This document is an unedited version of the accepted manuscript **"Beyond the Big Five as predictors of dispositions toward ridicule and being laughed at: The HEXACO model and the Dark Triad"**

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Abstract

We aimed to extend research on dispositions toward ridicule and being laughed at by testing the localization of the fear of (gelotophobia) and the joy in (gelotophilia) being laughed at, and the joy in laughing at others (katagelasticism) in the HEXACO model and the Dark Triad traits (both have not been examined so far). Study I (HEXACO model: $N = 216$) showed that gelotophobia was related to low extraversion, high emotionality, and low honesty-humility; gelotophilia to high extraversion and high openness to experience; and katagelasticism to low agreeableness and low honesty-humility. These results were similar to prior findings based on the Five-Factor Model, and supported the notion that the honesty-humility trait contributes to the prediction of individual differences in gelotophobia and katagelasticism. Study II (Dark Triad: $N = 204$) showed that gelotophobia was related to high Machiavellianism and low narcissism; gelotophilia to high narcissism; and katagelasticism to high psychopathy and high Machiavellianism. These data helped to clarify our findings on the honesty-humility trait, showing that gelotophobes and katagelasticists differ in their socially aversive characteristics. Overall, this research provides empirical evidence that dark (but subclinical) traits can be seen as relevant personality predictors of how people deal with laughter and ridicule.

Keywords: Dark Triad; Gelotophobia; Gelotophilia; HEXACO; Katagelasticism; Laughter

Beyond the Big Five as predictors of dispositions toward ridicule and being laughed at: The HEXACO model and the Dark Triad

1 Introduction

Laughter plays an essential communicative role in human life. Although this emotion-related behavior is mainly associated with approach-oriented affective states, laughter may also be used to denote rejection or a sense of superiority over others (Wood, Martin, & Niedenthal, 2017). This potential ambiguity—laughing *at* me instead of laughing *with* me— may elicit a misinterpretation of the intention of laughter and lead to diametrically opposite psychological outcomes. Moreover, it has been demonstrated that there are interindividual differences in how people deal with ridicule and being laughed at. In particular, three distinct—but intercorrelated— dispositions at a subclinical level have been proposed (see Ruch & Proyer, 2009a; Ruch et al., 2014); namely, the fear of being laughed at (i.e., *gelotophobia*) and the joy in being laughed at (i.e., *gelotophilia*) and laughing at others (i.e., *katagelasticism*).

Earlier research on the relationship of the three dispositions with broad personality traits has shown that gelotophobia, gelotophilia, and katagelasticism can be well-located in different personality systems, such as Eysenck's PEN model or the Five-Factor Model (FFM). Nevertheless, no study has yet addressed the localization of these dispositions toward ridicule and being laughed at in the HEXACO model and the Dark Triad (DT). This research aims at narrowing this gap in the literature. From a theoretical perspective, the consideration of these traits may contribute to clarifying the nature of gelotophobia, gelotophilia, and katagelasticism, particularly by unveiling potentially relevant variance that may have been overlooked in prior studies.

1.1 Dispositions toward Ridicule and Being Laughed at

Individuals high in gelotophobia (*gelotophobes*; Greek: *gelos* = laughter) are characterized by exaggerated negative reactions to being laughed at and a near-paranoid sensitivity to ridicule and being laughed at (Platt, Ruch, Hofmann, & Proyer, 2012). Individuals with an increased fear of being laughed at struggle to identify the emotional state behind others' laughter (Platt, 2008). This biased perception strongly impacts gelotophobes' social adjustment, leading them to perceive themselves as targets of derision and those with extreme expressions may even avoid social situations where laugher can be present (Platt & Ruch, 2010). Recent studies have also demonstrated that gelotophobes exhibit fewer positive facial expressions, such as joyful smiles, in response to laughter-eliciting emotions (Ruch, Hofmann, & Platt, 2015), exhibit a poorer neural protection against anger and aggression via social cues (Papousek, Schulter, Rominger, Fink, & Weiss, 2016), and have more difficulties to process perceptual cues as gaze direction (Torres-Marín, Carretero-Dios, Acosta, & Lupiáñez, 2017).

Individuals high in gelotophilia, or *gelotophiles*, tend to expose themselves to potentially embarrassing situations, in which they can make others laugh at their own expense (Ruch & Proyer, 2009a). Gelotophilia is negatively correlated with gelotophobia ($r \sim -.30$) but not redundant and, thus, should not be understood as the low pole of gelotophobia (Ruch & Proyer, 2009a). Indeed, despite a certain degree of common variance between these two dispositions, they can predict independent psychological outcomes (e.g., relationship satisfaction; Brauer & Proyer, 2018). Gelotophiles are likelier to use self-presentation styles aimed at gaining social approval (Renner & Heydasch, 2010), have a lowered capacity of self-control (Chiu, Hsu, Lin,

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Chen, & Liu, 2017), and report higher subjective levels of both personal and occupational satisfaction (e.g., Hofmann, Ruch, Proyer, Platt, & Gander, 2017).

Individuals high in katagelasticism (*katagelasticists*; Greek: *katagelao* = laughing at) actively seek and establish situations in which they can laugh at others (Ruch & Proyer, 2009a). Katagelasticism is positively correlated with gelotophilia ($r \sim .30$) and exists independently from gelotophobia. Consistent with this conceptual approach, katagelasticists are more prone to deploy aggressive humor (Dursun, Dalğar, Brauer, Yerlikaya, & Proyer, in press) and appreciate such humor (Samson & Meyer, 2010). Heightened expressions of katagelasticism have been linked with bullying-type behaviors (already in young children and in adolescents; Proyer, Neukom, Platt, & Ruch, 2012) and with psychopathic personality traits (Proyer, Flisch, Tschupp, Platt, & Ruch, 2012). Like gelotophiles, katagelasticists exhibit low self-control (Chiu et al., 2017), but higher levels of work stress (Hofmann et al., 2017).

1.2 Gelotophobia, Gelotophilia and Katagelasticism across Personality Models

There are several studies on the location of the three dispositions toward ridicule and being laughed at within models of personality. For instance, Ruch and Proyer (2009b) administered different measures of the PEN system (Eysenck, 1990), and found that gelotophobia was linked to low extraversion and high neuroticism, as well as higher expressions in the older, more clinically-saturated variants of the psychoticism-scale. Moreover, multiple regression analysis indicated that these personality traits accounted for 37% of the variance in the fear of being laughed at. In another study using the PEN system, Proyer and Ruch (2010) managed to widely replicate the findings for gelotophobia (total $R^2 = .41$). Further, gelotophilia and katagelasticism were associated with greater expressions of extraversion, while katagelasticism also correlated with

higher scores on psychoticism. Importantly, the traits of the PEN system, along with demographics (i.e., gender and age), accounted for 17% of the variance in gelotophilia and katagelasticism.

