

Development and Initial Validation of the Single-Item Wittiness Scale: A Preliminary Study

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Abstract

The present study aim was the construction and initial validation of the Single-Item Wittiness Scale (SIWS). We define wittiness as a specific type of humor production, which includes two separate processes: production fluency and production success (Moran et al., 2013). In that sense, the single item that was constructed reflects both of these processes. The SIWS was administered to a total sample of 83 high school students (30 male and 53 female), together with the As-if-Scale (Renner et al., 2008) and katagelasticism subscale of the PhoPhiKat (Ruch & Proyer, 2009). The results show that, first, self and peer-rated wittiness were positively associated. Second, males tend to have higher scores on peer-rated wittiness. Next, histrionic self-presentation style correlated positively with both self and peer ratings of wittiness. Finally, (active) katagelasticism was not associated with either self or peer-rated wittiness. Therefore the construct validity of the SIWS was partially confirmed.

Keywords: wittiness, scale development, histrionic self-presentation style, katagelasticism

1. Introduction

The first step in the construction of a new scale is to articulate the construct and context (Furr, 2011). One of the most widely accepted models of wittiness as a form of humor creation/production is the multidimensional model of Feingold and Mazzella (1993). In their understanding wittiness is comprised of three related dimensions, that is: humor motivation, humor cognition, and humor communication. Recently, Inglis, Zach and Kaniel (2014), reevaluated this model and conclude that the humor receiver also contributes to the variance in humor creation. At a more broad level there is the “sense of humor” concept. Sense of humor consists of two components: (1) humor comprehension, meaning understanding humor as

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intended by others; and (2) humor production, or creating humor that is understood and appreciated by others (Kohler & Ruch, 1996). Moran, Rain, Page-Gould and Mar (2013) note that these two components can be further broken down. Humor comprehension is understood as a prerequisite for humor appreciation, that is how funny a joke is perceived after it has been comprehended. Regarding humor production, two separate processes can be differentiated: (1) how many jokes are made, or production fluency; and (2) how funny these jokes are perceived by others, or production success.

We define wittiness as a specific type of humor production. At a personality level, an individual can be considered as witty if he/she is fluent in producing humor, which includes witty comments and/or jokes, and these are perceived as funny by others. A simple way to assess how witty a person is, is to summarize the subjective perceptions of others, i.e. the aggregation of peer-ratings. This approach was proposed by Ziv (1979) who proposed that for the measurement of the sense of humor (in our case wittiness) a suitable measure can be derived by asking to note for each peer the sense of humor he/she has. An alphabetical list of all members of the group is given to each subject and they evaluate the sense of humor for each of their peers (including themselves). Four columns are used for the evaluation, ranging from “has no sense of humor” to “has a very good sense of humor”, while for the scoring the points range from one to four (McGhee, 1989). Ziv (1979) reported correlations between humor creation and humor sociometric tests, ranging from .38 to .68 ($p < .05$) and (retest) reliability estimates of .78 to .83 after a two-month interval (as cited in Inglis et al., 2014). In essence, it is a peer evaluation instrument known as the *sociometry of humor* and it differs from classic sociometric nominations, where the number of nominations received matters. We have adapted it for measurement of wittiness and the single item that was created reflects both production fluency (the individuals that are first to tell comments and jokes), but also production success (these have to be considered as funny/witty by others).

The context, in which our proposed measure of wittiness as a personality trait should be used, is with adolescents or high school students. Therefore, our understanding of wittiness is related to the concept of class clowns. The most recent study of class clowns (Ruch, Platt & Hofmann, 2014), identifies four different class clown behaviors or “types” of class clowns. Using a hierarchical model, the authors distinguished a general factor and four positively related

dimensions, namely: *identified as a class clown, comic talent, disruptive rule-breaker and subversive joker*. An analysis of the general factor showed that class clowns were primarily male. The wittiness measure in our study is perhaps similar to the *comic talent* (that is based on quick-wittedness and spreading good cheer) factor in the Ruch et al. (2014) study.

