

The fear of being laughed at: Individual and group differences in Gelotophobia*

WILLIBALD RUCH and RENÉ T. PROYER

Abstract

Single case studies led to the discovery and phenomenological description of Gelotophobia and its definition as the pathological fear of appearing to social partners as a ridiculous object (Titze 1995, 1996, 1997). The aim of the present study is to empirically examine the core assumptions about the fear of being laughed at in a sample comprising a total of 863 clinical and non-clinical participants. Discriminant function analysis yielded that gelotophobes can be separated from other shame-based neurotics, non-shame-based neurotics, and controls. Separation was best for statements specifically describing the gelotophobic symptomatology and less potent for more general questions describing socially avoidant behaviors. Factor analysis demonstrates that while Gelotophobia is composed of a set of correlated elements in homogenous samples, overall the concept is best conceptualized as unidimensional. Predicted and actual group membership converged well in a cross-classification (approximately 69% of correctly classified cases). Overall, it can be concluded that the fear of being laughed at varies tremendously among adults and might hold a key to understanding certain forms of humorlessness.

Keywords: bullying; Gelotophobia; laughter; mobbing; ridicule.

1. Introduction

Most people have encountered situations in which they were not sure whether they were the objects of laughter or not. For example, walking on the street and passing by children who start to laugh after one of

them apparently says something funny. Or, when people stop talking just after one enters a room, then some inaudible mumbling followed by giggles in that group of people. Such co-occurrences can have happened just by chance and the laughter was not directed at us, or because indeed we were the target of the humor. We might have given a reason for laughter (e.g., due to our wearing of a pair of socks of different colors) or a prank was played that just needed one person and we were the first to come along. Whether or not we were able to enjoy that situation or annoyed about it, most of us would not believe that we are ridiculous in general.

However, there are also habitual features that can make human beings long-term or permanent objects of laughter. It may be peculiarities of physical appearance (e.g., overweight, Dumbo ears, i.e., protruding ears). Or perhaps be due to deviant behaviors, stuttering, odd habits, misfortunes that happen, slips of the tongue, eccentric views, infirmity, insufficient achievements and failure. Wearing the wrong clothing, one's familial or ethnic background and so forth, or anything deemed to deviate from the social norm could provide basis for mockery. Humankind has a history of laughing at the weak; for example, only a few hundred years ago it was considered to be a weekend entertainment to go to the mental institutions and watch the imprisoned mentally ill and imbeciles. Physically deformed people were exposed to paying audiences in traveling circuses. Mockery in pure form is easily observed in the schoolyard, and TV shows are often based on "Schadenfreude", i.e., the pleasure taken in mishaps that befall others.

Descriptions and explanations of derisive laughter exist. It did not go unnoticed by philosophers and theorists that we don't only laugh *with*, but also laugh *at*, and laughing at inferiors is an essential ingredient of the so-called superiority or disparagement theories and their variations (see, e.g., Martin 1998, 2007). Those theories date back to Plato and Aristotle and find also support among contemporary researchers (e.g., Gruner 1997). Aristotle, for example, suggested that laughter arises primarily in response to weakness and ugliness. Thomas Hobbes (1651) stated that the passion of laughter is nothing else but some sudden glory arising from some sudden conception of some eminence in ourselves, by comparison with the infirmity of others, or with our own formerly. Typologies of the comic typically have categories of ridicule, satire, sarcasm, and mockery. Likewise, overt behavior was also described. The unilateral joint contraction of the zygomatic major and buccinator muscle is considered to

be a universal expression of contempt (Ekman and Friesen 1986). Grinning rather than giving a verbal answer to a question is considered an expression of rejection, and to express scornful and derisive laughter shows that contempt or disparagement can likewise be expressed at the level of laughter.

Schmidt-Hidding (1963) traced back the first mentioning of laughter in the German language and found that its occurrence was mentioned during festivities but also as part of bloodshed. Ethological literature also offers both explanations. Van Hooff (1972) suggested that the phylogenetic roots of laughter are in the “relaxed open mouth display,” a common pattern occurring during play among primate infants. This play face is a metacommunicative signal, designating the behavior with which it is associated as mock aggression or play. Eibl-Eibesfeldt (1975) postulates a function different from the one of van Hooff. According to this view laughter is an action whose function is to correct or to repel deviant or non-conforming individuals—the effect is a binding function on companions who are laughing together. This is similar to the mobbing effect observed among birds. Laughter then also might have an educational aggressive function, which brings outsiders into line and which reinforces group solidarity and homogeneity. In this view laughter acts as a conformity pressure.

Most of this research focused on the audience of disparagement humor (cf. Ford and Ferguson 2004; Zillmann 1983) and the personality of the agent (e.g., cynic hostility). While there is advancement in the understanding of the effects of more good-natured teasing (Keltner et al. 2001), little attention has been paid to the effects mockery has on the target of derisive laughter. Only one study addressed the effects on bystanders observing others being ridiculed. Janes and Olson (2000) studied so called “jeer pressure” and found that witnessing mockery leads to behavior inhibition, enhanced conformity and reduced creativity among the observers. There is some research on the effects on the target of mockery. Keltner (1995) described “teasing” and the smile of embarrassment that it constantly elicits (cf. Keltner et al. 1998; Kruger et al. 2006).