Moreover, there have been several studies on the localization of these dispositions in the FFM. For instance, Ruch, Harzer, and Proyer (2013) administered the *Bipolar Adjective Rating Scale* (BARS179; Ostendorf 1990) and identified a link between gelotophobia and high neuroticism, as well as low extraversion, openness to experience, and conscientiousness. Gender, age and these four broad personality dimensions were predictive of 52.7% of the variance in the fear of being laughed at. The authors also found that gelotophilia was associated with high extraversion and openness to experience, as well as low neuroticism and conscientiousness. Notably, the FFM traits and demographics accounted for 25.8% of the explained variance in the joy in being laughed at. Katagelasticism was associated with low agreeableness and conscientiousness. Overall, demographics and these personality traits were predictive of 24.7% of the variance in the joy in laughing at others. More recently, Ďurka and Ruch (2015) extended these findings by employing the *NEO-Five Factor Inventory* (NEO-FFI; Costa & McRae, 1992) to discover that gelotophobes can be described as introverted neurotics with a lower inclination to openness to experience. Indeed, these FFM traits, in conjunction with demographics, explained 46.7% of the variance in the fear of being laughed at. Also, there were less robust associations with low agreeableness and low conscientiousness (ΔR^2 of both traits were statistically non-significant). On the other hand, gelotophiles can be characterized as extraverts with low expressions in neuroticism and conscientiousness. Altogether, personality traits and demographics accounted for 21.3% of the variance in the joy in being laughed at. That said, the relationship between gelotophilia and high openness to experience was not as

well-established (ΔR^2 of both traits were statistically non-significant). Lastly, katagelasticists can be described by low agreeableness and conscientiousness, as well as high extraversion. In particular, demographics and FFM traits accounted for 37.3% of the variance in the joy in laughing at others.

The laughter-related dispositions have also been located in a model of character strengths (i.e., morally and positively valued traits; see Peterson & Seligman, 2004). Proyer, Wellenzohn, and Ruch (2014) examined the associations between the dispositions and character strengths on basis of self- and peer-ratings. The inclusion of peer-ratings allowed to (1) add incremental information beyond self-descriptions that are prone to biases (e.g., Vazire & Carlson, 2011), (2) to examine the under- or overestimation of strengths in relation with the dispositions, and (3) controlling for common method bias (e.g., acquiescence; Campbell & Fiske, 1959). There was a robust association between gelotophobia and negative expressions of strengths: specifically, low ratings on humor, bravery, kindness, forgiveness, gratitude, and curiosity (along with greater expressions of modesty and prudence). When comparing the findings with ratings by knowledgeable others, it was shown that gelotophobes seem to underestimate their virtuousness. For example, peer-ratings of high modesty had incremental validity beyond the self-reported strengths. Altogether, these predictors and demographics accounted for 39% of the variance in the fear of being laughed at. Further, higher scores on humor, love, modesty, and appreciation of beauty were related to gelotophilia in self-reports, and high creativity and authenticity, but low modesty and bravery, in the peer-reports. Demographics and character strengths explained 39% of the variance in the joy in being laughed at. Katagelasticism had a less demonstrable overlap with character strengths than did gelotophobia and gelotophilia, as katagelasticists reported lower levels of modesty, kindness, fairness, and prudence. Peers perceived them as being low

in love of learning. Demographics and character strengths accounted for 20% of the variance in the joy in laughing at others. Overall, the findings converged well between self- and peer-ratings, with the exception that gelotophobes underestimated their virtuousness.

Based on these findings, one might conclude that gelotophobia, gelotophilia, and katagelasticism can be well-located in both traditional models of personality and character strengths-based models. However, certain issues remain understudied. For instance, to the best of our knowledge, no studies have yet tested the localization of these dispositions in an alternative personality system such as the HEXACO model (Ashton & Lee, 2007). This model proposes the existence of six broad dimensions to describe personality (i.e., extraversion, emotionality, openness to experience, agreeableness, conscientiousness, and honesty-humility). Although the operationalization of extraversion, openness to experience, and conscientiousness are closely equivalent to their counterparts in the FFM, the HEXACO model also reorganizes some of the variance represented in the FFM (Ashton, Lee, & de Vries, 2014; Romero, Villar, & López-Romero, 2015). For instance, emotionality, relative to the FFM neuroticism trait, encompasses some sentimentality-related traits that were rather associated with FFM agreeableness trait. Similarly, the HEXACO agreeableness trait includes certain anger-related traits, traditionally associated with neuroticism in the FFM. Importantly, despite such modifications, empirical data supports convergent validity among emotionality-neuroticism, and both agreeableness traits ($r \geq .52$; Ashton et al., 2014). Finally, the HEXACO model also allows for an assessment of the honesty-humility dimension, which encompasses such characteristics as sincerity, fairness, greed avoidance and modesty. It has been indicated that these traits were underrepresented in the FFM (Ashton et al., 2014; Romero et al., 2015)

2 Study 1

The purpose of this study was to examine the location of three dispositions toward ridicule and being laughed at in the HEXACO model. Given the similarities between the HEXACO model and the FFM (see Ashton et al., 2014), a replication of earlier findings was expected. Hence, gelotophobia would be associated with high emotionality and low extraversion; gelotophilia with high extraversion and low emotionality; and katagelasticism with low agreeableness and high extraversion.

The association between honesty-humility and the three dispositions has not yet been tested. Empirical research and conceptual similarities and differences between the honesty-humility dimension and the three laughter-related traits guided our expectations. Ashton and colleagues (2014) stated that greater expressions on honesty-humility are characterized by genuineness and modesty in interpersonal settings and the avoidance of unfair behaviors along with low avarice. In this respect, there is mixed evidence for a relation between gelotophobia and honesty-humility. For example, gelotophobes seem to mistrust others (paranoid/suspiciousness tendency) and to regulate their behavior to avoid being ridiculed (Ruch, 2009). One may assume that this notion is inconsistent with an inclination to be genuine in social interactions. Further, the fear of being laughed at has been linked to the manipulation of others (Proyer et al., 2012) which is a type of unethical behavior. Simultaneously, those high in the fear of being laughed at present an underestimation of their abilities and greater expression of modesty (Proyer et al., 2014). We will therefore examine the relationship between this disposition and honesty-humility in an exploratory fashion. Second, we expected to find a positive association between high honesty-humility and a greater inclination to gelotophilia. Ruch and Proyer (2009) surmised that individuals high in the joy in being laughed at are not concerned with appearing as ridiculous (even in embarrassing

situations) and experience joy from others' laughs (even if it is directed at them). This shows fit with the idea of that gelotophiles would be more prone to be genuine when interacts with others. Also, there is support for positive associations between gelotophilia and virtuousness' dimensions (Proyer el al. 2014). Finally, we expected that low honesty-humility would correlate with greater scores on katagelasticism. The conceptualization of the joy in laughing at others involves selfishness, cold-heartedness and indifference by others' feelings (Ruch & Proyer, 2009). One may assume that katagelasticists would be more inclined to engage in cheating or unfair acts in order to achieve their purpose of ridiculing others. Consistent with this idea, katagelasticism has been also linked to psychoticism (Proyer & Ruch, 2010), lower expressions of guilt and shame (Proyer, Platt, & Ruch, 2010), manipulative life styles (Proyer et al., 2012), and low virtuousness (Proyer et al., 2014).