The primary aim of the present study is the construction and initial validation of a new Single-Item Wittiness Scale (SIWS). For the construct validity, we relate the self and peer-ratings of wittiness, but also investigate the relation with relatively new personality constructs, that is, the histrionic self-presentation style (Renner, Enz, Friedel, Merzbacher & Laux, 2008), and katagelasticism (Ruch & Proyer, 2009). Additionally, a conceptually proposed distinction of the katagelasticism construct, that is, active and passive katagelasticism (Renner & Heydasch, 2010) is made. For this study, we have operationalized the active kataegelasticism concept.

2. Method

2.1. Participants and procedure

The sample consisted of 83 subjects (30 male and 53 female) and all of them were fourth year high school students. The mean age of the sample is $M = 17.70$ ($SD = .49$, with a range from 17 to 18). Four separate classes participated in the study (*class I* consisted of 23 students, 10 male and 13 female, in *class II* there were 18 students, 2 male and 16 female, *class III* consisted of 21 students, 7 male and 14 female, and in *class IV*, 21 students participated in the study, 11 male and 10 female). The numbering of the classes is arbitrary, but this high school has 8 classes of fourth year students which are numbered from one to eight. The materials were given to each class on one of their modules. They were asked to participate in a study of humor and personality. It took approximately 30 minutes to fill in the materials in each class. Participants who did not fully fill in the materials were eliminated from the study. Also, there were students who were absent from school on the day of the study.

2.2. Measures

As-if-Scale (AIS) (Renner et al., 2008). The Macedonian version of this scale was used to measure the histrionic self-presentation style. In correspondence with the author, the scale was translated from English to Macedonian by the first author of this contribution and then back-

translated into English by another colleague who speaks Macedonian and English as well. Slight changes on the wording of two items were made in the Macedonian version of the scale.

In a previous study (authors, 2015) the factor structure of the scale was examined. This was an online study with 103 participants (36 male and 67 female). The mean age of the sample was $M = 18.51$ years ($SD = 1.01$, with a range from 17 to 23). The study was done using the Google drive software, where a form was created and the link was shared with first year students from different departments of Ss. “Cyril and Methodius” University in Skopje.

We applied Horn’s parallel analysis (PA) and Velicer’s minimum average partial (MAP) test. MAP tests and PAs were carried out based on O’Connor’s (2000) SPSS programs. Both the MAP test and the parallel analysis led to an estimate of 1 component to retain. A principal component analysis was performed for the single factor solution. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was .71, and Bartlett’s test of sphericity was significant. The 1 component solution explained 40% of the variance (eigenvalue was 3.16). Cronbach’s alpha for this scale was .78.

The AIS is an 8-Item-Scale that covers subtle histrionic forms e.g. “I formulate my statements in such a way that they could have more than one meaning to others”, dramatic performances e.g., “I enjoy putting on a real show for others”, and As-If-behaviors that are especially related to changes in body language or nonverbal communication e.g., “When I tell stories I act out the roles of the different participants by imitating their body language and the way they talk.”. Participants answer on a 4 point scale from 1 – not at all true to 4 – completely true.

PhoPhiKat (Ruch & Proyer, 2009). The Macedonian short version of the scale (*PhoPhiKat-30*; Sulejmanov 2014) was used and only the subscale for katagelastisam (which consists of 10 items) was administered to the participants. Previous finding reports internal consistencies of $\alpha = .74$ for katagelastisam and the three factor solution for the whole scale explained 35,78% of the variance (Sulejmanov, 2014).

Active katagelastisam was measured in a way that only items that indicate the creation of instances to laugh at others (Renner & Heydasch, 2010) were considered. Thus, 3 items were

eliminated. The remaining 7 items¹ comprise the score for active katagelasticism. Eliminated items were: *If other people make fun of me I pay them back in the same way – but twice as much; Laughing at others account is a part of life. People who cannot accept that should just fight back; I don't have a bad conscience when I openly laugh at others misfortunes (e.g., slips of the tongue).* We considered that these items refer to *passive katagelasticism* (proneness to laugh at others but not necessarily creating the respective situations (Renner & Heydasch 2010). On the contrary, items like *I enjoy exposing others and I am happy when they get laughed at; Since it is only fun, I do not see any problems in compromising others in a funny way,* clearly indicate that these individuals actively create instances and like to laugh at others. The answer format of the scale is from 1 – strongly disagree to 4 – strongly agree.