What happens if one is the constant butt of mockery, and what precisely, if any, are the short- and long-term effects of being laughed at? However, experimental research on the effects of the more intense derisive laughter or disparagement humor would be unethical and thus one needs to look for naturally occurring instances, as provided by clinical observations.

2. Gelotophobia, the fear of being laughed at

One answer to the above-raised question is provided by the work of Titze (1995, 1996, 1997). Based on clinical observations, he described putative long-term effects of early, intense and repeated exposure to mockery and not being taken seriously, coining the terms *Gelotophobia* (i.e., the fear of being laughed at; from *gelos* = Greek for laughter). According to Titze (1996), certain patients seem to be primarily concerned with being laughed at by others, as they are convinced that they are ridiculous objects.

Titze (1995, 1996, 1997) defines Gelotophobia as the pathological fear of appearing to social partners as a ridiculous object. Accordingly, gelotophobes fear exposing themselves to others because those others supposedly are screening them for evidence of ridiculousness, which then leads to laughter at the patient's involuntary expense. Gelotophobia at its extreme involves a more or less pronounced paranoid tendency, a marked sensitivity to offense, and social withdrawal (Titze 1996).

However, Titze deduced his definition within a clinical realm. While the present study is based on a distinction of clinical groups it will be of interest in future studies whether Gelotophobia is of relevance among non-clinical samples as well. One might think of Gelotophobia as an individual differences phenomenon. Many persons will experience some kind of sensitivity towards the laughter and smiling of others in certain situations but it might be assumed that there is—even in non-clinical samples—a group of persons that is permanently concerned with the fear of being laughed at by others. However, gelotophobes have not learned to appreciate laughter and even smiling in a positive way (Titze 1996). Therefore they respond, even to positively motivated laughter and smiling, in a way that indicates their fear of being put down or being otherwise humiliated by those who face them with laughter or smiling.

Based on his case-studies Titze (1995, 1996, 1997) describes the origins and consequences of Gelotophobia. This nomological net of proposed factors can be illustrated by a diagram (Ruch 2004) depicting a model of putative causes and consequences of Gelotophobia (see Figure 1).

Figure 1 shows a comprehensive model of putative causes and consequences of Gelotophobia summarizing the theoretical approach by Titze as can be found in different sources. The model will not be discussed in detail but a few important aspects will be highlighted. According to this

Causes

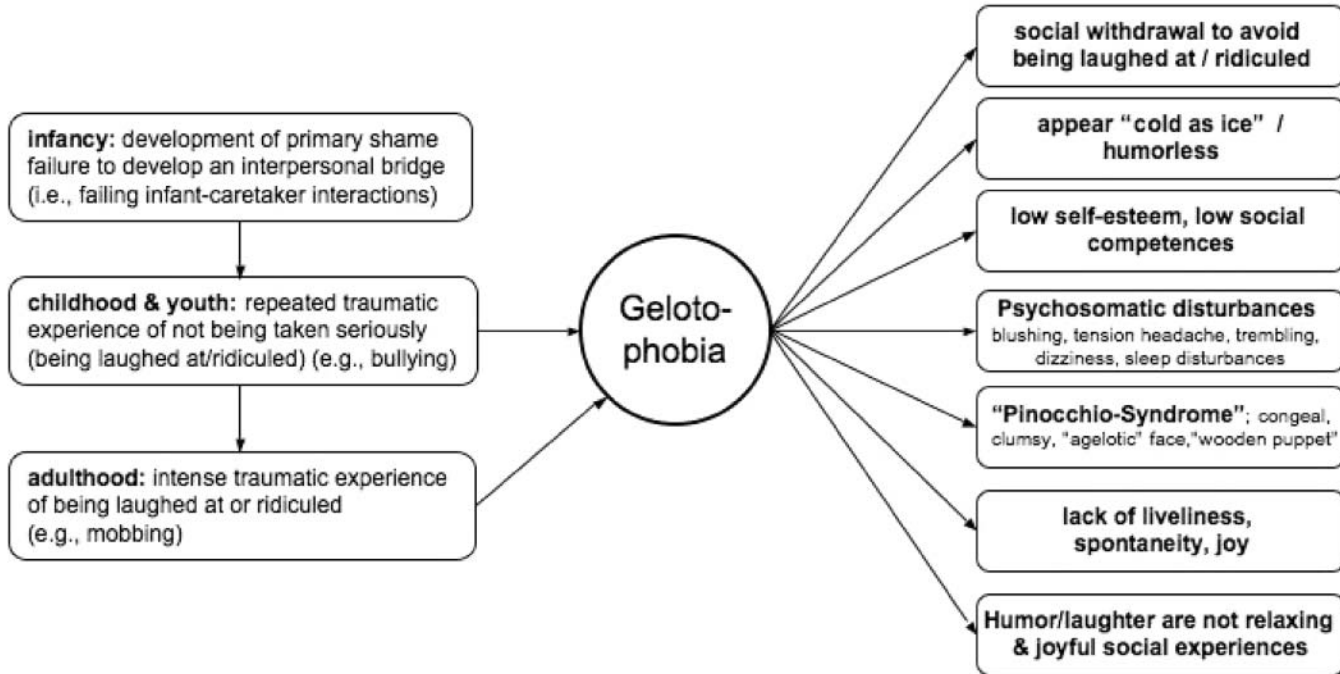


Figure 1. *A model of the putative causes and consequences of Gelotophobia as proposed by Titze (Ruch 2004)*