Based on earlier findings on the associations of broad personality traits with gelotophobia, gelotophilia and katagelasticism, we expected that demographics (i.e., gender and age) and the traits of the HEXACO model would, in combination, predict the three dispositions toward ridicule and laughter, reflecting a medium-to-large effect size; we anticipated determination coefficients between .13 and .26 (Cohen, 1988).

2.1. Method

2.1.1 Participants

Our sample consisted of 216 adults (114 females [52.8%], 102 males [47.2%]). Their age ranged from 18 to 67 years ($M = 30.60$; $SD = 9.69$; $Median = 28$). Of these participants, 51.9% were employees, 35.6% students, 9.7% unemployed people, 1.4% retired; and 1.4% did not indicate professional status. In terms of educational background, participants reported the following: 5.1% had completed a doctorate; 63.4

% held a university degree; 12.0% had a general certificate of education; 12.5% had completed a vocational education and training; and 4.6% and 2.3% indicated secondary and primary education, respectively.

2.1.2 Instruments

The *PhoPhiKat-45* (Ruch & Proyer, 2009a; Spanish by Torres-Marín, Proyer, López-Benítez, & Carretero-Dios, 2019) was used to assess the three dispositions toward ridicule and being laughed at: (a) *gelotophobia* (sample item: "When they laugh in my presence, I get suspicious"); (b) *gelotophilia* ("When I am with other people, I enjoy making jokes at my own expense to make the others laugh"); and (c) *katagelasticism* ("I enjoy exposing others and I am happy when they get laughed at"). Each disposition was assessed through 15 items. Respondents provide answers on a 4-point format, ranging from 1 (*strongly disagree*) to 4 (*strongly agree*). Prior research (see, for example, Ruch & Proyer, 2009a) has provided evidence for its reliability (e.g., $\alpha \geq .80$; retest-reliability $\geq .73$ [6-month-interval]) and validity (e.g., robust three-factor solution; construct validity evidences based on its relationships with external measures).

The *HEXACO-60* (Ashton & Lee, 2009; Spanish version by Romero et al., 2015) was administered to assess six broad personality traits using 60 items: namely, (a) *honesty-humility* (e.g., "I wouldn't use flattery to get a raise or promotion at work, even if I thought it would succeed"); (b) *emotionality* (e.g., "I would feel afraid if I had to travel in bad weather conditions"); (c) *extraversion* (e.g., "I prefer jobs that involve active social interaction to those that involve working alone"); (d) *agreeableness* (e.g., "I rarely hold a grudge, even against people who have badly wronged me"); (e) *conscientiousness* (e.g., "I plan ahead and organize things, to avoid scrambling at the last minute"); and (f) *openness to experience* (e.g., "I would enjoy creating a work of

art, such as a novel, a song, or a painting"). Each factor was measured through 10 items and the response format was a 5-point Likert scale, ranging from 1 (*completely disagree*) to 5 (*completely agree*). There is support for the *HEXACO-60's* good reliability (e.g., $\alpha \geq .72$; retest-reliability $\geq .60$ [6-week-interval]) and factorial structure (i.e., the proposed six-factor internal structure has been widely reproduced). Moreover, the relation of the broad personality traits with other relevant criteria indicates adequate external validity (e.g., De Vries, & Van Kampen, 2010).

2.1.3 Procedure

The sample was recruited through online advertisements. Respondents were informed that they would participate in a study on humor and personality (they had to be ≥ 18 years of age). A brief description, including a general statement about our study (i.e., this study is aimed at assessing some personality characteristics among Spanish adults) and the estimated duration (~ 20 minutes) for the completion of the questionnaire booklet, were provided before respondents started the online assessments. In the introduction to the survey, we emphasized the voluntary nature of their participation was voluntary and guaranteed their anonymity and confidentiality. Their responses would be used for research purposes only. None of the participants received financial compensation or course credit for their participation. This research was authorized by a local ethical committee and carried out in accordance with the Ethical Standards of the 1964 Declaration of Helsinki.

2.1.4 Data analysis

Mean scores, standard deviations, and reliabilities were computed. Pearson correlations were computed, to test the relationships of all the questionnaire variables

with gender and age. Partial correlations (controlling for age and gender) between the three PhoPhiKat dimensions and the HEXACO dimensions were computed. Also, we performed a series of hierarchical regression analyses to test the localization of the laughter-related dispositions in the HEXACO model. Prior to conducting these analyses, we mean-centered all the questionnaire variables and tested whether collinearity statistics (i.e., Variance Inflation Factors) were all within adequate limits (i.e., values < 5.0; Akinwande, Dikko, & Samson, 2015). Then, hierarchical regression analyses were computed, with gelotophobia, gelotophilia, and katagelasticism as criteria and the HEXACO traits as predictors (Step 2; method: stepwise). To control for their potential influence, gender and age of the participants were entered as predictors in Step 1 (method: enter). To evaluate the effect size of the single steps, we computed Cohen's regression effect size f^2 (Cohen, 1988), which allows for interpretation of the magnitude of effects ($f^2 \geq 0.02/0.15/.035$ indicate small/medium/large effects; Cohen, 1988). The effect sizes were computed on the basis of the changes in R^2 and inform about the contribution of a predictor variable.

