Gelotophobia, personality and emotion ratings following emotion-inducing scenarios

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Abstract

Using measures of personality and emotion not previously employed in gelotophobia research, the study investigated the relationship between gelotophobia and emotion ratings after controlling for personality. The relationship between gelotophobia and sensory sensitivity was also investigated. Using the Big Five Inventory to measure personality, and the Highly Sensitive Person Scale to measure sensory sensitivity, the results supported previous research correlating gelotophobia with introversion and neuroticism. Six emotion scenarios were presumed to induce feelings of shame, shyness or embarrassment, and nine emotions were rated using the Differential Emotions Scale. When links to emotion ratings were explored, the research clearly supported previous research indicating the importance of fear. The expected link between gelotophobia and shame was supported for some scenarios, though shame was of slightly less relevance than sadness and guilt in the present study. It is suggested that subtle aspects of the situation, including the scenarios, the ratings measures, and the cultural background of the participants, may have contributed to the pattern of results.

Key words: emotions, gelotophobia, personality, sensitivity, shame

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Introduction

Several studies have linked gelotophobia to aspects of emotional behaviour. For example, Platt (2008) found that gelotophobic individuals showed substantially similar emotional profiles for bullying as for good-natured teasing, indicating their inability to clearly distinguish one from the other. In similar vein, a recent validation study by Ruch, Altfreder and Proyer (2009) found that gelotophobes were unable to distinguish between benevolent and malicious laughter. Papousek *et al.* (2009) found that gelotophobes report low ability to regulate their own emotions and, when shown emotionally contagious films, showed a high degree of emotional contagion of negative moods. Ruch, Beermann and Proyer (2009) note that gelotophobes are generally less cheerful and more inclined to be in a bad mood.

Several studies are particularly pertinent to the present investigation. Platt and Ruch (2009) note the special relevance of the emotions of fear and shame in the conceptualization of gelotophobia, as exemplified by the early formulation of the construct by Titze (1996). In a first study with a German-speaking sample, Platt and Ruch (2009) asked participants to rate the emotions of sadness, fear, anger, happiness, disgust, surprise, amusement, and shame with respect to several basic parameters: the emotion's latency (how long it took to begin), its intensity, its duration, how it is typically expressed, and its intensity during a typical week. Although most parameters attained no correlations above .30, fear and shame, followed by sadness and anger, were moderately correlated with gelotophobia when intensity during a typical week was assessed. A second study using an English-speaking sample, but measuring only fear, happiness and shame, supported the earlier finding for shame and fear, while fear was also correlated with duration and expression. In a very recent study employing the Test of Self-Conscious Affect – 3 (TOSCA-3; Tangney *et al.,* 2000), a scenario-based measure of proneness to shame, guilt, alpha and beta pride, detachment and externalization, Proyer, Platt, and Ruch (2010) again confirmed the importance of shame.

In a separate group of studies, gelotophobia has been correlated with broad personality dispositions. Such studies have found that gelotophobes are 'unstable introverts'; in other words, they tend to score high on the personality dimension Neuroticism, and low on Extraversion (Hrebícková *et al.,* 2009; Proyer & Ruch, 2010; Ruch, Proyer & Popa, 2008; Ruch & Proyer, 2009); though, as noted by Ruch and Proyer (2009), not all the gelotophobia variance can be accounted for by personality.

Using several research instruments not previously employed in gelotophobia research, the present study relates gelotophobia to self-reports of nine negative emotions, including fear and shame, taken after reading each of six short scenarios presumed to induce feelings of shame, shyness and embarrassment. We also examine the effects of gelotophobia on the various self-reported emotions after controlling for the effects of personality. Knowing that the neuroticism dimension is closely connected to negative affects, it seemed important to control for personality dimensions when studying the relationship between gelotophobia and emotion reports.

Finally, we considered the possibility that gelotophobia might be associated with the general tendency to be sensitive to environmental stimuli. This possibility was suggested by past research showing that sensory processing sensitivity is correlated with both introversion and neuroticism (Aron & Aron, 1997), and accordingly we included a measure of the construct in the personality battery.

Method

Participants

Participants were 104 introductory psychology students (84 females, 20 males) from the University of Melbourne, Australia. They were between the ages of 17 and 45 years, with a mean age of 20.00 (SD = 4.72). Questions were included in the survey to elicit information about cultural background and familial language (NESB – non English-speaking background) etc. Owing to the complexity and richness of cultural mix in contemporary Australian samples, the questions asked for self-report and were subsequently aggregated by the experimenters into appropriate groups. There were 27 participants who indicated that they were of 'Anglo-Australian' background, 66 of 'Asian' (mostly ethnic Chinese) background, and 11 of 'European' background.