Measure of wittiness. A single question was used to measure wittiness. Participants in each class rated all other students from their class (including themselves) how witty they are on a 4-point scale. The question was: *Please rate how witty each of your classmates (including yourself) are? By witty it is meant that, during the modules and outside, these individuals are first to tell funny/witty comments and jokes.* A sheet which included all the names of the students from the particular class in alphabetical order was given to the participants and next to each name they marked from 1 = not refers to him/her at all, to 4 = totally refers to him/her. For the mean wittiness measure of each student, the self-rating was not taken into account. However, a self-wittiness rating was also considered in the subsequent analyses.

3. Results

3.1. Descriptive statistics, internal consistencies and intercorrelations of the measures

Mean scores and standard deviations were computed for all of the measures used. Table 1 also shows the skewness and kurtosis and internal consistencies (Cronbach alpha's) of the scales.

¹ In the original PhoPhiKat scale (see Ruch & Proyer, 2009) these items are numbered: 3, 18, 24, 30, 39, 42, and 45.

Table 1.

Descriptive statistics and internal consistencies of self-histrionic presentation style, katagelasticism, active katagelasticism, wittiness (peer-rated) and self-wittiness measure.

	M	SD	Sk	K	α
Histrionic Self-presentation style	2.75	0.59	-0.10	-0.29	.78
Katagelasticism	1.86	0.49	0.53	0.07	.73
Active Katagelasticism	1.69	0.49	0.75	0.15	.62
Wittiness (peer-rated)	2.41	0.50	0.08	0.55	/
Self-rating of wittiness	3.09	0.86	-0.70	0.00	/

Note. $N = 83$. M = Mean, SD = standard deviation, Sk = Skewness, K = Kurtosis, α = Cronbach alpha.

Table 1 show that the values of the M and SD for histrionic self-presentation and katagelasticism are comparable with previous studies (Renner et. al, 2008; Ruch & Proyer, 2009). Also, internal consistencies are satisfactory, apart from the comparatively low alpha coefficient of the active katagelasticism measure.

We have also examined the difference between self-rated and peer-rated wittiness with a paired sample t-test. A statistically significant difference existed between self-ratings of wittiness ($M = 3.09$, $SD = 0.86$) and peer rated wittiness ($M = 2.41$, $SD = 0.50$); $t(89) = -7.87$, $p = .0001$. Additionally, the effect size was large, Cohen's $d = .84$.

Next, intercorrelations of the measures are presented in Table 2.

Table 2.

Intercorrelations among histrionic self-presentation style, katagelasticism, active katagelasticism, gender, peer-rated wittiness and self-rated wittiness

	(2)	(3)	(4)	(5)	(6)
(1) Histrionic Self-presentation style	.31**	.25*	-.12	.34**	.22*
(2) Katagelasticism		.56**	-.45**	-.01	.08
(3) Active Katagelasticism			-.47**	-.08	.03
(4) Gender				-.22*	-.09
(5) Peer-rated wittiness					.25*
(6) Self-rated wittiness					

Note. N=83

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

The positive correlation between histrionic self presentation and katagelasticism ($r = .31$, $p < 0.01$) is slightly lower than the value ($r = .41$, $p < 0.01$) reported in Renner and Heydasch (2010). Histrionic self-presentation was also associated with active katagelasticism ($r = .25$, $p < 0.05$). As expected, scores on the As-If-Scale were positively correlated with peer-rated ($r = .34$, $p < 0.01$), and self-rated ($r = .22$, $p < 0.05$) wittiness, while (active) katagelasticism was not related with either self-assessed or peer-ratings of wittiness.

In accordance with previous findings (Ruch & Proyer, 2009; Renner & Heydasch, 2010) we also found a positive correlation of (active) katagelasticism with gender (1 = males, 2 = females), and the association is even higher in our sample. Gender was also associated with peer-ratings of wittiness ($r = -.22$, $p < 0.05$). Furthermore, there was a positive correlation between the self- and peer-ratings of wittiness ($r = .25$, $p < 0.05$).

The correlation between active katagelasticism and the remaining 3 items that comprise passive katagelasticism was also significant ($r = .56$; $p < .01$).