2.2 Results

2.2.1 Preliminary analyses

The internal consistency was satisfying for the PhoPhiKat-45 ($\alpha \geq .85$; median = .86) and the HEXACO-60 ($\alpha \geq .72$; median = .76). Further, Table 1 gives the descriptive statistics for all measures. The scores' distribution, for the PhoPhiKat-45 and the HEXACO-60, was comparable to previous findings in Spanish samples (Romero et al., 2009; Torres-Marin et al., 2019). Correlations with gender and age were also tested. Gelotophobia ($r = -.04$) and gelotophilia ($r = .06$, ps > .01) did not correlate significantly with gender. By contrast, katagelasticism correlated with male gender ($r =$

.35, $p < .001$). Moreover, female gender correlated with emotionality ($r = -.45$, $p < .001$) and conscientiousness ($r = -.21$, $p < .01$). Furthermore, younger age correlated with gelotophobia ($r = .19$, $p < .01$). Gelotophilia ($r = -.17$) and katagelasticism ($r = -.14$, ps $> .01$) did not correlate with age. Finally, extraversion correlated with older age ($r = .19$, $p < .01$).

2.2.2 Relationships with the HEXACO model

Partial correlations (controlling for age and gender) among the HEXACO dimensions and the three dispositions toward ridicule and being laughed at are given in Table 1. Gelotophobia was related to high emotionality ($r = .36$), low extraversion ($r = -.58$), and low agreeableness ($r = -.24$, ps $< .001$). Additionally, gelotophobia was negatively related with honesty-humility ($r = -.28$, $p < .001$). Individuals high in gelotophilia were more extraverted ($r = .39$), with a positive inclination to openness to experience ($r = .29$, ps $< .001$). Finally, higher katagelasticism scores were negatively correlated with agreeableness ($r = -.38$) and honesty-humility ($r = -.29$, ps $< .001$).

Insert Table 1 about here

2.2.3 Hierarchical regression analyses with the HEXACO model

Table 2 gives the findings from the hierarchical regression analysis predicting gelotophobia from demographics (i.e., gender and age) and using the HEXACO dimensions as predictors. Younger age, low extraversion ($\Delta R^2 = .327$, $p < .001$, $\Delta f^2 = 0.52$), and high emotionality ($\Delta R^2 = .071$, $p < .001$; $\Delta f^2 = 0.13$) also were predictors. Further, an additional part of the variance was explained by low honesty-humility ($\Delta R^2 = .037$, $p < .001$; $\Delta f^2 = 0.07$). Altogether, demographics (explained variance for Step 1 = 3.8%) and the HEXACO facets accounted for 47.3% of the total variance of

gelotophobia. For gelotophilia, younger age (explained variance for Step 1 = 3.1%), high extraversion ($\Delta R^2 = .147$, $p < .001$; $\Delta f^2 = 0.18$), and a higher inclination to openness to experience ($\Delta R^2 = .066$, $p < .001$; $\Delta f^2 = 0.09$; see Table 2) accounted for 24.4% of the variance. Finally, demographics and the HEXACO traits accounted for 29.8% of the variance in katagelasticism. The joy in laughing at others was related to male gender (explained variance for Step 1 = 13.5%) and low agreeableness ($\Delta R^2 = .123$, $p < .001$; $\Delta f^2 = 0.17$). Moreover, low honesty-humility also contributed to the prediction of this laughter-related disposition ($\Delta R^2 = .041$, $p < .001$; $\Delta f^2 = 0.06$).

Insert Table 2 about here

2.3 Discussion

This is the first study to examine the associations among three dispositions toward ridicule and being laughed at and the HEXACO model of personality. Overall, our findings squared well with expectations and the data indicated that comparable findings could be obtained across the HEXACO and the FFM (see Ďurka & Ruch, 2015; Ruch et al., 2013).

As indicated by prior research on the FFM, gelotophobia can be characterized by low extraversion and high emotionality (i.e., the counterpart of neuroticism in the NEO-FFI), demonstrating medium-to-large effect sizes. Additionally, a lower tendency to honesty-humility was associated with gelotophobia. Gelotophobes arguably must use somewhat dishonest behaviors when they are in laughter-related situations that they do not fully appreciate (e.g., when laughing with others even if they don't get the joke or making up excuses to leave social settings upon feeling ridiculed by others). It would relate and could be seen as a consequence of their near-paranoid sensitivity to laughter by others (Ruch et al., 2014). Further, the association with low honesty-humility fits

well with findings of the tendency of gelotophobes toward manipulative behaviors (Proyer et al., 2012) and their suspicious perceptions of others (Ruch, 2009). At the same time, this negative association between gelotophobia and honesty-humility does not assert that gelotophobes are characterized by high modesty (Proyer et al., 2014). This may indicate that the honesty-humility dimension cannot adequately distinguish between dishonest and modest tendencies. Also, an alternative explanation of this association is that gelotophobes underestimate their honesty-humility due to their negative beliefs about themselves (Ruch, 2009). Gelotophobes have already been shown to underestimate their virtuousness, relative to ratings from knowledgeable others (Proyer et al., 2014). Thus, analyzing peer-ratings for honesty-humility in future studies would help to clarify the localization of gelotophobia in this specific dimension.

Further, high expressions in extraversion and openness to experience were robustly associated with gelotophilia, demonstrating small-to-medium-effect sizes, while emotionality negatively correlated, but did not uniquely contribute, in the regression analysis. This latter result was unexpected, as low neuroticism has been identified as a relevant predictor of the joy of being laughed at in the FFM (Ďurka & Ruch, 2015). Nevertheless, our data indicate that gelotophiles did not show a specific tendency toward emotional stability. This notion received support from the analyses of the joy in being laughed at and neuroticism in the PEN model (Proyer & Ruch, 2010). Contrary to our expectations, gelotophilia was not associated with honesty-humility. This seems to indicate that gelotophiles do not continually engage in virtuous, honest, or humble behaviors. Further studies should replicate and extend this finding, and incorporate additional measures to assess this relation more thoroughly.

Finally, katagelasticism can be described by low agreeableness and low honesty-humility, showing effects that are small-to-medium in size. Considering this latter

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association, one might argue that katagelasticists may engage in dishonest behavior, such as cheating, to create situations with a heightened opportunity to engage in harming others by laughing at or ridiculing them. This supports the notion of associations between katagelasticism and low virtuousness and tendencies to experience less shame or guilt, as well as high psychoticism and high inclinations to subclinical psychopathic traits (Proyer et al., 2012, 2014; Proyer, Platt, & Ruch, 2010; Proyer & Ruch, 2010)

