

Assessing dispositions towards ridicule and being laughed at: Development and initial validation of the Turkish PhoPhiKat-45

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Abstract How people deal with humor and laughter is culturally constructed within a society but each member may differ in their attitudes. Depending upon this, this study aimed to test the factor structure of PhoPhiKat-45 (Ruch and Proyer *Humor: International Journal of Humor Research*, 22, 183–212, 2009a) which is a subjective measurement designed to assess three dispositions toward laughter and ridicule; gelotophobia (fear of being laughed at), gelotophilia (joy of being laughed at), and katagelasticism (joy of laughing at others), taking samples from two universities in Turkey ($N = 628$; female = 470). We further examined the relationships between humor styles, self-esteem, and psychological symptomatology with the PhoPhiKat-45. Confirmatory factor analyses replicated the original 3-factor model and internal consistencies of derived subscales were satisfactory (.76 for gelotophobia, .79 for gelotophilia, .66 for katagelasticism). For the nomological validity, bivariate correlations and regression analyses showed that gelotophobia was associated with low self-esteem, greater levels of psychological distress (mainly concerning interpersonal relations), and social and coping functions of humor. Gelotophilia was associated with all forms of humor, had no relation to self-esteem or any kind of psychological distress. Katagelasticism (i.e., enjoying

laughing at others) was associated with all dimensions of psychological distress and only with an aggressive style of humor. In conclusion, the findings showed that the Turkish PhoPhiKat-43 scale has a satisfactory construct validity and reliability instrument to assess the dispositions toward laughter and ridicule.

Keywords Gelotophilia · Gelotophobia · Humor · Katagelasticism · PhoPhiKat-45 · Self-esteem

The past years have seen a growing interest in the study of humor (e.g., Ferguson and Ford 2008; Lefcourt et al. 1995; Martin 2004; Ruch 2009). This may be partially attributed to work generated in the comparatively young field of positive psychology in which humor is, for example, seen as strength of character (i.e., a morally positively valued trait; Peterson and Seligman 2004) or a vehicle for the improvement of well-being. While humor and laughter are mostly regarded as enjoyable and playful (Martin 2007) and are seen as generally positively valued in many cultures (reflected in scientifically poorly substantiated expressions such as “laughter is the best medicine”), research has acknowledged that there are people for whom humor and laughter may be negatively valued (for an overview see Ruch et al. 2014). There are measurable individual differences in how people deal with humor, ridicule and laughter/being laughed at. Ruch and Proyer (2008a, 2009a) have proposed three basic dispositions towards laughter, ridicule and being laughed at that allow studying these differences (i.e., fearing and enjoying being laughed at and enjoying laughing at others). Most of the research in this area has been conducted in English- (e.g., on mean-level differences of North Americans with different ethnic background: Lampert et al. 2010) and German-speaking countries (e.g., on differentiating specific groups such as those with Asperger’s

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Syndrome [Samson et al. 2011] or those on the high end of psychopathic personality traits: Proyer et al. 2012b). Thus far, only limited knowledge exists about the expression of the three dispositions in Turkey. Thus, we aim to narrow this gap in the literature by enabling their measurement for future studies and to provide first data on the validity of the Turkish version of the standard measure of all three subscales in the field.

The roots for understanding sense of humor and humor appreciation in Turkish culture can be traced back to oral tales and stories originating in Middle Asia's Turkish Shaman culture, ancient Greek mythology, and Anatolian Turkish culture. Of course, Islamic motives also play a major role; for example, the characters and plays primarily from *Nasreddin Hodja* (a thirteenth century satirical Sufi philosopher), *Hacivat and Karagöz* (smart vs. fool characters of shadow plays since the sixteenth century), *Keloğlan* (The bald boy tales), *Meddah* (single stand-up shows—verbal humor since the sixteenth century), and *Orta Oyun* (first comedy plays since the seventeenth century; for an overview see (Ergün 2004; Özdemir 2010) come to mind. One might argue that the joint feature of these plays is that the characters are honest, naïve, modest, wise, and self-confident. They generally present or portray themselves as foolish and allow the audience initially to make fun of them. Only later, for example by using their wisdom, do they confront the audience or show them their own weaknesses or reasons for being ridiculed and, thus, puzzle the audience. One example is the story that *Nasreddin Hodja* always sat backward on his donkey. When people tried to humiliate him, he replied self-confidently and ironically along the lines of “It's not that I am sitting backwards on the donkey, I'm just more interested in where I have been coming from than where I am going to, my friends” or “It's not that I am sitting backwards on the donkey, the donkey is facing the wrong way.” Hence, there seems to be a specific tradition in Turkish culture on how to deal with ridicule and being laughed at. For *Nasreddin Hodja* one might argue that he used humor (e.g., in the form of irony or sarcasm) to teach people lessons in critical thinking and employing a phenomenological approach very similar to the Socratic attitude. These anecdotes, riddles and stories regarding interpersonal relationships in private or public, socioeconomic, and daily political life in the thirteenth century have been passed on from generations and form one core of contemporary Turkish humor expression (Özdemir 2010). Thus, the cultural roots of how people in the Turkish culture engage in humor seems to mostly depend on putting oneself down, while maintaining self-confidence and self-acceptance. Nevertheless, the protagonist is still able to mock or enjoy the absurdity of life, mostly using humor's power to help cope with stress (see Vaillant 1977).

Most of the empirical research on humor done in Turkey has used the adapted version of the Humor Styles Questionnaire (HSQ; Martin et al. 2003) that mainly covers