Questionnaires

Participants completed the following questionnaires:

1. A modified measure of the English language version of the full 46-item *gelotophobia questionnaire,* the GELOPH <46> (Ruch & Titze, 1998). The available United Kingdom and American versions of the questionnaire had many items which were difficult to comprehend for native English speakers and, especially, for Australian NESB speakers. An alternative version was designed which maintained the underlying meaning of each question as closely as possible. This was registered with the authors of the original questionnaire.[4]

2. The Big Five Inventory (BFI) developed by Oliver John and his associates. This is a freely available 48-item measure of the five broad personality dispositions that make up the popular 'Big Five' model of personality: Neuroticism, Extraversion, Openness to Experience, Agreeableness, Conscientiousness (John & Srivastava, 1999).

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[4] We note the following two examples. Original item 4 in the UK version: "I avoid showing myself in public because I fear that people could become aware of my insecurity and could make fun of me", was replaced in our version with: "I avoid public speaking or performing because I fear that people could become aware of my insecurity and could make fun of me". Original item 43: "I never would travel alone in holidays because of getting then into a totally stiff (cramped) and peculiar condition/appearance", was replaced in our version with: "I would never travel alone on holiday, for fear of cramping up with tension and looking foolish".

3. The Highly Sensitive Person Scale (HSPS; Aron & Aron, 1997), measuring sensory processing sensitivity. This 27-item scale was developed to assess participants' sensitivity to external stimuli, broadly defined. Sample questions include: "Are you easily overwhelmed by strong sensory input?"; "Do you have a rich, complex inner life", and "Do you make a point to avoid violent movies?"

Scenario-Ratings Task

Six scenarios were presented, after each of which participants completed an adjective ratings task. Two scenarios were presumed to induce 'shame', two 'shyness', and two 'embarrassment'. The effectiveness of the scenarios was not pre-tested, but their adequacy for differentiating the various emotions in the present sample is described in the Results.

Scenario 1 ('Shyness')

You are at a talk by a famous psychology professor, who is about to speak. Five minutes before he speaks, the chair of the meeting comes up to you and says: "I'd like you to introduce the speaker, because you are studying psychology". You agree to do this, even though you know very little about the professor. Imagine your feeling when you are about to start speaking.

Scenario 2 ('Embarrassment')

You are standing at the back of a lift that is packed with people. The lift is quiet and all of a sudden you fart. Everyone turns around and looks at you.

Scenario 3 ('Shyness')

You are having lunch alone in a cafeteria. All of a sudden, the person whom you have a crush on comes over and confesses his/her feelings to you. Imagine your feelings when he/she is confessing.

Scenario 4 ('Shame')

You were walking quickly to your class one day. You see a person being knocked down by a car. Rather than giving help or phoning an ambulance, you hurry away, because you are running late for class.

Scenario 5 ('Shame')

You are in a bookshop with your friend. You absent-mindedly walk out of the shop with a book in your hand. A guy working in the shop calls out to you, and you hand the book to your friend and run away. Your friend is taken into the shop and, later, interviewed by the police.

Scenario 6 ('Embarrassment')

You see an old friend in the distance and wave vigorously to get his/her attention. As the person walks closer towards you, you realize you have hailed a stranger, having been fooled by an unexpected resemblance.

Following each scenario, participants rated their feelings on the Differential Emotions Scale, as modified by Mosher and White (1981) to include embarrassment and shyness clusters. As modified, the scale includes nine key negative emotion clusters, each comprising three specific emotion words. The nine clusters, with specific words in parentheses, are: shame (ashamed, humiliated, disgraced); embarrassment (embarrassed, self-conscious, blushing); shyness (shy, sheepish, bashful); anger (enraged, angry, mad); disgust (feelings of distaste, disgusted, feelings of revulsion); fear (scared, fearful, afraid); guilt (repentant, guilty, blameworthy); contempt (contemptuous, scornful, disdainful).

The 27 words were rated on 5-point scales ranging from "the feeling was mild" to "the feeling was extremely intense", and cluster scores were obtained by adding the scores for the three relevant words. Each cluster showed satisfactory alpha reliabilities in the present study, varying from a low of .80 (disgust), and with all other reliabilities between .89 (guilt) and .95 (contempt, anger).