4. Discussion

The present study aim was the development and initial validation of a new simple measure of wittiness. Our definition of the wittiness construct as a specific type of humor production is not

opposed to previous models (Feingold & Mazzella, 1993; Inglis et al., 2014). The focus in our investigation is not on explaining the wittiness construct or propose a new conceptualization, but on assessment of wittiness by summarizing the subjective perceptions of peers. In almost every class there are a few individuals that are considered as witty and make others laugh. However, there can be also students who want to make others laugh, but who are not considered as witty. Making practical jokes or silly gestures behind the teacher's back are one of the many alternatives. All of these can be instances of humor production; thus a specific type of humor production is based on witty comments and jokes. Additionally, an individual can be fluent in producing comments and jokes, but they may not be successful or considered as funny by others.

We will first discuss the methodological implications of the finding that self-assessed wittiness was significantly higher than peer-rated wittiness. Definitely, being witty is a desirable trait and students overestimate how witty they are, compared to the perceptions of others. Thus, the question emerging is can we trust self-ratings when assessing who and how witty somebody is?

Assessment of wittiness with the sociometry of humor approach (Ziv, 1979), which was adopted in our study has strengths and weaknesses. We believe that the sociometry of humor proposed by Ziv (1979) has the strength of summarizing subjective perceptions of peers, and in that way it is a more "objective" measure of wittiness as opposed to the questionnaire approach. Of course, there is an option to use peer-ratings when the assessment is made with a questionnaire, but the strength of the sociometry of humor approach is that instead of one or two peers many more - and in the case of a class virtually all subjects - can easily evaluate for each peer his/her wittiness. Here, the limitation is that usually only one global dimension can be investigated.

We would like to relate this discussion with the argumentation of Ruch et al. (2014) in their recent study of class clowns. The behavior-centered approach is a major shift in the study of class clowns, but also the use of questionnaires has strengths and weaknesses. The main strength is that different "types" of class clowns were identified. Additionally, the behaviors that the class clowns are engaging can be better understood when a questionnaire is used, instead of a sociometric procedure that uses only one item. However, when using a questionnaire with a

number of items, although several separate dimensions can be studied, there is always a limitation because of self-assessment.

To summarize on the matter of what methodology to use, investigators should be aware of the weaknesses of each method. As already pointed out, self-assessments with questionnaires can have a strong social desirability bias, while with the use of sociometry of humor only one global (or perhaps a few) dimension(s) can be studied. Further, classic sociometric identifications, where the number of nominations received matters, cannot assess gradual differences among participants. Another method, the creation of captions for cartoons (e.g. Köhler & Ruch, 1996) has the advantage of providing a performance that can be evaluated by different raters but it does not pertain to natural occurring behavior or in other words: it is missing the social context (see Babad, 1974 for a more elaborate review on humor tests). Although we do not argue that Ziv's sociometry of humor is the gold standard to assess wittiness, to the best of our knowledge this method was used much too seldom as yet. From a practical point of view, it is a simple way to assess the wittiness concept and the results can be considered as more "objective": Many peer-ratings of such an observable and assessable trait like wittiness are necessarily more valid than a single-item self-rating. Certainly, a multi-method approach will always be favorable.

What about the relation of self- and peer-rated wittiness and other humor-related traits? In a previous study, Renner and Heydasch (2010) pointed out that people differ in the extent to which they are able to perform humor (jokes or witty comments) effectively and that the histrionic self-presentation style or the ability to perform As-If-behaviors is one of the crucial ingredients for effectively making others laugh. We believe that this ability (doing As-If) is even more important for adolescents or students for a successful humor production. It is reasonable to assume that jokes and witty comments in the classroom (and outside of it) often include explicit As-If-behaviors. Students frequently imitate the voice or any other non-verbal gestures of their teachers or class mates. If it is clearly indicated that this is just teasing and playing around, or that should not be taken seriously it will contribute to the amusement of others and even to the amusement of the target. Also, in many instances the one who is being parodied is some of the teachers or perhaps TV characters and celebrities. Although the teachers may not evaluate As-If behaviors as appropriate, obviously this kind of acting out can contribute to the laughter of many

peers. Of course, we are not proposing that the histrionic self-presentation style is sufficient for being perceived as witty, but that it is one of the crucial ingredients for a successful humor production, especially in the context of high school students. The results showed that histrionic self-presentation was more strongly associated with peer-ratings as opposed to self-ratings of wittiness. This is remarkable because associations within one and the same data modality (e.g. self-ratings) are usually stronger than across different modalities (self- and peer-ratings). A possible reason for this higher correlation may be the higher reliability of the peer-rated wittiness that is aggregated across the judgments of many peers (all class-mates) compared with the self-rated wittiness that is only provided by one person, i.e. the self-rater.