Altogether, this study reveals that the FFM and HEXACO model demonstrate a certain degree of overlap, when predicting gelotophobia, gelotophilia and katagelasticism. More specifically, the amount of explained variance in all these three ridicule-related dispositions were comparable across studies ($.24 \leq R^2 \leq .53$; Ďurka & Ruch, 2015; Ruch et al., 2013). Moreover, our findings also show that broad personality dimensions contribute to explain how people deal with ridicule and being laughed, but without being redundant models. Accounting for the moderate correlations ($-.58 \leq rs \leq .39$), as well as the variance explanation ($\leq 47\%$) among the HEXACO traits and the three ridicule-related dispositions, we conclude that the narrow laughter-related traits can be localized in the HEXACO system but are not redundant with traits, either singularly or in combination. Using the HEXACO model extends our understanding of the laughter-related dispositions' relationship with positively valued behaviors and experiences (honesty-humility). Overall, low honesty-humility seems to be a relevant characteristic in describing gelotophobes' and katagelasticists' personalities. Hence, distinctive components (facets) of this broad trait could be especially relevant to predicting the fear of being laughed at and joy in laughing at others. It would therefore be advisable to test the predictive value of narrow traits, referring to a more limited range of internal experiences or behaviors that relate to dishonest or arrogant

tendencies. Linking to this, a recent study of Hodson and colleagues (2018) demonstrated that the opposite pole of honesty-humility overlaps with the common factor of the DT. Thus, examining the specific predictive value of narcissim, psychopathy, and Machiavellianism (traits of the *Dark Triad*; Paulhus & Williams, 2002) in gelotophobia and katagelasticism can contribute to ascertaining the significance of our findings.

3 Study 2

The purpose of Study 2 was to examine the location of three dispositions toward ridicule and being laughed at in the Dark Triad (DT). Prior research has shown that gelotophobia, gelotophilia, and katagelasticism are differentially associated with psychoticism, psychopathic personality traits, and bullying-type behaviors (Proyer et al., 2011, 2012; Proyer & Ruch, 2010)—and with virtuousness (i.e., positive psychological functioning; Proyer et al., 2014). Nevertheless, to the best of our knowledge, there are no data available on the interrelations among three dispositions toward ridicule and being laughed at and the DT traits (Paulhus & Jones, 2014; Paulhus & Williams, 2002; Wai & Tiliopoulos, 2012). The DT covers three specific socially aversive traits in the subclinical range, namely: Machiavellianism, psychopathy, and narcissism. Machiavellianism can be defined as a tendency to use manipulative strategies and to show emotional coldness, alliance-building acts and a cynical worldview. Psychopathy is characterized by antisocial behaviors, high impulsivity (self-control deficit), and callous manipulation, along with a lower inclination to empathy. Narcissism refers to an individual's inclination toward grandiosity/ego-promoting behaviors, along with excessive admiration of one's own attributes. Although this "constellation" of traits share a common core (i.e., callous manipulation or lack of empathy), they are non-

overlapping factors (Paulhus & Jones, 2014). This is supported by their different conceptual grounds as well as their moderate intercorrelations (e.g., rs from .25 to .50: Paulhus & Williams, 2002). Additionally, these narrow traits of "dark" personality have been shown to predict diverse outcomes, such as sexual behaviors, striving for power, and materialistic tendencies, even controlling for broad personality traits represented in systems such as the FFM or HEXACO (Lee et al., 2012).

Given that gelotophobia has demonstrated positive associations with psychoticism (Proyer & Ruch, 2010) and manipulating others (Proyer et al., 2012), we expected to find positive correlations with psychopathy and Machiavellianism. As gelotophobes exhibit low superficial charm/grandiosity (Proyer et al., 2012), we anticipated a negative association with narcissism. Prior research has demonstrated that gelotophiles are more inclined to exhibit superficial charm or grandiosity (Proyer et al., 2014) and actively seek others' attention (Renner & Heydasch, 2010); therefore, we expected to find that narcissism predicts the joy in being laughed at. Finally, katagelasticism has been positively linked to psychoticism (Proyer & Ruch, 2010), as well as certain psychopathic traits that are highly related to the DT (i.e., superficial charm, manipulative lifestyle, and antisocial behaviors: Proyer et al., 2012). This is also in line with the notion that katagelasticists exhibit low guilt-proneness when they laugh at others (Proyer et al., 2010). These findings indicate that a greater propensity to take joy in laughing at others would be associated with reduced feelings of empathy toward others, which is argued to be the common core of the DT traits (e.g., Wai & Tiliopoulos, 2012). We, therefore, expected to find all three DT traits contributing to the prediction of katagelasticism.

As with Study 1, we expected that demographics (i.e., gender and age) and the DT traits would together predict the three dispositions toward ridicule and laughter with

medium-to-large effect sizes (range total R^2 from .13 to .26). Also, to address our objectives more thoroughly, we employ two measures for the DT; namely, the *Short Dark Triad* (SD3; Jones & Paulhus, 2014) and the *Dirty Dozen* (DD12; Jonason & Webster, 2010). As Maples, Lamkin, and Miller (2014) have shown, the pair of scales seem to measure overlapping, but still distinct aspects of the DT traits (e.g., different correlation patterns with external variables). Thus, to cover the full range of the DT, we incorporated both of the most frequently used measures in the literature.

3.1 Method

3.1.1 Sample

Our sample consisted of 204 adults (122 females [59.8%], 82 males [40.2%]). The participants' age ranged from 19 to 75 years (*M* = 35.74; *SD* = 14.99; *Median* = 28). Of these participants, 46.6% were employees, 36.8% students, 11.8% unemployed people, 4.4% retired, and 0.5% did not indicate their professional status. In terms of educational background, respondents reported the following: 6.9% completed a doctorate; 62.3% held a university degree, 14.7% had a general certificate of education; 13.7% had completed a vocational education and training; and 2.5% indicated secondary education.

3.1.2 Instruments

As in Study 1, we used the Spanish form of the *PhoPhiKat-45* (Torres-Marin et al., 2019) to assess the three laughter-related dispositions.

The *Short Dark Triad* (SD3; Jones & Paulhus, 2014; Spanish version by Nohales-Nieto & Ibáñez-Ribes, 2015) consists of 27 items that assess three dimensions (9 items each): (a) narcissism (e.g., "People see me as a natural leader"); (b) psychopathy (e.g., "I like to get revenge on authorities"); and (c) Machiavellianism (e.g., "It's not wise to

tell your secrets"). Respondents answer, using a 5-point Likert scale (1 = *strongly disagree*; 5 = *strongly agree*). This measure has acceptable-to-good internal consistency (e.g., α ≥ .68; retest-reliability ≥ .80 [1-month-interval]) and there is broad evidence for its factorial and concurrent validity (Jones & Paulhus, 2014; Nohales-Nieto & Ibáñez-Ribes, 2015).