Procedure

Participants completed the materials in small groups, in the following order: the GELOPH <46>, the BFI, the Scenario-Ratings Task, the HSPS.

Results

Previous gelotophobia studies have frequently employed the full 46-item gelotophobia scale. A short 15-item version (the GELOPH<15>) is also often used to represent the core items of the gelotophobia concept. We therefore report results for both of these measures.

Table 1 shows the correlations between the various personality measures and the two criterion measures of gelotophobia. Correlations between HSPS and the Big Five personality measures are also shown. It can be seen that, in line with previous studies, gelotophobia is most strongly correlated with extraversion (negatively) and neuroticism (positively).

Table 1:
Correlations among major self-report measures

	GELOPH<46>	GELOPH<15>	HSPS
Big Five Inventory			
Extraversion	-.52*	-.57*	-.19
Neuroticism	.49*	.50*	.37*
Agreeableness	-.26*	-.19	.15
Conscientiousness	-.20*	-.11	.07
Openness	-.24*	-.32*	.01
HSPS (Sensitivity)	.25*	.29*	-

* p < .05

The independent contribution of the various personality variables to the prediction of gelotophobia scores was examined using linear regression. Using the full scale as the dependent variable, a significant model was produced (F[6,97] = 31.95, p < .05), while both Extraversion (*Beta* = .40, t = -4.87, p < .05) and Neuroticism (*Beta* = .36, t = .41, p < .05) were significant predictors. Using the 15-item scale as the dependent variable, a significant model was again produced (F[6,97] = 14.71, p < .05). Extraversion was again a strong predictor (*Beta* = -.44, t = -5.53, p < .05), while Neuroticism was also entered into the model (*Beta* = .21, t = 2.18, p = .032). We note that Openness (*Beta* = -.15, t = -1.96, p = .054) and Sensitivity (*Beta* = .16, t = 1.89, p = .062) were just below the five percent criterion for inclusion.

In examining the relationship between gelotophobia and the emotion ratings of the scenarios, we first ascertained whether the six scenarios were successfully differentiating the various emotions in the way they were supposed to. In fact, when we looked at the mean ratings of the emotions for each scenario, the two scenarios presumed to measure shame were doing this quite well, but the other four scenarios did not clearly measure the emotions they were supposed to measure. We therefore decided that we would not examine the shame-related, embarrassment-related and shyness-related scenarios as three discrete types (as originally intended), but would look at each scenario independently, as well as looking at total scores across all six scenarios.

Table 2 shows the correlations of the two gelotophobia indices with the ratings on each emotion cluster. It shows the correlations for each scenario, and for the total ratings across all six scenarios. In light of the large numbers of correlations in the table, and the consequent susceptibility to Type 1 error, we note the need to focus on the size as well as the significance of the correlation coefficients.

Table 2:
Correlations of GELOPH<46> (G46) and GELOPH<15> (G15) with emotion ratings

	Scenario 1		Scenario 2		Scenario 3		Scenario 4		Scenario 5		Scenario 6		Totals	
	G46	G15	G46	G15	G46	G15	G46	G15	G46	G15	G46	G15	G46	G15
Shame	.42*	.40*	.17	.18	.37*	.34*	.09	.01	-.03	-.09	.35*	.37*	.32*	.28*
Embarrassment	.42*	.46*	.16	.18	.36*	.36*	-.00	-.06	.08	.04	.27*	.28*	.31*	.30*
Shyness	.39*	.41*	.27*	.28*	.30*	.29*	.18	.13	.09	.20	.22*	.22*	.32*	.30*
Fear	.50*	.53*	.49*	.47*	.53*	.55*	.17	.12	.06	.08	.47*	.48*	.51*	.49*
Sadness	.53*	.51*	.40*	.42*	.33*	.31*	.10	.11	.06	.07	.39*	.39*	.37*	.33*
Anger	.23*	.23*	.27*	.26*	.06	.13	.16	.10	.14	.09	.15	.14	.26*	.22*
Disgust	.34*	.35*	.29*	.29*	.29*	.30*	.09	.06	-.03	-.11	.26*	.23*	.25*	.21*
Guilt	.40*	.43*	.40*	.41*	.30*	.32*	-.00	-.01	-.03	-.11	.37*	.36*	.39*	.36*
Contempt	.23*	.26*	.33*	.34*	.32*	.34*	.07	.01	-.02	-.08	.26*	.26*	.21*	.18