adaptive (affiliative, self-enhancing) and *maladaptive* humor styles (aggressive, self-defeating). The 2 × 2 model of humor styles that Martin et al. (2003) proposed differentiates between whether humor is used to enhance the self or to enhance one's relationships with others (intrapersonal vs. interpersonal) and whether humor is potentially deleterious or detrimental to the self and others or potentially benign and benevolent to the self and others. In short, it consists of four humor styles; namely, the *affiliative humor* style which includes the benign use of humor to enhance one's relationship with others and refers to the “[...] non-hostile, tolerant use of humor that is affirming of self and others and presumably enhances interpersonal cohesiveness and attraction” (Martin et al. 2003, p. 53). *Self-enhancing humor* covers the beneficial use of humor to enhance the self: “[...] the humorous outlook on life, and use of humor in emotion regulation and coping” (Martin et al. 2003, p. 71). The self-enhancing humor style correlates positively with high self-esteem, extraversion, well-being, and psychological health. *Aggressive humor* is one of the two detrimental humor styles (together with self-defeating humor); it is characterized by teasing or poking fun at others by using sarcasm and putting down or humiliating others in public, which may also be shared with katagelasticians who use their humor to laugh at others (be it aggressive or otherwise) and who have a heightened sensitivity to aggression in humor (Samson and Meyer 2010). *Self-defeating humor* refers to the use of “[...] excessively self-disparaging humor, attempts to ingratiate oneself or gain the approval of others by doing or saying funny things at one's own expense” and greater expressions in self-defeating humor correlate negatively with self-esteem, well-being, emotional stability, and greater psychological distress including depression, anxiety, and hostility (Martin et al. 2003, p. 54). The findings on correlates of the Turkish HSQ converge well to the literature and the four-factor structure has also been replicated (e.g., Chen and Martin 2007; Kuiper et al. 2004; Martin et al. 2003). The main findings are that males have higher scores in aggressive and self-defeating humor (e.g., Basak and Can 2014; Tümkaya 2011). Self-enhancing and affiliative humor are positively and robustly associated with well-being indicators such as greater life satisfaction and positive affect, low shyness, low loneliness, less judgmental views, low state-trait anxiety, and higher levels of social support and self-esteem (e.g., Aydın 2015; Basak and Can 2014; Bilge and Saltuk 2007; Çeçen 2007; Özdemir et al. 2011; Özyeşil 2012; Tümkaya 2011). Of course, the four humor styles only cover selected aspects of how people deal with humor and potentially also laughter (see also Yerlikaya 2003) and an extension to other variables seems necessary for broadening the understanding of how people in Turkey engage in humor and laughter. Hence, this study broadens the perspective to three dispositions towards laughter and ridicule to a different cultural context than that which is usually studied. This should stimulate further research in

Turkey by providing a translation and adaptation of the standard questionnaire. For providing initial data on the validity of the translation, we aimed to replicate and extend previous research by testing the association of the dispositions with humor styles and measures for distress and psychiatric symptoms.

Dealing with Laughter and Ridicule Ruch and Proyer (2008a, 2009a) argue that interindividual differences in the way people deal with ridicule and being laughed at could be described by three dispositions, namely, (a) *gelotophobia* (the fear of being laughed at; *gelos* = Greek for laughter); (b) *gelotophilia* (the joy in being laughed at); and (c) *katagelasticism* (the joy in laughing at others; *katagelao* = Greek for laughing at). The prime concern of gelotophobes is being laughed at and ridiculed by others. They attribute laughter to themselves and display enhanced sensitivity towards laughter by others. Gelotophobes feel unease or discomfort when they believe that they are being laughed at and mostly interpret laughter as a sign of humiliation or a means to disparage them. This has been, for example, shown for acoustically presented laughter (Ruch et al. 2009a), or the interpretation of faces displaying different types of smiles (Hofmann et al. 2015; Platt et al. 2013). Furthermore, they have difficulty differentiating between playful teasing and mean-spirited ridicule (Hofmann et al. 2015; Platt 2008; Platt and Ruch 2009). It has been shown that the fear of being laughed at could be differentiated from social phobia, for example, by means of psychometric studies (Carretero-Dios et al. 2010; Edwards et al. 2010; Titze 2009) and the study of clinical groups (Forabosco et al. 2009; Weiss et al. 2012). Furthermore, the fear of being laughed at has been studied cross-culturally in 73 countries including Turkey (total $N = 22,610$; Proyer et al. 2009). Proyer and colleagues showed that gelotophobia can be reliably assessed worldwide and that responses to items differ not with respect to language but cultural background. However, the study does not report mean-level differences and covers the fear of being laughed at only and, thus, data on individual differences in the joy of being laughed at and the joy of laughing at others are not yet available.

Gelotophiles actively seek and establish situations in which they can make others laugh at their expense. They readily share embarrassing moments and misfortunes they experience with others and enjoy the joint laughter (Ruch and Proyer 2009a; Proyer et al. 2010). One might think of class-clowns or comedians who tell stories about embarrassing events that have happened to them. Empirically, gelotophobia and gelotophilia are not the extreme poles of one dimension, but correlate around $-.40$ (Ruch and Proyer 2009a). This description of gelotophilia bears a resemblance to the way humor is frequently used in the Turkish society, namely, being open to

humiliating oneself and enjoying entertaining others self-confidently (even at one's own expense).

Katagelasticists enjoy laughing at others and experience pleasure in mocking or teasing others. They are convinced that those who do not like being ridiculed, should just fight back. In line with their motto “an eye for an eye, a tooth for a tooth”, they do not feel guilty when laughing at others (Ruch and Proyer 2009a), but think it is part of daily life. There is robust evidence that from early on (age 6) those higher in katagelasticism have greater inclinations to bullying types of behavior, while those higher in gelotophobia are more likely to be victims (Platt et al. 2009; Proyer et al. 2012c, 2013). Additionally, katagelasticism goes along with greater expressions of psychopathic personality traits (Proyer et al. 2012b). Findings using a 45-item measure of the three dispositions (Ruch and Proyer 2009a; the PhoPhiKat-45) show that gelotophobia and katagelasticism are typically uncorrelated, while there is a positive association (around .40) between gelotophilia and katagelasticism. The scale has a robust three-factor structure and high internal consistencies ($\geq .84$) and test-retest correlations ($\geq .77$ for three months, $\geq .73$ for six months; Ruch and Proyer 2009a). To date there are Chinese (Chen et al. 2013), English (e.g., Platt et al. 2013), German (Ruch and Proyer 2009a, b), and Russian (Ivanova et al. 2016) versions of the scale.

Gelotophobes score low in extraversion, but high in neuroticism and older, more clinically saturated versions of Eysenck's psychoticism scale (Proyer and Ruch 2010; Ruch and Proyer 2009b). Additionally, lower expressions in openness, agreeableness, and conscientiousness were found (Rawlings et al. 2010; Ruch et al. 2013, 2014). Gelotophilia is associated with extraversion and low neuroticism, while katagelasticism has negative associations with agreeableness and conscientiousness (Chen et al. 2013; Proyer and Ruch 2010; Ruch et al. 2013). In terms of morally positively valued traits, gelotophobia is positively related to modesty and prudence, and negatively to hope, zest, curiosity, love, and bravery (Proyer and Ruch 2009); gelotophobes tend to underestimate their virtuousness, while gelotophiles tend to overestimate their virtuousness, and katagelasticists seem to have a more realistic viewpoint concerning their virtuousness (comparison of self- and peer ratings in Proyer et al. 2014). Ruch et al. (2013) found that gelotophobes could be described as timid, insecure, inhibited and shy. Taken together, the experiential world of gelotophobes could be described by insecurity, introversion, emotional imbalance, and shyness (a model on putative causes and consequences of gelotophobia can be found in Ruch et al. 2014). Similarly, gelotophobes do not only seem to underestimate their strengths, but also their intelligence when comparing self-rated and psychometrically measured intelligence (Proyer and Ruch 2009), which may point to lower self-esteem and self-assertion. However, in a Taiwanese sample, Chen et al. (2013) reported a positive

