitori sono importanti per la chiarezza del concetto di sé?: Studenti e lavoratori a confronto [Are parents important in clarifying the self-concept?: Students and workers compared]. *Clinical Developmental Psychology*, 20(1), 55-82. <https://doi.org/10.1449/83130>
- Führ, M., Proyer, R. T., & Ruch, W. (2009). Assessing the fear of being laughed at (gelotophobia): First evaluation of the Danish GELOPH<15>. *Nordic Psychology*, 61(2), 62-73. <https://doi.org/10.1027/1901-2276.61.2.62>
- Führ, M. (2010). The applicability of the GELOPH<15> in children and adolescents: First evaluation in a large sample of Danish pupils. *Psychology Science Quarterly*, 52(1), 60-76.
- Führ, M., Platt, T., & Proyer, R. T. (2013). Testing the relations of gelotophobia with humour as a coping strategy, self-ascribed loneliness, reflectivity, attractiveness, self-acceptance and life expectations. *European Journal of Humour Research*, 3(1), 84-97. <https://doi.org/10.7592/EJHR2015.3.1.fuhr>

- Gallarín M, & Alonso-Arbiol I. (2013). Dimensionality of the inventory of parent and peer attachment: evaluation with the Spanish version. *Spanish Journal of Psychology*, 16, Article E55. <https://doi.org/10.1017/sjp.2013.47>. PMID: 23866252
- Hayes, A. F. (2013). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach* [Computer software]. Guilford Press.
- ISTAT (2014). *Il Progetto Bes dei giovani* [The Bes project for young people]. Istituto Nazionale di Statistica, Governo d'Italia. <https://www4.istat.it/it/archivio/126613>
- López-Vázquez, E. & Marván, M. L. (2004). Validación de una escala de afrontamiento frente a riesgos extremos [Validation of a scale for coping with extreme risks]. *Salud Pública de México*, 46(3), 216-221.
- Meyer, B. & Pilkonis, P. A. (2001). Attachment style. *Psychotherapy: Theory, Research, Practice, Training*, 38(4), 466-472. <https://doi.org/10.1037/0033-3204.38.4.466>
- Miczo, N. (2017). Gelotophobia, attachment, and humor production: Further test of a security theory. *Israeli Journal for Humor Research*, 6(2), 25-49. https://www.israeli-humor-studies.org/media/6-2-3-gelotophobia-n_miczo.pdf
- Papousek, I., Ruch, W., Freudenthaler, H. H., Kogler, E., Lang, B., & Schuler, G. (2009). Gelotophobia, emotion-related skills and responses to the affective states of others. *Personality and Individual Differences*, 47(1), 58-63. <https://doi.org/10.1016/j.paid.2009.01.047>
- Platt, T. (2021). Extreme gelotophobia: Affective and physical responses to ridicule and teasing. *Current Psychology*. Advance online publication. <https://doi.org/10.1007/s12144-019-00510-8>
- Platt, T. & Ruch, W. (2009). The emotions of gelotophobes: Shameful, fearful and joyless? *Humor: International Journal of Humor Research*, 22, 91-110. <https://doi.org/10.1515/HUMR.2009.005>
- Platt, T., Ruch, W., & Proyer, R. T. (2010). A lifetime of fear of being laughed at. *Zeitschrift für Gerontologie und Geriatrie*, 43(1), 36-41. <https://doi.org/10.1007/s00391-009-0083-z>
- Proyer, R. T. & Ruch, W. (2010). Enjoying and fearing laughter: Personality characteristics of gelotophobes, gelotophiles, and katagelasticians. *Psychological Test and Assessment Modeling*, 52(2), 148-160.
- Proyer, R. T., Estoppey, S., & Ruch, W. (2012b). An initial study on how families deal with ridicule and being laughed at: Parenting styles and parent-child relations with respect to gelotophobia, gelotophilia, and katagelasticism. *Journal of Adult Development*, 19(4), 228-237. <https://doi.org/10.1007/s10804-012-9150-6>
- Proyer, R. T., Platt, T., & Ruch, W. (2010). Self-conscious emotions and ridicule: Shameful gelotophobes and guilt free katagelasticians. *Personality and Individual Differences*, 49(1), 54-58. <https://doi.org/10.1016/j.paid.2010.03.007>
- Proyer, R. T., Ruch, W., Ali, N. S., Al-Olimat, H. S., Amemiya, T., Andualem, T., Ansari, S.D., Arhar, S., Asem, G., Baudin, N., Bawab, S., Bergen, D., Brdar, I., Brites, R., Brunner-Sciarrà, M., Carrell, A., Carretero-Dios, H., Celik, M., Ceschi, G.,... Yeun, E. (2009). Breaking ground in cross-cultural research on the fear of being laughed at (gelotophobia): A multinational study involving 73 countries. *Humor: International Journal of Humor Research*, 22(1-2), 253-279. <https://doi.org/10.1515/HUMR.2009.012>
- Proyer, R. & Neukom, M. (2013). Ridicule and being laughed at in the family: Gelotophobia, gelotophilia, and katagelasticism in young children and their parents. *International Journal of Psychology*, 48(6), 1191-1195. <https://doi.org/10.1080/00207594.2013.775448>
- Proyer, R., Ruch, W., & Chen, G. (2012a). Gelotophobia: Life satisfaction and happiness across cultures. *Humor: International Journal of Humor Research*, 25(1), 23-40. <https://doi.org/10.1515/humor-2012-0002>
- Proyer, R.T. & Wolf, A. (2017). Humor and well-being. In J. Stein (Ed.), *Reference Module in Neuroscience and Biobehavioral Psychology* (pp 1-14). Elsevier. <https://doi.org/10.1016/B978-0-12-809324-5.05590-5>
- Raja, S. N., McGee, R., & Stanton, W. R. (1992). Perceived attachments to parents and peers and psychological well-being in adolescence. *Journal of Youth and Adolescence*, 21(4), 471-485. <https://doi.org/10.1007/bf01537898>
- Renner, K. H. & Heydasch, T. (2010). Performing humor: On the relations between self-presentation styles, gelotophobia, gelotophilia, and katagelasticism. *Psychological Test and Assessment Modeling*, 52(2), 171.