The *Dirty Dozen* (DD12; Jonason & Webster, 2010; Spanish version by Nohales-Nieto & Ibáñez-Ribes, 2015) consists of 12 items, divided among three dimensions (4 items each): (a) narcissism (e.g., "I tend to want others to admire me"); (b) psychopathy (e.g., "I tend to be unconcerned with the morality of my actions"); and (c) Machiavellianism (e.g., "I tend to manipulate others to get my way"). Respondents answer on a 5-point Likert scale (1 = *strongly disagree*; 5 = *strongly agree*). It demonstrates good reliability (e.g., α ≥ .73; retest-reliability ≥ .71 [3-week-interval]) and broad evidence of factorial validity (Jonason & Webster, 2010), but it has also been criticized for its weak correspondence with other DT measures (Jones & Paulhus, 2014; Maples et al., 2014)

3.1.3 Procedure and Data Analysis

The same procedure and analytical approach was applied in Study 1 and Study 2.

3.3 Results

3.3.1 Preliminary analyses

Table 3 gives the descriptive statistics and internal consistency coefficients. The reliability was satisfying for the PhoPhiKat-45 (α ≥ .84; median = .86) and the DT measures for research purposes (SD/DD12: α ≥ .60/.62; median = .73/.77). The mean scores and standard deviations were, again, comparable with earlier findings on the

three laughter-related dispositions (cf. Study 1; Torres-Marin et al., 2019) and prior reports on non-clinical samples for the DT (e.g., Nohales-Nieto & Ibáñez-Ribes, 2015). Correlations with gender and age were also calculated. Although gelotophobia ($r = .03$) and gelotophilia ($r = .14$) did not correlate with gender ($ps > .01$), katagelasticism correlated with male gender ($r = .30$, $p < .001$). Male gender also correlated with psychopathy ($|rs| \geq .25$) and Machiavellianism ($|rs| \geq .21$) in both measures ($ps < .01$). Further, younger age correlated with gelotophilia ($r = -.25$) and katagelasticism ($r = -.37$, $ps < .001$), but demonstrated no association with gelotophobia ($r = -.14$, $p > .01$). Younger age also correlated with SD3 psychopathy ($r = -.24$) and DD12 Machiavellianism ($r = -.25$; $ps < .01$). In line with Maples et al.'s findings (2014), the inspection of the intercorrelations of the DT measures has shown comparatively low convergence among the same facets ($r = .38-.58$) whereas different facets (e.g., SD3 psychopathy and DD12 Machiavellianism) were robustly positively correlated.

3.3.2 Relationships with the Dark Triad (SD3 and DD12)

Table 3 shows the partial correlations (controlling for age and gender) among the DT traits and the three dispositions toward ridicule and being laughed at. Gelotophobia was positively correlated with Machiavellianism, but only the coefficient in the SD3 was statistically significant ($r = .28$, $p < .001$). As expected, we found a negative trend between gelotophobia and narcissism, assessed by SD3, of small magnitude ($r = -.18$, $p = .013$). Unexpectedly, there were no substantial associations identified between gelotophilia and the DT ($|rs| \leq .15$). In line with expectations, however, katagelasticism yielded positive correlations with narcissism ($|rs| \geq .26$), psychopathy ($|rs| \geq .48$), and Machiavellianism ($|rs| \geq .45$) across both measures ($ps < .001$)

Insert Table 3 here

3.3.3 Hierarchical regression analyses with the Dark Triad (SD3 and DD12)

Hierarchical regression analyses, predicting gelotophobia, gelotophilia, and katagelasticism, using demographics (i.e., gender and age) and the DT traits as predictors, are given in Tables 4 and 5. First, demographics (explained variance by Step 1 = 1.9%), high Machiavellianism ($\Delta R^2 = .075$, $p < .001$; $\Delta f^2 = 0.08$), and low narcissism ($\Delta R^2 = .080$, $p < .001$; $\Delta f^2 = 0.10$) account for 17.4% of the variance of gelotophobia. When predicting gelotophilia, younger age (explained variance by Step 1 = 8.2%) and high narcissism ($\Delta R^2 = .021$, $p = .030$; $\Delta f^2 = 0.02$) accounted for 10.3% of the variance. Importantly, gelotophobia and gelotophilia only revealed statistically significant outcomes when the DT was assessed via the SD3 (see Table 4). As in the correlational analysis, katagelasticism yielded significant effects using both measures. When using the SD3, demographics (young age and male gender; explained variance = 23.2%), high psychopathy ($\Delta R^2 = .263$, $p < .001$; $\Delta f^2 = 0.52$), and high Machiavellianism ($\Delta R^2 = .036$, $p < .001$; $\Delta f^2 = 0.08$; Table 4) explained 53.1% of the total variance in katagelasticism. Similarly, when utilizing the DD12 (see Table 5), demographics, high Machiavellianism ($\Delta R^2 = .178$, $p < .001$; $\Delta f^2 = 0.30$), and high psychopathy ($\Delta R^2 = .072$, $p < .001$; $\Delta f^2 = 0.14$) account for 48.2% of the variance in this disposition.

Insert Tables 4 and 5 about here

3.4 Discussion

This study extends our understanding of the role of socially aversive traits and the ways that people deal with ridicule and being laughed at by localizing gelotophobia, gelotophilia, and katagelasticism in a well-established model of *dark* personality traits—the Dark Triad (see Paulhus & Williams, 2002). As expected, gelotophobia was

predicted by high Machiavellianism and low narcissism when using the SD3 measure of DT. The effects were of small size and are consistent with prior research on the association of gelotophobia with manipulative lifestyles and its negative relationship with superficial charm or grandiosity in terms of psychopathic personality traits (Proyer et al., 2012). The joy in being laughed at was only predicted by high narcissism on the SD3 measure, which showed an effect of small size. Gelotophilic characteristics, such as the usage of self-presentation styles aimed at gaining social approval (Renner & Heydasch, 2010) or greater expressions in extraversion (see Ďurka & Ruch, 2015) may be shared with narcissistic personality traits. Finally, katagelasticism demonstrated differential associations with Machiavellianism and psychopathy, depending on the DT instrument: When using the SD3, psychopathy was a potent predictor of katagelasticism, yielding a large effect size, while Machiavellianism contributed, but with a small effect. By contrast, utilization of the DD12 measure showed that Machiavellianism entered the regression first (large effect), while psychopathy contributed less than it did in the SD3 model. However, psychopathy accounted for a unique effect of medium size. This is broadly aligned with the traditional operationalization of the joy of laughing at others (see Ruch & Proyer, 2009a) and its correlates with psychoticism (Proyer & Ruch, 2010), psychopathological traits (Proyer et al., 2012), and inclinations to greater frequencies of disagreement in romantic couples (Brauer & Proyer, 2018). Against expectations, narcissism did not contribute to the explanation of katagelasticism, independently of the utilized measure.