relationship between self-esteem and gelotophobia ($r = .44$, $p < .001$) and negative relations to gelotophilia ($r = -.17$, $p < .05$) whereas katagelasticism existed independently from self-esteem. The authors interpreted these findings as an expression of cultural differences in Taiwan. Hence, the understanding of self-esteem in collectivistic cultures might be different from individualistic cultures since the structure of the self varies between cultures. Based on the description of gelotophobia and previous findings with related traits, it is expected that gelotophobia is negatively associated with self-esteem. There is good evidence in the literature for a negative association between aggression and self-esteem (cf. Donnellan et al. 2005). We expect a similar association between katagelasticism and self-esteem assuming that similar working mechanisms might apply as for aggression. Given the personality descriptions of gelotophiles (i.e., primarily extraverted and emotionally stable) and their willingness to make others laugh at their own expense, positive associations with self-esteem are expected.

The three dispositions have also been studied for their association with related traits such as so-called humor styles. For instance, in the study of Chen et al. (2013), gelotophobia was negatively correlated with affiliative and self-enhancing humor styles, gelotophilia was associated with the self-defeating and affiliative humor styles, whereas katagelasticism was positively associated with aggressive and self-defeating humor styles. Ruch et al. (2009b) found robust negative associations between gelotophobia and the affiliative and self-enhancing humor styles in two samples (undergraduate students, adults) and in the sample of students, they also found a *positive* relation with the self-defeating humor style. One of our aims in the present study is to replicate these findings with the Turkish version of the PhoPhiKat-45.

Proyer et al. (2012a) tested the association between perceived parenting styles and the three dispositions. They found that gelotophobes' parents are distant, cold and punitive with higher control needs. Gelotophilia existed widely independently from the remembered parenting styles. Katagelasticism was associated with remembered punitive parenting behavior (in particular by male adults). This study supports the notion that parenting styles have an impact on gelotophobia. Moreover, it has also been shown that gelotophobes' parents are more likely to show gelotophobic dispositions as well. Another study has shown that gelotophilia and katagelasticism are positively correlated with global and spontaneous, expressive, and silly dimensions of *adult* playfulness, which enhances well-being and positive emotions in adults, whereas gelotophobia was negatively correlated to playfulness (Proyer 2012). One might argue that being raised in a cold, neglected and punitive environment inhibits persons from expressing spontaneity (cf. Ruch et al. 2014), joy and aliveness in later life in gelotophobes. Considering these early negative experiences, this may facilitate the development of psychological problems such as

depression, anxiety, paranoid thinking, or hostility in adulthood. Accordingly, gelotophobes primarily scored higher in psychoticism including impulsive, antisocial, aggressive, and egocentric traits in the Eysenck Personality Questionnaire (Proyer and Ruch 2010; Ruch and Proyer 2009b). Renner and Heydasch (2010) found that katagelasticism and gelotophilia are related to histrionic self-presentations (using superficial charm and attractive acts in social relations). Further, gelotophobia was associated with mostly protective self-presentation such as avoiding social disapproval.

Finally, there is robust evidence that gelotophobia, gelotophilia, and katagelasticism are related to inter- and intrapersonal subclinical characteristics (e.g., fear of negative evaluation, psychoticism, psychopathy-related characteristics; e.g., Edwards et al. 2010; Forabosco et al. 2009; Proyer et al. 2012b; Titze 2009; Weiss et al. 2012) and point towards the coexistence of markers of psychological distress (Carretero-Dios et al. 2010; Ruch and Proyer 2008b; Titze 2009). Hence, we will examine the relationship of the three dispositions with different indicators of psychological distress. In line with the literature, we expect gelotophobia and katagelasticism to be correlated positively with psychological distress, while there should be the opposite pattern for gelotophilia.

Taken together, this study aims to narrow a gap in the literature by developing and testing a Turkish version of the PhoPhiKat-45 on its psychometric properties and factorial and nomological validities. To test the factorial validity, we examined the factor structure by means of confirmatory factor analyses (i.e., replication of the 3-factor solution proposed for the German original version), and tested the nomological validity through testing expected relationships with external variables, namely humor styles, self-esteem, and psychological distress.

Method

Participants and Procedure

After obtaining ethical permission, volunteer participants were recruited from two public universities in Turkey—Afyon Kocatepe University ($N = 420$, 321 female) and Adana Çukurova University ($N = 260$, 187 female) through convenience sampling. The two universities are located in different regions of Turkey; both have similar student characteristics (e.g., ranking in the entrance exam and socioeconomic status). The data were collected in paper-pencil format in psychology lectures at both universities. Anonymity was guaranteed for the participants and the completion of the survey took approximately 20 min. The students did not receive any remuneration or course credit. Of these, 628 (female = 470) participants completed the full survey (16 to 38 years; $M = 20.3$, $SD = 2.2$) and these data were used for the analyses.

About 98% of the participants were single and never married and 48% were freshman at their universities.

Following guidelines proposed by Van de Vijver and Hambleton (1996) the PhoPhiKat-45 English version was translated into Turkish by four independently working English lecturers from Afyon Kocatepe University Preparatory School. The first two authors of this study compiled a first Turkish version based on these translations. Two (again independently working) Turkish Ph.D. students, who are currently studying in the U.S.A. translated this initial version back into English. Differences between the original English version and the back-translation were discussed in terms of clarity and cultural fit. After ensuring the adequacy of the translation with all original authors, a final version was put together and used in this study.

Instruments

PhoPhiKat-45

The *PhoPhiKat-45* (Ruch and Proyer 2009a) is a 45-item self-report measure assessing *gelotophobia* (e.g., “When they laugh in my presence I get suspicious”), *gelotophilia* (e.g., “I enjoy if other people laugh at me”), and *katagelasticism* (e.g., “I enjoy exposing others and I am happy when they get laughed at”). Responses are given on a 4-point Likert-type scale (1 = *strongly disagree*; 4 = *strongly agree*). Each subscale contains 15 items. The scale is widely used in research and has good psychometric properties; for example, Cronbach alpha-coefficients were high (.88 for *gelotophobia*, .87 for *gelotophilia*, .84 for *katagelasticism*) and test-retest reliabilities were above .73 for all scales (3–6-month interval) in Ruch and Proyer (2009a).