model, repeated traumatic experiences of not being taken seriously (being laughed at or ridiculed) during childhood and adolescence, and/or intense traumatic experiences of being laughed at or ridiculed during adulthood (e.g., bullying), may lead to the development of the fear of being laughed at. This development is preceded by peculiarities in the early parent-infant interactions. In this period, some infants are unable to develop a sense of belonging because they did not experience the feeling of being loved or appreciated. A major consequence is social withdrawal to avoid being laughed at or ridiculed. Additionally, those patients lack liveliness, spontaneity, and joy. They have a low self-esteem and develop social competences only poorly. In addition to their “wooden appearance” they appear “cold as ice” to others and they are humorless; i.e., humor and laughter are not relaxing and joyful social experiences (for a full description, see Titze 1995, 1996, 1997).

Gelotophobia is related to social phobia and shares common features (e.g., social withdrawal). The distinguishing feature, however, is their conviction of being ridiculous, strange, curious, queer etc. to others and the expectation of being laughed at. Gelotophobes are convinced that “something is wrong” with them. This conviction is related to shame about the presumed shortcomings and inferiorities. Jacoby (1991) related this conviction with shame in general, however, some patients experience shame only in specialized areas. This nosological category includes the core-problem of Gelotophobia, which is based on a distinct experience of shame—which is interpreted by many students of social anxiety and phobia as embarrassment (Markway et al. 1998).

3. The present study: The empirical verification of the Gelotophobia concept

Titze’s phenomenological studies and clinical observations of patients yielded a description of Gelotophobia and provided case studies for the study of its etiology. As such they can be seen as an initial step, albeit providing a good foundation. Further research is necessary to identify the phenomenon in other realms of data (e.g., large scale surveys, peer-report, behavioral observation, physiological data, experiments, semi-projective tests).

However, the first aim is the verification of the concept in the clinical setting based on self-reports of larger samples and groups selected by

theory. A rationale for the empirical verification of the Gelotophobia concept is set up and discussed next.

First, it is postulated that there exists a dimension ranging from low to high Gelotophobia, with individuals lacking any fear of being laughed at at the bottom of the scale and individuals with a fully developed gelotophobic symptomatology at the high end of the dimension. The postulate of a dimension implies that it is assumed that there are gradual differences among individuals with regard to the number and severity of symptoms rather than a normal vs. gelotophobic (or healthy vs. ill) dichotomy. In fact, it is assumed that several groups will assume a different position on that dimension in a predictable way (see below).

Second, it is assumed that some behaviors, thoughts, attitudes, and so forth are specific for gelotophobes while others may be typical for gelotophobes but are shared with other groups. For example, the core of the symptomatology is to systematically attribute all (even innocent) laughter as being a weapon used to put the patient down and to be convinced that one is a ridiculous object that others laugh at for a proper reason. These can be seen as genuine markers of Gelotophobia. However, avoiding social situations to prevent negative events from happening is shared with other nosological categories such as social phobia. Thus, in a comprehensive list of conspicuous behaviors of gelotophobes, some statements will be exclusive markers of Gelotophobia while others will be equally typical for related clinical groups as well. In the statistical analyses, those core statements will help to mark the location and endpoint of the postulated dimension.

Third, it is proposed that three clinical groups are needed for the empirical verification of the Gelotophobia dimension in addition to the control group of “normals”, and those three groups will assume different locations on the Gelotophobia dimension. Obviously, in order to assure utmost presence of the symptomatology, an identified group of gelotophobes is needed to mark the upper end of this dimension. At the moment the only available valid assessment of Gelotophobia is the clinical judgment of the creator of this concept. At best, Titze and his team should provide a group based on their own diagnosis. In this group, the fear of shame-inducing laughter is most markedly present; i.e., they should be scoring highest on that dimension. The group next most closely related, that could be used to demonstrate that Gelotophobia is a separate syndrome, is a group of patients with more general shame-bound problems. Finally, a group of patients for whom shame is not a typical

problem is required as well. This group, in turn, will be lower in Gelotophobia than those with shame problems. While these three groups should stem from a clinical population (to keep the general conditions comparable) the group of normals may mark the low end of the dimension as well.