In sum, our findings supported the notion of discriminant validity for the three dispositions, as they demonstrated disparate associations (and with varying effect sizes) with the DT. It should here be noted that the findings for gelotophobia and gelotophilia were affected by the instrument utilized to assess the DT traits; namely, correlations

existed for the SD3, but not the DD12. Moreover, we found that the intercorrelations between the SD3 and DD12 were partially lower among the same traits than they were across different traits, which might question the validity of the scales. Maples and colleagues (2014) have compared both measures regarding their overlap and relationship with external criteria. The findings reflect the superiority of the SD3, relative to the DD12; the psychometric features of the SD3 (internal consistency and mean inter-item correlations) showed greater convergence with established measures that capture the DT, and met theoretical expectations, in terms of correlations with the FFM traits. Thus, while we aimed to cover the DT using two popular measures, we found that the relationships with the laughter-related dispositions did not converge well across different measures; thus, limiting the generalization of the findings. Since Maples et al.'s findings received further support (for an overview see Paulhus & Jones, 2014), we expect that our findings, based on the SD3, would replicate well with established and more comprehensive measures of the DT in future studies (cf. Maples et al., 2014).

5 General Discussion

This research provides the first data on the localization of gelotophobia, gelotophilia, and katagelasticism in the HEXACO and the DT models. Importantly, the findings from these two studies expand our understanding of the nature of these three dispositions toward ridicule and being laughed at. Concerning the HEXACO model, our results were similar to prior FFM findings, and supported the notion that the honesty-humility trait contributes to the prediction of individual differences in gelotophobia and katagelasticism. As this broad HEXACO trait represents distinct components, including dishonest and arrogant behaviors, Study 2 was aimed at clarifying the distinctive relationships with narrow traits such as narcissism, psychopathy, and Machiavellianism.

In line with our expectations, social aversive personality traits differentially predicted the three dispositions toward ridicule and being laughed at. For instance, gelotophobia was related to high Machiavellianism and low narcissism. These data help to clarify the previously obtained association between gelotophobia and low honesty-humility. Given the opposite associations with narcissism (negative) and Machiavellianism (positive), one might argue that gelotophobia is more strongly related to low honesty characteristics (e.g., fairness) than low humility (e.g., modesty). Such an expectation squares with prior research demonstrating that gelotophobes are more prone to low authenticity, fairness, forgiveness, and gratitude, but high modesty (Proyer et al., 2014).

Further, gelotophilia was positively related to narcissism. Trait narcissism encompasses grandiose aspects that have previously been found to be associated with gelotophilia (Proyer et al., 2011). Therefore, attending to the narcissism conceptualization (see Paulhus & Williams, 2002), individuals high in gelotophilia seem to demonstrate a greater inclination toward ego-promoting behaviors. Further, these individuals may accept laughter from others as a way of gaining others' attention. Ruch and Proyer (2009a) already stated that gelotophiles may interpret laughter or jokes from others as a sign of recognition.

Finally, katagelasticism was related to high Machiavellianism and high psychopathy. It could be argued that katagelasticists are engaging in callous manipulation when they seek out situations in which they can laugh at others. This squares with this trait's core characteristics, such as cold-heartedness and the failure to feel bad in the context of laughing *at* others. On a related note, theoretically relevant features of Machiavellianism or psychopathy, such as being minimally empathetic or exhibiting impulsive behaviors, correspond clearly with the definition of this laughter-

related disposition (Ruch & Proyer, 2009a). On the other hand, our results seem to suggest that narcissism may not be crucial to explain katagelasticists' behaviors. It makes sense to assume that these individuals are not especially focused on reputation-buildings acts (e.g., laughing at others for denoting to be wittier and exhibiting social dominance), but rather that they are just interested in using others for their own fun, perhaps paying little attention to the impact of their behaviors. This also sheds some light on the relation between katagelasticism and low honesty-humility.

Altogether, our results suggest that aversive (but subclinical) personality traits incorporate relevant variance into the prediction of dispositions toward ridicule and being laughed at. Importantly, as a result of the extension of our findings concerning low honesty-humility, we observed that gelotophobes diverge from katagelasticists in terms of their "dark" personality characteristics. These data offer valuable information that expands our understanding of specific social-related impairments associated with these dispositions. Although there are some common deficits related to dark personality traits (e.g., decreased empathy: Wai & Tiliopoulos, 2012), they also showed independent social outcomes (Ashton et al., 2012; Rauthmann, 2012). Given the importance of humor and laughter in interpersonal situations involving humiliating feelings and feelings of superiority, humor and laughter can arguably be used as a sort of interpersonal strategy (e.g., Rees & Monrouxe, 2010; Renner & Heydasch, 2010). There is prior research indicating that humor and laughter may be conveniently used for conveying dominance or expressing inadmissible ideas under the semblance of seeking mere fun (Wood et al., 2017; Ziv, & Gadish, 1990). Future research could examine the role of avoiding and initiating laughter toward oneself and others in normal and "dark" (e.g., antisocial) personality types. For instance, it would be advisable to test whether

low vs. high-scorers in the Dark Triad traits would use more sarcastic jokes or dominance laughter as coercive tactics in interpersonal settings.

Moreover, *everyday sadism* has been identified as a fourth dark trait (i.e., *Dark Tetrad*; Buckels, Jones, & Paulhus, 2013) and may further extend our understanding regarding the association between the dispositions and "dark" facets of personality. For example, that the reasonable expectation that katagelasticists' inclinations to feeling low guilt and shame (Proyer et al., 2010) would extend to encompass everyday sadism and that the engagement in ridiculing others may be a facet of such non-pathological sadistic tendencies.

Several limitations need mentioning. First, all the respondents of this research were recruited through convenience sampling. Therefore, the generalizability of our findings is limited and should be further examined in non-Spanish samples. Cross-cultural studies would be especially appropiate to explore putative sociocultural effects on the findings. Second, we found that the utilized DT measures allow for only limited generalizability concerning the relationships between the laughter-related dispositions and the DT, as they assess different aspects of what constitutes the DT (for an overview, see Maples et al., 2014). As mentioned above, it would be desirable to incorporate other standard measures of the DT, beyond the SD3, into future studies. Third, we only considered subjective self-ratings. An extension toward peer-ratings of the dispositions, as well as honesty-humility and DT, is desirable in future studies. Moreover, although socially aversive personality traits accounted for a part of the variance in these three laughter-related dispositions, we did not examine whether these effects can be replicated *beyond* the FFM and HEXACO traits. Finally, future research should also deepen the exploration of associations among gelotophobia and katagelasticism, respectively, and socially aversive (but subclinical) tendencies; for example, such an exploration would

be to test whether these ridicule-related traits predict specific behaviors in naturalistic

scenarios, such as decision-making based tasks or economic games (e.g., Ruch,

Bruntsch, & Wagner, 2017).