Humor Style Questionnaire (HSQ)

The *Humor Styles Questionnaire* (Martin et al. 2003) is a 32-item self-report scale that measures four particular uses of humor, namely, (a) *affiliative humor* measures beneficial use of humor to improve the interpersonal relations including amusing others (e.g., “I usually don’t laugh or joke around much with other people”); (b) *self-enhancing humor* measures the benign use of humor to improve the self, including humorous point of view towards life difficulties (e.g., “If I am feeling depressed, I can usually cheer myself up with humor”); (c) *aggressive humor*, a detrimental style to enhance the self by using sarcasm and humiliating others (e.g., “If someone makes a mistake, I will often tease them about it”); and (d) *self-defeating humor* measures the use of self-disparaging humor to improve relationship at the expense of the self (e.g., “I let people laugh at me or make fun at my expense more than I should.”). Participants respond on a 7-point Likert scale with 1 (*totally disagree*) to 7 (*totally agree*). Cronbach’s alpha-

coefficients were between .77 and .81 in Martin et al. (2003). A Turkish adaptation study (Yerlikaya 2003) yielded Cronbach’s alpha values ranging from .67 to .78. In this study, Cronbach’s alpha coefficients were .57 for *affiliative*, .79 for *self-enhancing*, .60 for *aggressive* and .73 for *self-defeating* styles of humor.

Brief Symptom Inventory (BSI)

The *Brief Symptom Inventory* (Derogatis and Melisaratos 1983) is a 53-item self-report symptom scale designed to measure psychological distress and psychiatric symptomatology both in patients and non-patients. It is a shortened form of the 90-item *Symptom Checklist Revised* (SCL-90-R), which has been widely used in different settings (e.g., Derogatis et al. 1976, 1999; Derogatis and Unger 2010). Participants use the 5-point Likert scale ranging from 0 (*not at all*) to 4 (*extremely*). It includes nine symptom areas, namely, *somatization* (e.g., faintness or dizziness), *obsessive-compulsive* (e.g., trouble remembering things), *interpersonal sensitivity* (e.g., feeling of inadequacy), *depression* (e.g., feeling lonely), *anxiety* (e.g., nervousness or shakiness inside), *hostility* (feeling easily annoyed or irritated), *phobic anxiety* (e.g., feeling afraid in open spaces), *paranoid ideation* (e.g., feeling others are to blame for most of your troubles), and *psychoticism* (e.g., the idea that someone else can control your thoughts). Additional to the nine symptom areas, there are three domain indices: the *General Severity Index*, *Positive Symptom Total*, and the *Positive Symptom Distress Index*. Derogatis and Melisaratos (1983) reported Cronbach’s alpha coefficients between .71 and .85 and test-retest reliabilities between .68 and .91 (2-week interval). The Turkish version of the BSI yielded reliability coefficients between .55 and .86 (Şahin and Durak 1994). In this study, Cronbach’s alpha ranged from .58 to .85.

Rosenberg Self-Esteem Scale (RSES)

The *Rosenberg Self-Esteem Scale* (Rosenberg 1965) measures self-esteem in terms of a unidimensional global trait. The scale contains ten self-evaluative items (e.g., “On the whole, I am satisfied with myself”) and answers are given on a 4-point Likert scale (1 = *strongly disagree*, 4 = *strongly agree*). Across different studies, the internal consistencies typically range between .84 (Huston et al. 2001) to .88 (Fleming and Courtney 1984). The test-retest reliability (4-week interval) was .71 in a Turkish version of the scale (Çuhadaroğlu 1986). In this study, the Cronbach’s alpha coefficient was .86.

Social Desirability Questionnaire (SDQ)

The *Social Desirability Questionnaire* (Kozan 1983) is a 20-item true/false format scale originally developed in the

Turkish language. It measures the tendency to respond in line with society's will, that is, a tendency for having a high need for social approval (e.g., "I am always kind to other people"). The internal consistency was .76 in Kozan (1983) and .75 in this study.

Data Analysis

In order to test the construct validity (i.e., testing for a three-factor structure with 15 items each; Ruch and Proyer 2009a), a confirmatory factor analysis (CFA) under maximum likelihood parameter estimation, using EQS 6.1 (Bentler 1985) was computed. We examined several fit indices (see Hu and Bentler 1999): the Chi-square value, the *Standardized Root Mean Square Residual* (SRMR), the *Root Mean Square Error of Approximation* (RMSEA), and the *Comparative Fit Index* (CFI). Further, the reliabilities of subscales and the items' corrected item-total correlations (CITC) were examined along with distribution statistics. In order to examine the nomological validity, bivariate correlations and regression analyses with external measures were computed.

Results

Testing the Factor Structure of the Turkish PhoPhiKat-45

The CFA showed that the proposed model by Ruch and Proyer (2009a) fit the data well: $\chi^2(942) = 1913.79$, $p < .001$, $\chi^2/df = 2.03$, CFI = 0.718, SRMR = 0.076, RMSEA = 0.049 (90%-CI = [0.046, 0.052]). The χ^2/df ratio, RMSEA, and SRMR indicated good model fit while the CFI fell below the conventional benchmark of .90 (e.g., Hu and Bentler 1999). However, in line with Kenny and McCoach's (2003) simulation studies, it is reasonable that the large number of variables tend to bias the CFI. The investigation of factor loadings revealed that two items (13 and 41) did not load on their assigned factors. Thus, these two items were removed from the model and an alternative model was tested which fit the data better according to the fit indices ($\chi^2[857] = 1703.65$, $p < .001$, $\chi^2/df = 1.99$, CFI = 0.745, SRMR = 0.071, RMSEA = 0.048, 90%-CI = [0.045, 0.051]) as well as the significant χ^2 -difference test ($\Delta\chi^2[85] = 210.14$, $p < .001$). In this model, the Lagrange Multiplier (LM) test recommended cross-loadings for specific items. Accordingly, item 28 loaded onto the gelotophobia and gelotophilia factors, and item 39 loaded onto katagelasticism and gelotophobia. However, we decided to keep the original item-factor assignment. Following the LM test, three error covariances for item pairs (1, 7), (9, 15), and (29, 38) were added. This new model fit the data better ($\chi^2[854] = 1615.71$, $p < .001$, $\chi^2/df = 1.99$, CFI = .771, SRMR = .069, RMSEA = .046, 90%-CI = [.042, .049]) and was again

supported by the significant Chi-square difference test ($\Delta\chi^2[3] = 87.945$, $p < .001$). Hence, the last model was accepted as the final model (see Fig. 1). Standardized factor loadings were between .12 and .67. Three items (9, 21, and 28) yielded small loadings according to conventional criteria of .30 (e.g., Tabachnick and Fidell 2013). As expected, we were able to replicate the three-factor structure of the original version, but the removal of two items led to better model fit and we recommend using this version for future research among Turkish-speaking participants (Turkish PhoPhiKat-43).