What kinds of clinical groups may be selected? Donald Nathanson's (1992) distinction between two types of depression might be helpful and those two groups will differ in Gelotophobia. For Nathanson, "typical depression" is related to guilt while "atypical depression" is based on shame. Accordingly, one can predict that atypical depressives will score high on Gelotophobia, but gelotophobic symptoms may be virtually absent among the typical depressives. How will gelotophobes compare to the atypical depressives? Nathanson describes atypical depressions as "... a persistent form of mood disturbance characterized by rejection sensitivity, social phobia, and applause hunger ... with self-deprecating withdrawal" (1992: 322). In a sense Gelotophobia represents one — frequently overlooked — facet of shame-based depressions; i.e., gelotophobes are hypothesized to be a subgroup of shame-based neurotics. Therefore one can predict that, while gelotophobes will not be different from other shame-based neurotics in the general shame-related questions, they will score higher in (or endorse more often) the specific questions relating to effects of being ridiculed, to the fear of being laughed at, or to being suspicious about the motivation(s) behind people's laughter. Gelotophobia will be less pertinent or not at all present among the non-shame-based depressed. One may predict that this group will score as equally low as the control group of normals. While the sample of adult controls generally should yield the lowest scores, there may be some high scores as well due to different reasons. One reason is that these may be simply unidentified (pre-clinical) gelotophobes; another is that their clinical status in studies is unknown to investigators.

Thus, the prime aim of the present study was to explore whether a set of content-saturated statements referring to Gelotophobia can discriminate among three clinical groups, namely gelotophobes, shame-bound neurotics, and non-shame-bound neurotics (in the descending order given), with the latter group not being different from a group of normal controls. The statements allowing that discrimination are expected to be also the ones that load most highly on the first principal component derived from the intercorrelation of the statements. While further axes might be extracted, they are expected to be minor and loaded by the more unspecific

statements (i.e., symptoms that gelotophobes and shame-based neurotics might share).

4. Method

4.1. Research participants

4.1.1. Clinical samples. Altogether 368 patients were recruited from private practices and hospitals. There were 135 males and 232 females (the gender of one participant was not available) in the ages from 16 to 83 years ($M = 40.49$ years, $SD = 11.00$). Ninety-nine were diagnosed as gelotophobes (G), 166 were neurotics with general shame-bound problems (S), and 103 formed the group of non-shame-bound neurotics (NS). Among all of these groups various types of depression dominated. The three groups did not differ from each other with respect to age ($F[2, 365] = .81$; n.s.). Also, there is the same female to male ratio (2:1) in all samples (including the control group; $\chi^2(3) = 2.55$; n.s.).

Medical personnel remitting the patients made the initial diagnoses based on their clinical judgment. In each case, the list of statements was completed after the diagnosis was made. Psychotherapists working intensively with these patients made the assessment classifying the patients into gelotophobes, shame-based neurotics and non-shame-based neurotics. They used standardized and predetermined criteria for differentiating typical depression (= based on guilt fantasies) from atypical depression (= based on shame fantasies) as described by Nathanson (1992). The diagnosis of Gelotophobia (G) was based on the fact that (a) the respective shame experiences were not restricted to objective causes in circumscribed areas of life, (b) the shame experiences were connected with a (poor) self-evaluation which, regularly, could be reinforced by those social encounters where laughing or smiling is included, (c) that the respective patient showed a restrained (stiff) posture, combined with awkward movements, gaze aversion and other forms of inappropriate behavior. The diagnosis of general shame (S) was based on the fact that the respective problems did not reflect a person-centered (“narcissistic”) development, which indicates a specific disturbance of the patient’s self-esteem.

4.1.2. Control sample. A mixed sample of 495 volunteers and students (185 males, 383 females) in the ages from 16 to 93 ($M = 36.45$ years, $SD = 14.23$) formed the control group.

4.2. *Instruments*

For the subjective assessment of Gelotophobia, a set of 46 statements describing the gelotophobic phenomenology was generated. Statements can be assigned to facets derived from Titze (1995, 1996, 1997). These facets are paranoid sensitivity towards mockery of others (11 statements), fear of the humor of others (6), critical self-consciousness of their own bodies (8), critical self-consciousness of their own verbal and non-verbal communicative functions (5), social withdrawal (4), general response to the smiling and laughter of others (3), discouragement and envy when comparing with the humor competence of others (4), and traumatizing experiences with laughter in the past (5). While some of the statements formulated are specially referring to the gelotophobic symptomatology (e.g., facet 1 though 4), others (e.g., facet 5) are prevalent among gelotophobes but not specifically restricted to them; i.e., might be shared with other groups.

It is assumed that Gelotophobia is a unidimensional concept and these facets should be helpful for the further description and the structuring of the concept. However, it is not intended to set up or to explore a multifacet model of Gelotophobia. All statements are positively keyed and they utilize a four-point answer scale (1 = strongly disagree; 2 = moderately disagree; 3 = moderately agree; 4 = strongly agree). The statements were preceded by an instruction, and a set of sociodemographic questions were added after the list of statements.

4.3. *Procedure*

The medical doctors remitting the patients to the psychologists made the initial (and traditional) clinical diagnoses. Two clinical psychologists who worked intensively with these patients provided the assessment classifying them into the three groups (i.e., gelotophobes, shame-based and non-shame-based neurotics) according to the criteria outlined above. Patients of the clinical sample were already undergoing treatment when the study started. They completed the list of statements after having already had extensive contact with the psychotherapists, and the diagnoses did already exist. The classification into the three groups was done after the fifth meeting. In all cases the clinical diagnoses and the administration of the list of statements were done independently from each other.