- Ruch, W., Hofmann, J., Platt, T., & Proyer, R. (2014). The state-of-the-art in gelotophobia research: A review and some theoretical extensions. *Humor: International Journal of Humor Research*, 27(1), 23-45. <https://doi.org/10.1515/humor-2013-0046>
- Ruch, W. & Proyer, R. T. (2009). Extending the study of gelotophobia: On gelotophiles and katagelasticians. *Humor: International Journal of Humor Research*, 22(1-2), 183-212. <https://doi.org/10.1515/humr.2009.009>
- Ruch, W., Proyer, R. T., & Ventis, L. (2010). The relationship of teasing in childhood to the expression of gelotophobia in adults. *Psychological Test and Assessment Modeling*, 52(1), 77-93. <https://doi.org/10.5167/uzh-33203>
- Ruch, W. & Stahlmann, A.G. (2020). Toward a dynamic model of Gelotophobia: Social support, workplace bullying and stress are connected with diverging trajectories of life and job satisfaction among Gelotophobes. *Current Psychology*. Advance online publication. <https://doi.org/10.1007/s12144-020-01046-y>
- Sackett, P. R. & Larson, J. R., Jr. (1990). Research Strategies and Tactics in Industrial and Organizational Psychology. In M. D. Dunnette & L. M. Hough (Eds.), *Handbook of industrial and organizational psychology* (pp. 419-489). Consulting Psychologists Press.
- Samson, A. C., Huber, O., & Ruch, W. (2011). Teasing, ridiculing and the relation to the fear of being laughed at in individuals with Asperger's syndrome. *Journal of Autism and Developmental Disorders*, 41(4), 475-483. <https://doi.org/10.1007/s10803-010-1071-2>
- Samson, A.C. & Meyer, Y. (2010). Perception of aggressive humor in relation to gelotophobia, gelotophilia, and katagelasticism. *Psychological Test and Assessment Modeling*, 52, (2), 217-230. <https://archive-ouverte.unige.ch/unige:98075>
- Shrout, P. E. & Bolger, N. (2002). Mediation in experimental and nonexperimental studies: new procedures and recommendations. *Psychological Methods*, 7(4), 422-445. <https://doi.org/10.1037/1082-989X.7.4.422>
- Tap, P., Esparbès-Pistre S., & Sordes-Ader, F. (1997). Identité et stratégies de personnalisation [Identity and personalization strategies]. *Psychology Bulletin*, 428(50), 185-196.
- Titze, M. (2009). Gelotophobia: The fear of being laughed at. *Humor: International Journal of Humor Research*, 22(1-2), 27-48. <https://doi.org/10.1515/humr.2009.002>
- Torres-Marín, J. & Carretero-Dios, H. (2017). Gelotofobia: El lado oscuro del sentido del humor [Gelotophobia: The dark side of humor]. *Cognitive Science*, 11(1), 14-16.
- Torres-Marín, J., Carretero-Dios, H., Acosta, A., & Lupiáñez, J. (2017). Eye contact and fear of being laughed at in a gaze discrimination task.

- Frontiers in Psychology*, 8, 1954.
<https://doi.org/10.3389/fpsyg.2017.01954>
- Torres-Marín, J., Navarro-Carrillo, G., & Carretero-Dios, H. (2018). Is the use of humor associated with anger management? The assessment of individual differences in humor styles in Spain. *Personality and Individual Differences*, 120, 193-201.
<https://doi.org/10.1016/j.paid.2017.08.040>
- Torres-Marín, J., Proyer, R. T., López-Benítez, R., Brauer, K., & Carretero-Dios, H. (2019). Beyond the big five as predictors of dispositions toward ridicule and being laughed at: The HEXACO model and the dark triad. *Scandinavian Journal of Psychology*, 60(5), 473-483.
<https://doi.org/10.1111/sjop.12563>
- World Medical Association (2013). World Medical Association declaration of Helsinki: Ethical principles for medical research involving human subjects. *JAMA*, 310(20), 2191-2194.
<https://doi.org/10.1001/jama.2013.281053>
- Wu, C. L., An, C. P., Tseng, L. P., Chen, H. C., Chan, Y. C., Cho, S. L., & Tsai, M. L. (2015). Fear of being laughed at with relation to parent attachment in individuals with autism. *Research in Autism Spectrum Disorders*, 10, 116-123. <https://doi.org/10.1016/j.rasd.2014.11.004>
- Wu, C. L., Huang, Y. T., Wang, P. Y., & Chen, H. C. (2019). Parent-child attachment as a mediator of the relationship between parenting style and gelotophobia among adolescents. *International Journal of Psychology*, 54(4), 548-556. <https://doi.org/10.1002/ijop.12493>