Intercorrelations among the Turkish PhoPhiKat-43 subscales estimated by CFAs were in line with the expectations, namely, a negative relationship between gelotophobia and gelotophilia ($r = -.40$, $z = -4.388$, $p < .001$), a positive association between gelotophilia and katagelasticism ($r = .56$, $z = 3.961$, $p < .001$), and gelotophobia and katagelasticism existed widely independently from each other ($r = .10$, $z = 1.457$, $p = .145$).

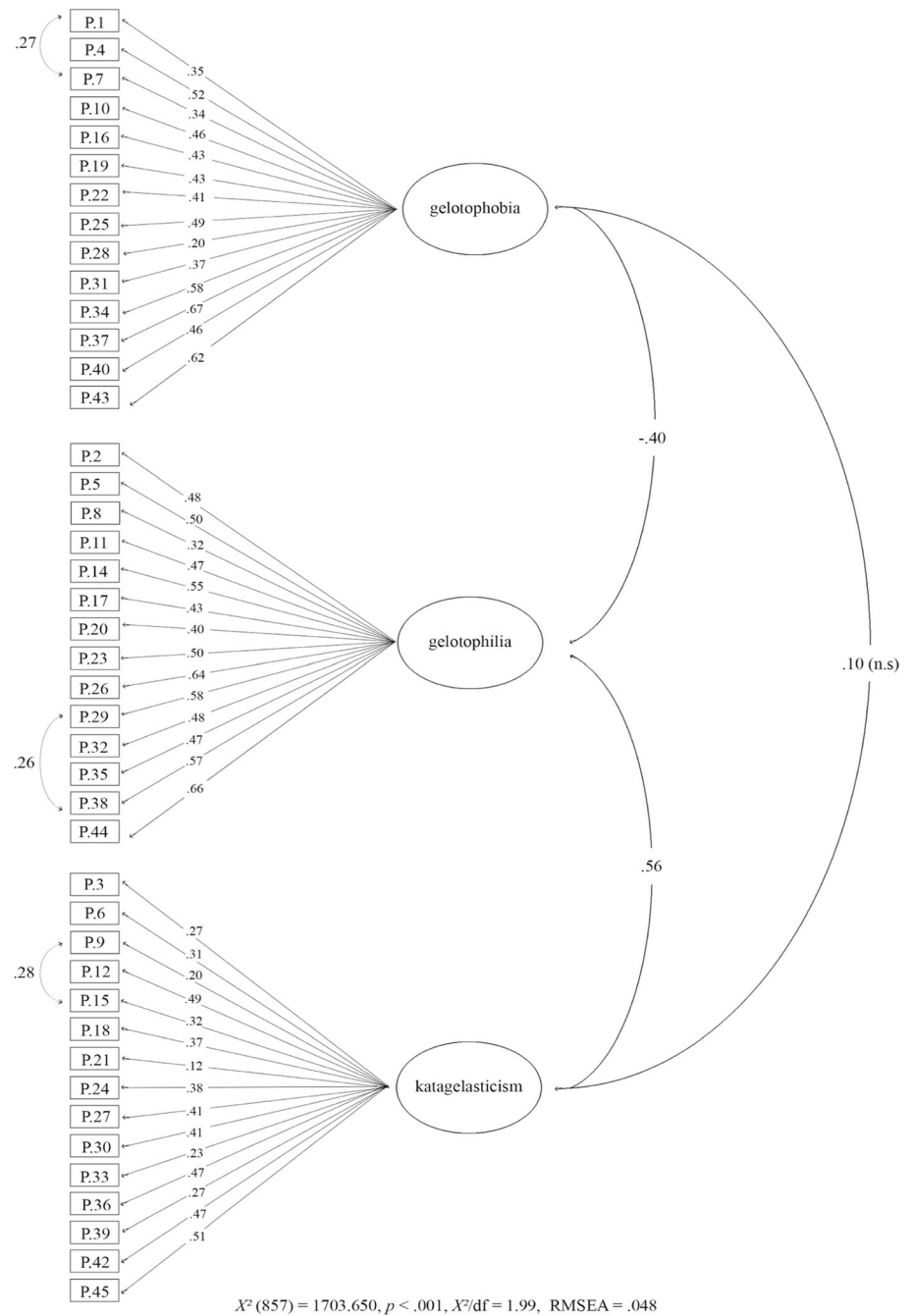
The internal consistency of the subscales were $\alpha = .76$ for gelotophobia (all CITCs $> .30$, except for item 28 [.23]); $\alpha = .79$ for gelotophilia (all CITCs $> .30$ except for item 8 [.29]); and $\alpha = .66$ for the katagelasticism scale (CITCs were numerically smaller; especially, for items 21 and 33 [$< .10$]).

Associations between the Turkish PhoPhiKat-43 and External Variables

Descriptive analyses computed with the PPK-43 version of the original PPK-45 scale revealed the mean scores of three factors as $M = 2.26$ ($SD = 0.52$) for gelotophobia, $M = 2.55$ ($SD = 0.52$) for gelotophilia, and $M = 2.27$ ($SD = 0.40$) for katagelasticism. In comparison to Ruch and Proyer's (2009a) validation sample, participants reached higher scores in all three scales revealing small to medium-sized effects ($d_{\text{Gelotophobia}} = 0.55$, $d_{\text{Gelotophilia}} = 0.23$, $d_{\text{Katagelasticism}} = 0.65$). An inspection of the skewness and kurtosis of the three scales indicated normal distribution of the scores ($SK_{\text{Gelotophobia}} = 0.24$, $K_{\text{Gelotophobia}} = -0.11$; $SK_{\text{Gelotophilia}} = -0.02$, $K_{\text{Gelotophilia}} = -0.43$; $SK_{\text{Katagelasticism}} = 0.13$, $K_{\text{Katagelasticism}} = 0.06$). Gelotophobia and gelotophilia were uncorrelated with gender, whereas, katagelasticism was marginally higher in males ($d = 0.33$). In terms of the prevalence rate of gelotophobia when considering the cut-off score of 2.50 (cf. Ruch and Proyer 2008b; Ruch 2009), 68.5% were non-gelotophobes ($n = 430$), 23.5% reported slight expressions ($n = 148$), 6.7% showed pronounced expressions ($n = 42$), and 1.2% showed extreme expressions of the fear of being laughed at.