The sample of adult volunteers was recruited via advertisements in newspapers and took part in a large-scale personality study. They were mailed questionnaires and filled them in at home in solitude during their leisure time. They received feedback on group and individual results to honor their participation. The student samples were recruited by means of pamphlets. They were tested individually and they were paid for their services. Testing took place in laboratory rooms in University.

5. Results

5.1. Examination of the specificity of the Gelotophobia concept

A discriminant function analysis was undertaken with the four groups as the classification variable and the 46 statements as dependent variables. A forward stepwise analysis was utilized (criterion to enter the function: $F > 3.9$, $p < .01$) and yielded a Wilks' Lambda of .39 ($F[30, 2398.73] = 30.06$, $p < .01$). Ten statements entered the function (Nos. = 23, 22, 26, 38, 18, 43, 40, 39, 1, 15) and three functions were significant.

Axis one (Eigenvalue = 1.20; canonical correlation = .74; Wilks' Lambda = .39; $\chi^2 = 769.94$, $df = 30$; $p < .01$) explained 88.49% of the variance. Pooled within-groups correlations between discriminating variables and canonical discriminant functions showed that all statements were involved in the discrimination of the groups along the first axis; the correlations ranged from .18 to .63 with a median of .43. The statements marking this axis stem from all facets; the statements yielding lower coefficients primarily relate to *traumatizing experiences with laughter in the past*. Not surprisingly this axis ("Gelotophobia") discriminated among the four groups in the expected way: gelotophobes scored highest ($M = 2.54$), followed by shame-bound neurotics ($M = .83$), non-shame-bound neurotics ($M = -.40$), and normals ($M = -.70$) with the differences among all groups being significant ($p < .01$) except for the differences between non-shame-based neurotics and normals ($p = .06$). The same rank order can be found for each single statement. An inspection of the means for each statement in univariate analyses shows that the group of gelotophobes always scored numerically higher than the shame-bound neurotics, which in turn, scored higher than both the non-shame-bound neurotics and normal controls (the latter two had no systematic difference). However, the amount of differences between the groups varied

from statement to statement and therefore one can expect further axes to appear to account for those deviations from the general pattern.

Axes two and three have in common that they explain only little of the variance, are bipolar and have no pure markers; i.e., the highly loading statements also have a strong alignment with the first axis. Thus, for an optimal selection of statements, it might be worthwhile to rotate the entire system so that the first axis moves slightly towards axes two and three.

The second axis (Eigenvalue = .12; canonical correlation = .33; Wilks' Lambda = .86; $\chi^2 = 122.25$, $df = 18$; $p < .01$) explained 8.83% of the variance. These correlations ranged from $-.33$ to $.48$ with a median of $.01$. Inspection of the markers of the two poles of the second dimension gives clarification to the nature of this dimension. Two criteria were considered: the means of the four groups in the particular statement and the content of the statement. The statements with the positive coefficients have two characteristics: first, the scores of the gelotophobes were exceeding the other three groups by far, and second, the other three groups were not very different from each other (with the mean of the non-shame-bound neurotics being numerically the lowest). Content-wise, these statements were the ones that specifically related to the core facet relating to *paranoid sensitivity towards mockery of others* (e.g., the belief that one is appearing ridiculous to others, the suspicion that others laugh at one, and the avoidance of situations where one could be ridiculed or mocked) and also the other statements of this core facet have a positive coefficient. The statements with the negative coefficients have in common that there are comparatively small differences between the gelotophobes and shame-bound neurotics, with both being higher than the group of non-shame-bound neurotics, which in turn is higher than the controls. Content-wise, these statements cover the general statements relating to social avoidance and they stem from different facets. Overall, this axis discriminated between the gelotophobes ($M = .45$) and normals on one hand ($M = .17$) (who were not significantly different from each other; $p = .11$) and the shame-bound neurotics ($M = -.56$) and the non-shame-bound neurotics ($M = -.41$) on the other (who are again not significantly different; $p = .80$).

The third variate (Eigenvalue = .04; canonical correlation = .19; Wilks' Lambda = .97; $\chi^2 = 29.35$, $df = 8$; $p < .01$) explained only 2.68% of the variance. While the coefficients did range from $-.33$ to $.56$ and six statements had a coefficient $> \text{abs}(.20)$, 40 of the 46 statements had a positive correlation (mean = $.10$). Statements with a higher mean tended to

have higher positive loadings ($r = .42$, $df = 44$, $p < .01$). Thus, this axis in part emerged because statements have different means. Content-wise, it discriminated between the non-shame-bound neurotics ($M = -.46$) on one hand and both the shame-bound neurotics ($M = .21$) ($p < .01$) and normals ($M = .00$) ($p < .01$), but not the gelotophobes ($M = -.11$). This axis was considered to be of neither empirical value (i.e., low percentage of explained variance) nor theoretical substance (i.e., irrelevant to the question of signifying Gelotophobia) and was discarded.