5 Conclusions

Our research reveals that the humility-honesty trait and the DT traits contribute to

understanding interindividual differences in dealing with ridicule and being laughed at.

More empirical work is needed to expand on these relations. For example, future studies

should assess behavioral data, to validate the present findings. However, this research

offers new and valuable insight into the field of laughter and personality.

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Table 1

Descriptive Statistics, Reliabilities, and Partial Correlations (Controlling for Age and Gender) between Dispositions Towards Laughter and Ridicule and HEXACO Traits

	M	SD	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Dispositions to laughter and ridicule											
(1) Gelotophobia	1.97	0.58	*.88*								
(2) Gelotophilia	2.27	0.54	-.41**	*.86*							
(3) Katagelasticism	1.88	0.49	.14	.29**	*.85*						
HEXACO-60											
(4) Extraversion	3.34	0.65	-.58**	.39**	-.05	*.80*					
(5) Emotionality	3.38	0.61	.36**	-.17	.05	-.16	*.75*				
(6) Agreeableness	3.18	0.60	-.24**	.12	-.38**	.19*	-.16	*.72*			
(7) Openness	3.68	0.65	-.12	.29**	-.02	.08	-.06	.08	*.78*		
(8) Conscientiousness	3.65	0.59	-.14	.04	-.06	.20*	.02	.04	.12	*.77*	
(9) Honesty-Humility	3.67	0.63	-.28**	.08	-.29**	.12	-.10	.22*	-.00	.19*	*.72*

N = 216. Cronbach's alpha in italics. *p < .01; **p <.001.

Table 2

Hierarchical Regression Analysis Predicting Dispositions toward Ridicule and Being Laughed at by Demographics and HEXACO

Gelotophobia			Gelotophilia			Katagelasticism		
Predictors	ΔR^2	β	Predictors	ΔR^2	β	Predictors	ΔR^2	β
Step 1: Demographics								
Model 1	.038*			.031*			.135***	
Age		-.191**	Age		-.166*	Age		-.116
Gender		-.053	Gender		.046	Gender		.339***
Step 2: HEXACO								
Model 2	.327***			.147***			.123***	
Age		-.081	Age		-.240***	Age		-.111
Gender		-.087	Gender		.069	Gender		.348***
Extraversion		-.584***	Extraversion		.392***	Agreeableness		-.351***
Model 3	.071***			.066***			.041**	
Age		-.075	Age		-.209**	Age		-.115*
Gender		.053	Gender		.029	Gender		.315***
Extraversion		-.541***	Extraversion		.372***	Agreeableness		-.306***
Emotionality		.303***	Openness		.262***	H-H		-.209**
Model 4	.037***							
Age		-.082						
Gender		.015						
Extraversion		-.520***						
Emotionality		.286***						
H-H		-.197***						
Total R^2	.473***			.244***			.298***	

Note. *N* = 216. Gender: 0 = female; 1 = male. H-H = Honesty-Humility. Step 1 (Method: enter); Step 2 (stepwise). *p<.05; **p<.01; ***p<.001. All VIFs ≤ 1.32

Table 3

Descriptive Statistics, Reliabilities and Partial Correlations (Controlling for Age and Gender) between Dispositions towards Laughter and Ridicule and Dark Triad's Traits

	M	*SD*	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Dispositions to laughter and ridicule											
(1) Gelotophobia	1.96	0.54	*.86*								
(2) Gelotophilia	2.27	0.55	-.36**	*.86*							
(3) Katagelasticism	1.82	0.49	.08	.28**	*.84*						
Short Dark Triad											
(4) Narcissism	2.61	0.52	-.18	.15	.26**	*.60*					
(5) Psychopathy	1.90	0.57	.14	.14	.59**	.33**	*.73*				
(6) Machiavellianism	2.64	0.65	.28**	-.07	.45**	.32**	.44**	*.75*			
Dirty Dozen											
(7) Narcissism	2.82	0.85	.11	.08	.30**	.38**	.28**	.43**	*.77*		
(8) Psychopathy	1.70	0.67	.07	.10	.48**	.25**	.40**	.35**	.17	*.62*	
(9) Machiavellianism	2.20	0.88	.13	.02	.48**	.34**	.54**	.58**	.46**	.41**	*.79*

N = 204. Cronbach alphas in italics. * *p* < 0.01; ** *p* < 0.001.

Table 4

Hierarchical Regression Analysis Predicting Dispositions toward Ridicule and Being Laughed at by Demographics and Dark Triad (SD3)

	Gelotophobia			Gelotophilia			Katagelasticism	
Predictors	ΔR^2	β	Predictors	ΔR^2	β	Predictors	ΔR^2	β
Step 1: Demographics								
Model 1	.019		*Model 1*	.082***		*Model 1*	.232***	
Age		-.134	Age		-.253***	Age		-.380***
Gender		.016	Gender		.104	Gender		.251***
Step 2: Dark Triad Dimensions								
Model 2	.075***		*Model 2*	.021*		*Model 2*	.263***	
Age		-.099	Age		-.247***	Age		-.267***
Gender		-.060	Gender		.103	Gender		.130*
Machiavellianism		.287***	Narcissism		.146*	Psychopathy		.542***
Model 3	.080***					*Model 3*	.036***	
Age		-.100				Age		-.261***
Gender		-.085				Gender		.094
Machiavellianism		.389***				Psychopathy		.445***
Narcissism		-.299***				Machiavellianism		.221***
Total R^2	.174***			.103***			.531***	

Note. $N = 204$. Gender: 0 = female; 1 = male. Step 1 (Method: enter); Step 2 (stepwise). *$p<.05$; **$p<.01$; ***$p<.001$. All VIFs ≤ 1.38.

Table 5

Hierarchical Regression Analysis Predicting Katagelasticism with Demographics and Dark Triad (DD12)

Predictors	ΔR^2	β
Step 1: Demographics		
Model 1	.23***	
Age		-.380***
Gender		.251***
Step 2: DD12 dimensions		
Model 2	.178***	
Age		-.279***
Gender		.170**
Machiavellianism		.444***
Model 3	.072***	
Age		-.294***
Gender		.120*
Machiavellianism		.319***
Psychopathy		.303***
Total R^2	.482***	

Note. $N = 204$. Gender: 0 = female; 1 = male. Step 1 (Method: enter); Step 2 (stepwise).

* $p < .05$; ** $p < .01$; *** $p < .001$. All VIFs ≤ 1.33.