The Pearson correlation coefficients between the three dispositions towards ridicule and being laughed at and humor styles, psychological symptomatology/health, and self-esteem are shown in Table 1. As expected, there was a negative correlation between gelotophobia and affiliative and self-enhancing humor styles ($r_s \leq -.21$), but the fear of being

Fig. 1 Final model of the Turkish PhoPhiKat-43



laughed at existed independently of aggressive and self-defeating humor styles (< 1% shared variance). Further, gelotophilia and katagelasticism were positively associated with all types of humor styles ($r_s \geq .10$). In line with expectations, there was a robust negative relation to self-esteem for gelotophobia (13.7% shared variance) while being unrelated with gelotophilia and katagelasticism ($\leq 1\%$ shared variance). As shown in Table 1, gelotophobia and katagelasticism were positively associated with all BSI scales ($.19 \leq r \leq .49$) while gelotophilia was unrelated to the BSI scores ($r_s \leq .08$). Finally, we found negative associations of social desirability with

gelotophobia ($r^2 = .04$) and katagelasticism ($r^2 = .09$) while gelotophilia was not significantly associated with social desirability ($r^2 < .01$).

Multiple Regression Analyses with the Dispositions Towards Ridicule and Being Laughed at and Humor Styles

We performed three separate multiple regression analyses to test the unique contribution of the four humor styles in the prediction of gelotophobia, gelotophilia, and katagelasticism

Table 1 Correlations between Turkish PhoPhiKat-43 and external variables

Variables	Gelotophobia	Gelotophilia	Katagelasticism
Gender	-.02	-.01	.14**
HSQ-Affiliative	-.32***	.48***	.13**
HSQ- Self enhancing	-.21***	.32***	.10*
HSQ-Aggressive	.01	.21***	.43***
HSQ-Self-defeating	-.07	.56***	.21***
Self-Esteem	-.37***	.04	-.10*
BSI-Anxiety	.45***	.02	.27***
BSI-Depression	.39***	.06	.26***
BSI- PI	.41***	.05	.31***
BSI-Somatization	.30***	.06	.24***
BSI-Hostility	.30***	.06	.33***
BSI-Phobia	.32***	.03	.19***
BSI-Psychoticism	.40***	.04	.24***
BSI-OC	.38***	.08*	.25***
BSI-IS	.49***	-.02	.24***
Social Desirability	-.19***	-.07	-.30***

Gender was coded as female = 0, male = 1

N = 628. *HSQ* Humor style questionnaire, *BSI* Brief symptom inventory, *BSI-PI* Paranoid ideation, *BSI-OC* Obsessive compulsive, *BSI-IS* Interpersonal sensitivity

* $p < .05$. ** $p < .01$. *** $p < .001$. Two-tailed

after controlling for gender and age. As displayed in Table 2, we found that the HSQ explained variability in the Turkish PhoPhiKat-43 ($R^2 \leq .40$). Our analyses showed that gelotophobia scores were robustly negatively predicted by an affiliative humor style while remaining styles were significant (except for aggressive humor) but numerically small. The humor styles accounted robustly for variance in gelotophilia, particularly through affiliative and self-defeating humor styles ($\beta s \leq .39$) while there were small effects for self-enhancing and aggressive humor styles. Finally,

katagelasticism was predicted by the aggressive humor style ($\beta = .39$) and was robustly positive.

Discussion

We aimed to test the psychometric properties and validity (factorial and nomological) of the Turkish PhoPhiKat-45. Firstly, we examined the 3-factor structure as proposed in the original PhoPhiKat-45, and secondly, we investigated the associations of the translation with external variables, namely psychological symptomatology, humor styles, and self-esteem among Turkish university students.

After the translation-back translation procedure had been completed, confirmatory factor analyses were conducted in order to examine the model fit. Although, the original item-factor structure proposed by Ruch and Proyer (2009a) fitted the data well, further analyses revealed that by removing two items, and adding three error covariances, the best model fit was reached. We have decided to remove these two items (i.e., items 13 and 41 [gelotophobia/gelotophilia]) due to psychometric reasons, as they did not load on any factor. One might argue that this is in line with Proyer et al.'s (2009) finding that responses to gelotophobia items were partially dependent from the cultural background of participants. As this was not tested with gelotophilia nor katagelasticism it is feasible that also items of those dispositions are affected by cultural circumstances. Another potential reason that the excluded items did not load to any factor could be that important semantic information was lost in translation (for an overview see Beaton et al. 2000). Thus, one of the aims of future research could focus on the further improvement of the adaptation with respect to the item content. The reliability (internal consistency) was satisfactory although numerically lower in comparison with the original German-language version. Taken together, the Turkish PhoPhiKat-43 demonstrates satisfactory factorial validity and reliability.

Table 2 Summary of multiple regression analyses of gender, age, and four humor styles predicting PhoPhiKat-43 scores

Variables	Gelotophobia		Gelotophilia		Katagelasticism	
	β	p	β	p	β	p
Age	-.13	.001	-.04	.230	-.04	.259
Gender	.02	.480	.00	.982	-.07	.041
Affiliative Humor Style	-.31	<.001	.27	<.001	.07	.114
Self-enhancing Humor Style	-.10	.013	.09	.010	.06	.153
Aggressive Humor Style	-.00	.947	.09	.010	.39	.001
Self-defeating Humor Style	.10	.018	.39	<.001	.06	.176
R^2	.13		.40		.20	
$F(6637)$	15.65***		69.89***		26.31***	

β = Standardized beta

*** $p < .001$

While this study was not aimed at determining the prevalence of gelotophobes, gelotophiles or katagelasticians in Turkey, the findings revealed higher scores in our sample compared to German-speaking samples (see Ruch and Proyer 2009a) in all dispositions, particularly in gelotophobia and katagelasticism. However, it must be noted that although gelotophilia scores were higher than in the Ruch and Proyer's (2009a) validation study, findings are similar to many studies comprising non-German samples (e.g., Samson and Meyer 2010). Since gelotophobia is the most-frequently studied disposition among the three, the cut-off scores derived for German-speaking samples may provide an initial impression of whether this variable deserves further attention in future research. In our sample about one third (31.5%) of the participants exceeded the cut-off score (Ruch and Proyer 2008b) for gelotophobia. This score is higher than what has been reported for other countries (e.g., 8.6% for Canada; 7.3% for China; 8.5% for Colombia; 6.3% for the Czech Republic; 1.6% for Denmark; 13.0% for England; or 11.7% for Germany; for an overview see Platt and Forabosco 2011). As mentioned, one important caveat is that this cut-off score has been derived from a German sample. While it seems safe to say that scores above 2.50 on the gelotophobia scale indicate higher expressions of the fear of being laughed at (i.e., participants must agree to more than *half* of the item contents given the answer format of the scale; see Ruch and Proyer 2008b), the question of whether they should be considered as being *gelotophobes* is less clear. Furthermore, katagelasticism was also higher when compared to studies on the construction and validation of the original PhoPhiKat-45 (Ruch and Proyer 2009a) and other studies examining katagelasticism (e.g., Ďurka and Ruch 2015; Proyer et al. 2010; Samson and Meyer 2010). In order to properly discuss what these higher scores in all dispositions imply, first of all, culture-specific cut-off scores are needed and can then be compared with studies from other countries. Taken together, the findings show initial evidence that the fear of being laughed at (gelotophobia) and enjoyment of laughing at others (katagelasticism) may be issues of concern for Turkish University students. However, these scores should be interpreted conservatively as to date no cut-off scores for the Turkish population are available. This provides ground for further research.