5.2. Discrimination among the clinical groups

In order to examine how well the statements predict group membership among the three clinical groups, it was decided to conduct the classification without the control sample. Again, a discriminant function analysis was conducted (which yielded highly comparable results which will not be discussed here). The focus is on the convergence of actual and predicted group membership. Although the sample size is rather large, cross-classification was attempted, too, in order to consider sample fluctuations. The classification results are given in Table 1.

Table 1. Classification results: predicted vs. actual group membership

	Percent	G	S	NS
Original group	Correct			
Gelotophobes (G)	69.70	69	30	0
Shame-bound neurotics (S)	66.46	20	109	35
Non-shame-bound neurotics (NS)	71.57	1	28	73
Total	68.77	90	167	108
Cross validated group	Correct			
Gelotophobes (G)	67.68	67	32	0
Shame-bound neurotics (S)	64.02	23	105	36
Non-shame-bound neurotics (NS)	70.59	1	29	72
Total	66.85	91	166	108

N = 350. NS = non-shame-based neurotics ($n = 100$), S = shame-based neurotics ($n = 152$), G = gelotophobes ($n = 98$).

Table 1 shows that the diagonal contains by far the highest number of subjects. Thus, overall 68.77% of the cases were correctly classified, with the percentage of people per group correctly predicted ranging from 66.46 to 71.57%. Interestingly, none of the gelotophobes was classified wrongly

as a non-shame-bound neurotic and only one of the non-shame-bound neurotics was classified wrongly as gelotophobic. This demonstrates that the prediction within the groups is relatively accurate. Results of the cross-classification (using the leaving-one-out method) were highly similar. As before, the percentage of overall correctly classified groups was good (66.85%). Between 64.02% and 70.59% of the participants were correctly predicted per group. Again, only adjacent groups were partly misclassified but none of the gelotophobes was wrongly classified as non-shame-bound neurotic and only one non-shame-bound neurotic was wrongly classified as gelotophobic.

5.3. *Factor analyses*

Principal components analyses were computed for the 46 statements in different samples (the total sample, the clinical sample, the gelotophobes, shame-bound neurotics, and the control sample) separately to see how many factors are needed to account for their intercorrelations. Typically, there was one very strong factor and the Scree test suggested the extraction of three factors (for example, the Eigenvalues for the total sample were: 18.55, 1.93, 1.51, 1.36, 1.12, and 1.01), which explain 47.81% of the variance.

All except three statements had loadings higher than .50 on the first unrotated factor (tentatively labeled “Gelotophobia”) and these loadings ranged from .35 to .78 with a mean of .63. The statements yielding lower coefficients primarily relate to *traumatizing experiences with laughter in the past*. An ANOVA was performed with the four groups as classification variable and factor scores as dependent variables. As expected, the first factor discriminated among the four groups in the expected way ($F[3, 826] = 253.75, p < .01$), with the order being: controls ($M = -.41$), non-shame-based (NS) ($M = -.39$), shame-based (S) ($M = .50$), and gelotophobes (G) ($M = 1.64$). All adjacent groups were highly significantly different ($p < .01$) from each other, except the controls and non-shame-based neurotics.

Factor 2 seems to be confounded with the differences in item difficulty; the correlation between size of loading and means was $-.62 (p < .01)$. Although the overall effect was significant ($F[3, 826] = 2.80, p < .05$), none of the differences among the four groups (all $ps \geq .12$) in the second factor was significant and this factor was discarded from further consideration. Factor 3 was slightly related to item difficulty (correlation between size of

loading was .37; $p < .05$). This factor yielded a highly significant overall discrimination ($F[3, 826] = 15.70$, $p < .01$); more specifically, it separated the controls and gelotophobes on one the hand from the shame-bound neurotics and non-shame-bound neurotics on the other (all $p < .01$).

There was a good correspondence between the factor analysis and discriminant analysis; i.e., the covariance among the statements corresponded to the variance between the groups. In particular, evidence from three sources suggested that the first two axes of the discriminant analysis corresponded to axes one and three of the factor analysis. First, the first unrotated factor did correlate highly with the first discriminant axis ($r = .91$, $df = 828$; $p < .01$) and the third factor with the second discriminant axis ($r = -.46$, $df = 828$; $p < .01$). Second, analyzing the patterns across the statements, one could see that the loadings on the first unrotated factor correlate with the loadings on this first discriminant axis ($r = .75$, $df = 44$, $p < .01$), and the third axis from the factor analysis corresponded very well with the second discriminant axis ($r = -.57$, $df = 44$, $p < .01$). Finally, the configurations of the four groups in the two-dimensional space defined by factor analysis and discriminant analysis were highly equivalent. Figures 2a and 2b show the location of the four groups in the space defined by (a) the first two discriminant axes and (b) the two principal components, respectively.

Figure 2 shows that the four groups assumed highly comparable locations in the two spaces, suggesting that the two sets of axes were practically identical. This suggests also that the variation along the second dimension is systematic, and that the same groups and same statements contributed to that dimension.