Note. Total score is the total of the emotion ratings for all six scenarios.
* $p < .05$

The two measures of gelotophobia provide very similar patterns of correlations. There are small and inconsistent differences in these correlations when specific scenarios are examined, though slightly higher correlations with total scores on all emotions for the full version of the scale. Of the various emotions, fear is clearly the strongest across all results. On the other hand, there appears to be a considerable amount of variation concerning what emotions are important between scenarios. Shame, the other emotion of particular interest, tends to be of intermediate importance, ranking behind fear, guilt and sadness. For example, looking at the total scores for all scenarios, the correlation of shame with gelotophobia is fourth strongest when the GELOPH<46> is used, and sixth strongest when the GELOPH<15> measure is employed. It is of interest that none of the correlations involving Scenarios 4 and 5 (the two 'shame-inducing' scenarios) were greater than .18, and none attained the five percent significance level.

The two measures of gelotophobia were each used as dependent variables when carrying out a number of hierarchical regression analyses. In the first set of analyses the Big Five personality dimensions were entered as the first block of independent variables. Each of the various emotion clusters for each separate scenario was then entered individually as the second block. This hierarchical regression approach was applied in order to investigate whether the emotion clusters were related to gelotophobia above and beyond their relation to the personality factors.

In fact, controlling for personality alone made little difference concerning which emotion clusters were related to gelotophobia. All the relationships which were statistically significant using correlation analysis remained significant when personality was controlled in a regression analysis. These results are therefore not reported, as they substantially duplicate the results obtained from the correlation analysis (as reported in Table 2).

Table 3:

Significant predictors of gelotophobia after controlling for personality and emotional states

Scenario	GELOPH<46>			GELOPH<15>		
	Predictor	Beta	t	Predictor	Beta	t
1	Sadness	.35	3.62	Fear	.30	3.67
2	Guilt	.22	2.56	Guilt	.37	4.10
	Fear	.18	2.03	Fear	.18	2.18
3	Fear	.27	3.16	Fear	.26	3.19
	Contempt	.18	2.37	Contempt	.20	2.64
6	Sadness	.29	3.90	Sadness	.26	3.55
Total	**Fear**	**.31**	**4.09**	**Fear**	**.29**	**3.84**

Note. The table shows all predictors significant at the 5 percent level after controlling for the five personality factors and other emotion measures. There were no significant predictors for Scenarios 4 and 5.

The second set of hierarchical regression analyses examined which of the various emotions was independently connected to gelotophobia for each scenario, after controlling for the effects of all the other emotion clusters as well as personality. The Big Five dimensions were again entered as the first block of variables. As the second block, all the emotion clusters for a particular scenario were entered, and were gradually reduced by removing the weakest predictor until only significant emotion clusters remained. These significant remaining emotion clusters are shown in Table 3.

It can be seen that, across all six scenarios, in this sample, fear is the one emotion cluster which clearly predicts gelotophobia. For specific scenarios, sadness, guilt, and contempt as well as fear appear as significant independent predictors of gelotophobia for specific scenarios. There is considerable agreement between the two measures concerning which emotions significantly predict gelotophobia.

Discussion

Using a measure of the Big Five not previously employed in gelotophobia research, the personality results further strengthen the findings of previous research relating gelotophobia to low extraversion and high neuroticism.

The data also provide support to previous studies that point to the importance of fear as an emotion in gelotophobia. Across our six scenarios, fear obtained easily the strongest correlation with gelotophobia scores, using both measurement criteria. Fear also obtained by far the strongest set of correlations with individual scenarios. However, the other emotion of particular interest, shame, produced correlations of only intermediate strength. Indeed, for the types of scenarios used in our study, it appeared of less importance than such emotions as sadness and guilt.

Our preferred interpretation of these data, in the light of earlier studies, is that a range of emotions is potentially linked to gelotophobia. These emotions include, probably among

others, fear, shame, sadness and guilt. The nature of these links in a particular situation, such as following the reading of a scenario, is based on often subtle aspects of the situation. The precise details of the scenario may be of importance, as illustrated by the clear differences in the patterns of correlations between scenarios in the current study. The method used in rating emotions may also be relevant. Our ratings method involved aggregation of three adjectives to assess each emotion; different to the method employed in earlier studies.