Tentative explanations for the findings may be related to cultural response style (see Hui and Triandis 1989), the characteristics of Turkey and the locally favored parenting style (see Proyer et al. 2012a, 2012c). Cultural configurations of collectivism vs individualism or modesty vs. sincerity can influence the response styles particularly in cross-cultural surveys. For instance, Mediterranean countries (Greek, Italian, and Spanish in the study) are considered to be collectivistic and use more extreme responses in Likert-type scales than non-Mediterranean countries (British, German, and French) (see Van Herk et al. 2004). Similarly, Hispanics and African

Americans also endorse more extreme response styles (Clarke 2000). Thus, the high scores of these three dispositions can be a cultural tendency as a result of different cognitive process such as abstraction skills or subjective categorization of judgments or motivational factors such as social desirability or acquiescence tendencies.

Taking societal considerations into account, Turkey has experienced a very rapid social, cultural, and legal “modernization” process in the last ninety years and culturally exhibits a hybrid—both collectivistic and individualistic tendencies (Göregenli 1997). Briefly, in collectivistic cultures, self-conscious emotions such as shame, pride, and honor have been deeply embedded in the organization of self, group goals are prioritized over self goals, and respect for authority/patriotism (face-saving communication) is highly valued whereas individualistic cultures emphasize different values such as independence, uniqueness, and personal goals (Göregenli 1997; Kağıtçıbaşı 1970). Surely, there have also been debates about whether individualism is the polar opposite of collectivism or those are orthogonal structures or to what extent these concepts influence subgroups, family or personality (see Kağıtçıbaşı 1997; Triandis 1996; Triandis and Suh 2002). Yet, cultural characteristics of “honor” (*şeref* or *namus* in the Turkish language) are very salient in the Mediterranean region (Sev'er and Yurdakul 2001). In such cultures, respect and prestige are very important features for the families, so much so that all members have been socialized in an attempt to maintain those values and attack others if necessary (Üskül et al. 2012). Since shame, which refers to the negative evaluation of the self rather than behavior itself, is experienced as more catastrophic and painful, it mostly leads individuals to blame others or to experience intense anger directly or indirectly (Tangney et al. 1992). Indeed, shame-prone individuals were more inclined to gelotophobic and katagelastiscistic tendencies (e.g., Proyer et al. 2010). Gelotophobic individuals are timid and shy (Ruch et al. 2013) and display more sensitivity or susceptibility, and even more suspiciousness toward the meaning of laughter (e.g., Ruch et al. 2009a; Ruch and Proyer 2009b). One might argue that Turkish gelotophobes (at least those in our sample) may tend to misunderstand the meaning of laughter and seem to fail to appreciate the benefits of laughter and Turkish katagelasticians may use humor to express indirect hostility and verbal aggression. Within the cultural atmosphere of Turkey or at least our participants' parents may tend to raise their children to become more prone to self-conscious emotions primarily shame, pride, and honor. Regarding the prevalence of parenting styles, authoritarian and permissive/indulgent parenting styles were found to be the most widespread parenting practices in Turkey (Sümer and Güngör 1999) and psychological control, especially by fathers, is a very common practice to teach socially appropriate manners and obedience. Mothers are mostly perceived as

overprotective and fathers as more rejecting which also vary on the basis of the socioeconomic status of the family (Anlı and Karşlı 2010). Accordingly, in a study comparing Belgian and Turkish parenting styles, both Turkish mothers and fathers had higher scores on psychological control, most likely to ensure the security and conformity feelings than Belgian counterparts which led to greater avoidance and anxiety in adolescents though less than the midpoint (Güngör and Bornstein 2010). Thus, in this patriarchal family climate characterized with higher psychological control for providing security and obedience as well as instilling shame, pride and guilt emotions, developmentally Turkish children's emotional needs may not be satisfied as much as it should be which might increase the gelotophobic and katagelastistic responses in adult life. Yet, further studies should be conducted for a better understanding of the role of parenting styles, and self-conscious emotions with various samples in Turkey.

The bivariate correlation coefficients among gelotophobia, gelotophilia, and katagelasticism replicated the findings from the literature in Western countries (e.g., Proyer et al. 2010; Ruch and Proyer 2009a; Samson and Meyer 2010). As expected, gelotophobia was negatively associated with gelotophilia and unrelated to katagelasticism, while gelotophilia was positively associated with katagelasticism. Thus, gelotophobia and gelotophilia are interrelated, but not redundant and do not constitute the end poles of one dimension. Interestingly, this replicates the pattern better that was found in German and English-speaking samples, while in samples from Taiwan (Chen et al. 2013) there is a *positive* association between gelotophobia and gelotophilia. It has been argued (Chen et al. 2013) that gelotophobes in this cultural context may use gelotophilia as a coping mechanism and a strategy for saving face in situations that may potentially cause being laughed at. Again, as in the German and English data, gelotophobia and katagelasticism existed unrelated from each other, indicating that there are those gelotophobes who laugh at others, while there are also those who avoid laughing at others. Proyer et al. (2014) have proposed that there may be at least two different types of katagelasticians, namely, “(a) the *friendly katagelastician*, who enjoys laughing at others in a witty, charming, and entertaining way but who refrains from (seriously) hurting others and who is willing to take a joke on his/her own; and (b) the *cold-hearted katagelastician*, who does not refrain from hurting others with his/her jokes and comments and who may not enjoy making others laugh at him-/herself” (p. 128). While there is no measure for these two proposed types of katagelasticism, there may be different distributions of gelotophobes within these subgroups. Given the personality characteristics reported for gelotophobes (e.g., Ruch and Proyer 2009b), a greater inclination to the cold-hearted type seems more likely. However, this warrants further testing. As in other studies, there was a positive association between

gelotophilia and katagelasticism. This may indicate that enjoying making others laugh at oneself also includes teasing, poking fun at others and ridiculing others when given a chance. In other words, gelotophiles enjoy telling people unexpected misfortunes, ironies of life or embarrassments happened to them and, similar to katagelasticians, they also do not mind teasing or poking others if they have an opportunity. This association of katagelasticism and gelotophilia could be related to the historical Turkish style of humor which includes putting oneself down to entertain others and showing some friendly katagelastistic responses to lead people to question or criticize themselves. Overall, the Turkish data fit well with what has been reported earlier in the literature.