While already the first axis did allow discriminating the gelotophobes from the shame-bound neurotics, the second axis contributed to the discrimination of these two groups (albeit to a lesser extent than axis one). Nevertheless, several reasons suggest maintaining a unidimensional view of Gelotophobia and to neglect the variation along the second axis. Firstly, there were no statements that exclusively loaded on the second axis and loading on the first axis was typically higher. Secondly, the one pole of the second axis simply refers to statements of general contents (being ridiculed at school, parents used irony and sarcasm as means of punishment; getting envious or sad when seeing happy people, assuming one will only be accepted if one is conforming) that don't discriminate between gelotophobes and shame-bound neurotics. These are both characteristics that are not desired and it might be best to drop those statements.

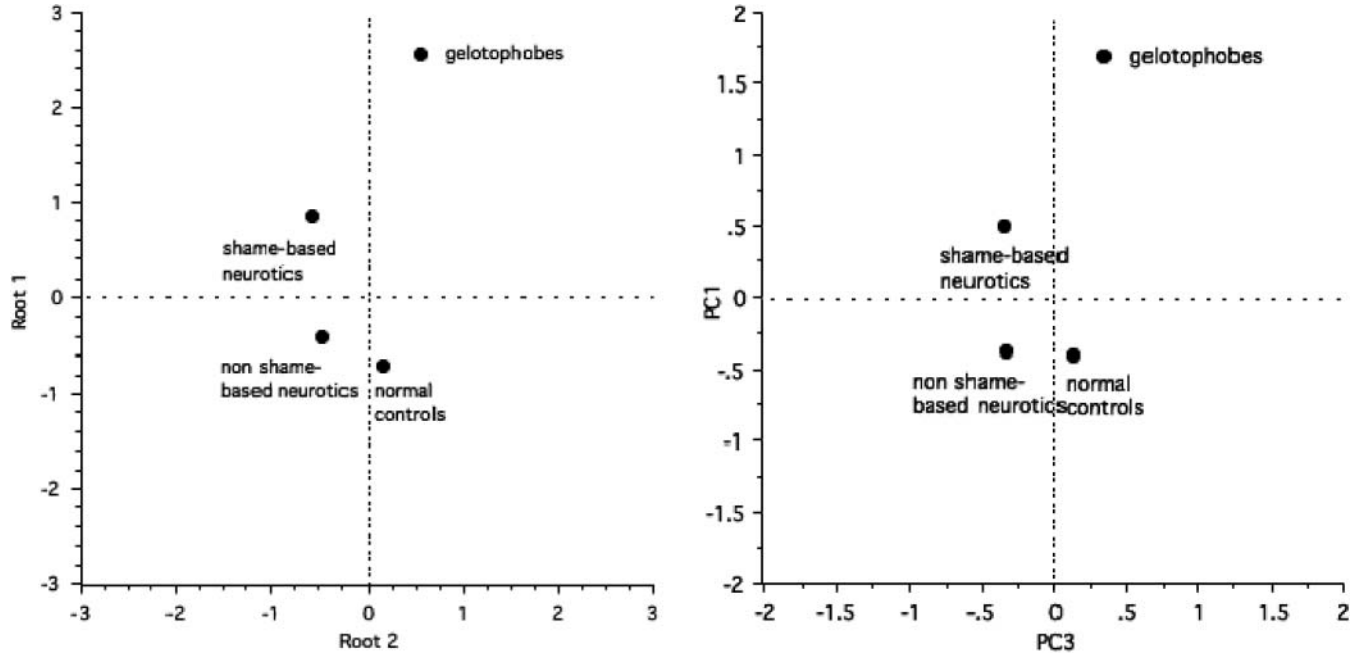


Figure 2. Location of the four groups in a space defined by the first two discriminant axes (left; 2a) and by two principal components (right; 2b)

This would rotate both coordinate systems slightly to the right, giving more emphasis to the statements that discriminate most strongly between the gelotophobes on the one hand and the three other groups on the other (which additionally are less different from each other).

5.4. *Gelotophobia as an individual differences variable*

The fact that the statements do allow discrimination among three clinical groups should not imply that Gelotophobia does not vary among the group of normal controls. Averaging across all 46 statements, one can see that the group of normal controls had the largest variance and also the highest range (2.26) in scores, with the lowest score being 1 and the highest score being 3.26. As a comparison, the scores of the gelotophobes ranged from 1.87 to 3.71. Thus, Gelotophobia might well be studied among random samples of adults.

Is Gelotophobia gender specific? Correlations were computed between gender (1 = males, 2 = females) and the average score for the exploration of gender differences. Gender was not significantly related to the factor scores in the total sample ($r = -.05$, $df = 826$, n.s.) or in any of the four groups separately. Correlation coefficients ranged from $r = -.10$ for the shame-based neurotics to $r = .06$ for the non-shame-based neurotics (all n.s.). Thus, males and females were equally prone to Gelotophobia. This is noteworthy as typically there is a gender difference in neurotic symptoms. Likewise, age did not seem to have an effect across all groups ($r = .03$, $df = 859$, n.s.). However, among the group of non-shame-based neurotics, Gelotophobia seemed to decline with age ($r = -.41$, $df = 101$, $p < .01$). ANOVAs with subsequent Scheffé tests yielded a few other noteworthy findings. Singles scored higher in Gelotophobia than married ($p < .01$) and divorced/separated ($p < .01$) participants. Similarly, people who live alone in a household score higher than those who live with someone else ($p < .01$), and employed participants had lower scores than unemployed ($p < .01$).