By contrast, the behavior of katagelasticians has a rude or anti-social component and they enjoy embarrassing others (Ruch & Proyer, 2009). We have hypothesized that katagelasticism, and, especially active katagelasticism will be negatively related to peer-rated wittiness. The aim of these individuals is not to amuse others, but to laugh at others expense. However, we have not found a significant association between (active) katagelasticism and peer-rated or self-ratings of wittiness. Further studies should first determine if the distinction between active and passive katagelasticism is methodologically justified and useful. The limitation in our study is that we have not performed a confirmatory factor analysis and provide empirical evidence for this distinction. We propose that a future study should use the PhoPhiKat-45 (Ruch & Proyer 2009), and consider all 15 katagelasticism items. Items like *Often, disputes emerged because of funny remarks or jokes that I make about other people; It has happened that humorless persons have broken of their friendship with me or at least threatened me to do so, because I overdid ridiculing them over of something embarrassing or a misfortune that happened to them*, which are not part of the Macedonian version of the scale, also indicate active katagelasticism. Additionally, the association between active/passive katagelasticism and being perceived as witty should be further investigated. We consider that this distinction will contribute to a better understanding of the relationship of active/passive katagelasticism and peer-ratings of wittiness. The assumption is that active katagelasticism will be a more robust predictor of low scores in peer-assessed wittiness. Creating the instances to laugh at the expense of others should explain why these individuals are considered as being less witty or their comments are taken as socially inappropriate. Furthermore, future studies should also investigate whether (active)

katagelasticists are rated as mean, offensive and rude by their peers. On the other hand, there should be no relation between passive katagelasticism and peer-ratings of wittiness, since these individuals are not creating situations to laugh at others.

Future studies investigating the personality characteristics of witty students should also consider other variables like creativity and motivational factors. As we have pointed out, our measure of wittiness is perhaps similar to the *comic talent* (that is based on quick-wittedness and spreading good cheer) factor in the Ruch et al. (2014) study. On a broader perspective, the four dimensions found by Ruch et al. (2014) should be taken into account when the personality of class clowns is investigated. Variables related with peer-rated wittiness, could be differently associated with other class clown “types”. In that sense, (active) katagelasticism could be a more robust predictor of the *disruptive rule breaker*, who is focused on undermining the teacher’s authority. Also, the *subversive joker* (one of the key feature is playing pranks on class mates), may not be associated with the histrionic self-presentation style or at least the association should be lower. Additionally, it can be hypothesized that verbal fluency and high scores in remote associations are predictors of *comic talent* (peer-rated wittiness), but not of *subversive joker*, since the later “type” of class clown is more about playing pranks rather than verbal creativity. However, it should be noted that Ruch et al. (2014) pointed out that the factor labels are still preliminary and that further development of their instrument is needed.

In conclusion, the psychometric properties of the SIWS should be further investigated. Single-item scales reliability could be examined with test-retest studies (Furr, 2011), which we have not provided in this preliminary investigation. Regarding the construct validity, it was only partially confirmed. Despite of the limitations of single-item scales, we believe that the approach of measuring wittiness with the sociometry of humor has several advantages, especially in the classroom context. Students spend most of their time together, and the aggregation of subjective perceptions can be considered as a more objective measure of wittiness. In that sense, the use of the SIWS should be used in this specific context, and can easily provide information to the teachers or school psychologist about whom of their students is considered as witty by others. One of the first studies of adult wits (Smith & Goodchilds, 1959; 1963) showed that groups containing wits were found to possess higher morale, be more task-oriented, and better at solving

problems than groups without wits. Assessment of wittiness with the SIWS can be a first step in implementing school programs that are focused on one of these issues.

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