Even more subtle aspects of the situation include the nature of the sample itself. A large proportion of the present sample consisted of ethnic Chinese individuals living in Australia for widely varying periods of time. However, the numbers within each ethnic subgroup did not permit a thorough analysis of cultural differences. Given both the sense of obligation by migrant children to their parents to succeed and the importance of the concepts of 'face' and 'shame' in Sino-Japanese societies (Hwang, 1987; Li, 2000), as well as the obvious connection between losing face and fear of being laughed at, it is suggested that future investigations of links between gelotophobia and emotion might usefully take account of culture within as well as across national samples.

References

Aron, E. N., & Aron, A. (1997). Sensory-processing sensitivity and its relation to introversion and emotionality. *Journal of Personality and Social Psychology, 77,* 97-104.

Hrebíčková, M., Ficková, E., Klementová, M., Ruch, W., & Proyer, R. T. (2009). Strach ze zesmešnení: Ceská a slovenská verze dotazníku pro zjistování gelotofobie [The fear of being laughed at: The Czech and Slovak version of the GELOPH 15 for the assessment of gelotophobia]. *Ceskoslovenská Psychologie, 53*, 469-480.

Hwang, K. K. (1987). Face and favor: The Chinese power game. *American Journal of Sociology, 92*, 944-974.

John, O. P., & Srivastava, S. (1999). The Big Five Trait taxonomy: History, measurement, and theoretical perspectives. In L. A. Pervin & O. P. John (Eds.), *Handbook of personality: Theory and research* (pp.102-138). New York: Guildford Press.

Li, J. (2000). The organization of Chinese shame concepts. *Cognition and Emotion, 18*, 767-797.

Mosher, D. L., & White, B. (1981). On differentiating shame and shyness. *Motivation and Emotion*, *5*, 61-74.

Platt, T. (2008). Emotional responses to bullying and teasing: Should gelotophobics react differently? *Humor: International Journal of Humor Research, 21*, 105-128.

Platt, T. & Ruch, W. (2009). The emotions of gelotophobes: Shameful, fearful and joyless? *Humor: International Journal of Humor Research, 22*, 91-110.

Proyer, R. T., & Ruch, W. (2010). Agents and targets of ridicule: Gelotophobes, gelotophiles, and katagelasticists in the Eysenckian model of personality. *Psychological Test and Assessment Modeling*.

Proyer, R. T., Platt, T., & Ruch, W. (2010). Self-conscious emotions and ridicule: Shameful gelotophobes and guilt free katagelasticists. Manuscript submitted for publication.

Ruch, W., Altfreder, O., & Proyer, T. R. (2009). How do gelotophobes interpret laughter in ambiguous situations? An experimental validation of the concept. *Humor: International Journal of Humor Research*, *22*, 63-89.

Ruch, W., Beermann, U., & Proyer, T. R. (2009). Investigating the humor of gelotophobes: Does feeling ridiculous equal being humorless? *Humor: International Journal of Humor Research, 22*, 111-143.

Ruch, W., & Proyer, R. T. (2008). Who is gelotophobic? Assessment criteria for the fear of being laughed at. *Swiss Journal of Psychology*, *67*, 19-27.

Ruch, W., Proyer, R. T., & Popa, D. E. (2008). The fear of being laughed at (gelotophobia) and personality. *Anuarul Institutului de Istorie "G. Baritiu" din Cluj-Napoca, Series Humanistica",* tom VI, 53-68.

Ruch, W., & Proyer, T. R. (2009). Who fears being laughed at? The location of gelotophobia in the PEN-model of personality. *Personality and Individual Differences, 46*, 627-630.

Ruch, W., & Titze, M. (1998). *GELOPH<46>*. Unpublished questionnaire. Department of Psychology, University of Düsseldorf, Düsseldorf, Germany.

Papousek, I., Ruch, W., Freudenthaler, H. H., Kogler, E., Lang, B., & Schulter, G. (2009). Gelotophobia, emotion-related skills and responses to the affective states of others. *Personality and Individual Differences, 47*, 58-63.

Tangney, J. P., Dearing, R. L., Wagner, P. E., & Gramzow, R. (2000). *The Test of Self-Conscious Affect-3 (TOSCA-3)*. Fairfax, VA: George Mason University.

Titze, M. (1996). The Pinocchio complex: Overcoming the fear of laughter. *Humor and Health Journal, 5*, 1-11.