6. Discussion

The prime aim of the present study was to examine whether or not Gelotophobia is a distinct new concept and whether its underlying assumptions

are valid. The results show that the postulated dimension of Gelotophobia may be recovered from both the covariation of statements as well as the discrimination of groups; i.e., by means of factor analysis as well as of discriminant function analysis. The differences among groups in terms of how strongly they are affected by shame problems contribute to the intercorrelation among the statements reflecting the amount of laughter-induced shame.

Most importantly, this dimension allows distinguishing a group of gelotophobes identified via clinical assessment from the broader category of neurotics with shame-bound problems (i.e., the atypical depressives of Nathanson [1992]) by means of a self-report instrument. This separation is done both quantitatively and qualitatively. The quantitative separation is achieved by demonstrating that gelotophobes score significantly higher than shame-based neurotics; the qualitative element refers to the fact that the separation was done primarily by the core statements relating to the gelotophobic symptomatology and not (or less) so by the more global shame related statements (e.g., relating to social withdrawal). Low scorers on this dimension are neurotics without shame problems (i.e., the typical depressives) who score as low as a control group of normals from the general population.

Thus, within the clinical realm, this dimension distinguishes among groups differing with respect to how strongly shame is a problem. The low scorers may be depressed but they don't have shame fantasies; the atypical depressed may have a lot of shame-related problems but their fear of being laughed at does not stand out from those; only the gelotophobes are the high scorers as they are convinced that something is wrong with them and that they are ridiculous to others who enjoy laughing at them. They fear to be laughed at because of things they are ashamed of. In this sense, Gelotophobia is a useful new concept as it allows specifying a sub-group of shame-based neurotics with a specific core symptomatology. It is also distinct (from related, or broader phenomena), as in the core statements gelotophobes indeed (and even largely so) exceeded the shame-based neurotics.

The statements not only allowed discriminating significantly among the groups; the separation was also quite good at the level of individual participants. Actual and predicted group membership among the three clinical groups converged well. In particular, virtually no participant without a shame-bound problem was classified as gelotophobic and vice versa, gelotophobes were not assigned to the patients without shame problems.

This indicates that at least those two groups can be separated perfectly from each other.

Gelotophobia also might help to specify a form of social phobia. It might well be that among social phobics a higher percentage of gelotophobes can be found. Thus, including measures of social phobia and conducting studies with diagnosed social phobics is on the schedule for future research. At the moment, an experiment including social phobics and their psycho-physiological reaction and motor ability after viewing short film scenes with different emotional valence is being conducted. However, it is up to future research to evaluate what features social phobics and gelotophobes might share. It might also be relevant to study Gelotophobia in relation to bullying and mobbing. Gelotophobia might, in part, result from or be enhanced by bullying at school or mobbing at work. However, it might also well be that gelotophobes perceive actions as bullying more easily than others.

Future research will focus on the exploration of the construct in a non-clinical realm. What can we expect from the study of Gelotophobia in non-clinical samples? Gelotophobia varied well among the normal controls and can be considered an individual difference variable. It has a narrow scope and we predict that in trait-based models of personality it will be located somewhere in the high introversion-high emotional lability quadrant. Thus, we by no means assume that Gelotophobia taps into a personality domain that is hitherto unexplored; rather we do expect that it will show correlations with established concepts. However, not every introvert labile (or high anxious person) will be afraid of being laughed at, and thus the statements used in the present study might be needed to provide specific assessment of the fear of being laughed at.

It will be of interest to test those statements against some criteria. It can be assumed that in everyday life some persons are notably fearful of being mocked and some are not. This may or may not be related to the actual (current or past) frequency of being ridiculed. The statements used in the survey so far assess the fear of being laughed at, not how often people are, in fact, ridiculed. It may well be that people exist who were ridiculed and did not develop Gelotophobia and some do have a high fear which does not match their actual low level of exposure to mockery. Keeping this in mind, future research should include studies focusing on the distinction between (1) persons with high fear of being laughed at and high frequency of being mocked and (2) persons with high fear of being laughed at but low frequency of being mocked. The first group might be

called “realistic” gelotophobes, fearing mockery that often comes their way. The latter group might be considered to be “pure” gelotophobes, fearing what seldom happens to them. Additionally, another group might be of interest as well: Persons with low fear of being laughed at and high frequency of being mocked. These people must be equipped with coping strategies that allow them to be resilient against being laughed at. This will require a further exploration of the construct and the construction of a scale for the measurement of the opposite behavior to Gelotophobia.

University of Zurich

Notes

Correspondence address: w.ruch@psychologie.unizh.ch

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