In terms of demographics, gelotophobia and gelotophilia were not associated with gender, while men demonstrated greater expressions in katagelasticism than women (small effect). This replicates earlier findings for the German original version (Ruch and Proyer 2009a).

The validity analyses demonstrated that affiliative and self-enhancing styles of humor were negatively associated with gelotophobia, whereas a self-defeating style of humor was positively related to gelotophobia (see also Ruch et al. 2009b). These two (affiliative and self-enhancing) humor styles (Martin et al. 2003) cover the positive sides of humor (enhancing self or relationships/benign for self and relationships) which relate to social acceptance, improve social relations, and enable coping with stress by looking at the ironies of life. Especially, affiliative humor refers to saying funny things, amusing others and is related to cheerfulness, psychological health and positive moods (Martin et al. 2003). Accordingly, and similar to Carretero-Dios et al. (2010), we found a robust association between gelotophobia and social distress including higher feelings of tension, discomfort, anxiety, and nervousness in social relationships. Hence, gelotophobes not only feel social discomfort or socially anxious, but also may have a fear of being negatively evaluated in social circles which most probably leads them to avoid establishing social contacts, and to increase their suspiciousness and hostility toward people. These characteristics, in turn, are associated with loneliness and alienation as well as extreme sensitivity to being laughed at. Likewise, Ruch and Proyer (2009b) found that gelotophobes are introverted, and high in neuroticism and psychoticism, which provides support for our findings regarding the psychological symptomatology and less psychological functioning. Expectedly, and in line with the aversive feelings, gelotophobia was found to be inversely related to self-esteem. Perhaps having distant, unfriendly, punishing and controlling parents did not direct them to develop proper self-esteem from childhood (see Proyer et al. 2012a). Using humor in a family environment creates easy and open communication and a friendly atmosphere where one can feel relaxed and accepted. Further longitudinal studies can illuminate how people

respond to humor from childhood and see the effects on their psychological well-being.

Gelotophilia (i.e., enjoying being laughed at) was positively related to all humor styles and the regression analysis indicated that particularly self-defeating humor, which is described as “tendencies to use humor in an excessively self-disparaging and ingratiating way, to allow oneself to be the butt of others’ jokes, and to use humor as a form of defensive denial to hide underlying negative feelings” (Martin et al. 2003, p. 71) and affiliative humor which refers to “the tendency to joke around with others, say witty things, tell amusing stories, laugh with others, and amuse others” were positively associated with gelotophilia scores (Martin et al. 2003, p. 70). Furthermore, gelotophilia yielded numerically small correlations with self-enhancing and aggressive humor forms. Taken together, it seems that gelotophilia conceptually has been closer to self-defeating and affiliative humor styles than other styles. Nonetheless, they are distinct and the finding association is most likely also determined by other variables (e.g., personality, parenting styles, etc.). Gelotophilia may facilitate engagement in social relations, meet attachment needs, improve group solidarity, and make it easier to cope with stress via making fun of the difficulties of life; however, it still does all these things in a self-deprecating way such as putting oneself down while preserving or maintaining self-acceptance. The relationship of aggressive humor style can be interpreted as gelotophiles can be sarcastic, playful and like teasing and making fun of others in a friendly way rather than hurting others in a malicious manner (see Ruch and Heintz 2017). Contrary to our expectation of gelotophiles possessing high self-esteem, no robust relationship was found. This may indicate that gelotophiles do not necessarily have higher explicit self-esteem; further studies may include a measure to assess implicit self-esteem. In line with expectations, gelotophilia was unrelated to psychological distress assessed by the BSI scale.

Lastly, regression analyses revealed that aggressive humor solely and robustly was associated with greater expressions in katagelasticism. Likewise, Samson and Meyer (2010) found that katagelasticians are less aversive and more entertained by aggressive humor presented via cartoons and there are also data supporting the notion that they frequently use irony (Bruntsch and Ruch 2017). Thus, they enjoy mocking and even humiliating people. Surely, confronting this sort of humor could be hurtful, but they believe that this is not wrong as people just can strike back when feeling hurt. The same applies for the findings on the prevalence of callous and antisocial tendencies found in katagelasticians (Proyer et al. 2012b). Furthermore, katagelasticism was also associated with all dimensions of psychological distress (strongest towards hostility and paranoid ideation). As discussed by Ruch and Proyer (2009a), being mocked or ridiculed by a friend or friends during childhood or youth could make people feel resentful

and vengeful at some point when grown up and could lead to some sort of self-perceived mechanism that is seen as *defense* rather than an *attack* against others. Another explanation could be that katagelasticians decrease the quality of relationships and subsequently these katagelasticians might feel lonely or too suspicious to establish meaningful and close relationships in the first place. Concerning psychological distress, we found that katagelasticians yielded higher scores in anxiety and depression besides hostility and paranoid ideation on the BSI scale. Further studies might focus on the loneliness aspect of the three dispositions and examine whether it impacts relationship quality.

Our study has several limitations. Firstly, findings from student samples cannot be generalized to more diverse samples and, hence, a replication with additional samples is needed. Secondly, the male:female ratio was unequal in our sample. Thirdly, our sample was not a clinical sample and the assessment was at a subclinical level. Psychological distress should, therefore, also be studied in groups with diagnoses provided by health-care professionals (e.g., Forabosco et al. 2009; see also Weiss et al. 2012). Also, future studies should be based on more diverse samples to test the contribution of demographics such as age, occupational status, clinical history, and educational level to the expression of the three dispositions in more detail. Fourthly, recent studies have shown that there are some concerns about the validity of the *Humor Styles Questionnaire* (Martin et al. 2003) as questions have been raised as to how much humor content is really being measured by the scale (Heintz and Ruch 2015; Ruch and Heintz 2013, 2017; see also Martin 2015; Heintz and Ruch 2016). Furthermore, some of the scales in our study have low reliabilities (i.e., affiliative and aggressive humor style), which needs to be considered when interpreting the findings. Thus, a more thorough investigation of the association between humor and the three dispositions using a broader range of measures would be desirable.

In conclusion, this is the first study to investigate the psychometric properties, factor structure, and validity of the Turkish PhoPhiKat-43 measuring three dispositions towards ridicule and being laughed at; namely, gelotophobia, gelotophilia, and katagelasticism. The findings showed that the Turkish PhoPhiKat-43 yielded satisfying psychometric characteristics, factorial validity (3-factorial model), and nomological validity as it correlated with external theoretically related measures such as self-esteem, psychological distress, and humor styles among university students.

Compliance with Ethical Standards

Conflict of Interests Authors have no conflict of interest.

Human Studies All procedures performed in studies involving human participants were in accordance with the ethical standards of the

institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed Consent Informed consent was obtained from all individual participants included in the study.

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