

This manuscript was published as:

Beermann, U, & Ruch, W. (2009). How virtuous is humor? What we can learn from current instruments. *Journal of Positive Psychology, 4*, 528-539.

How virtuous is humor?

What we can learn from current instruments

Ursula Beermann* and Willibald Ruch

Department of Psychology, University of Zurich, Switzerland

Running head: HUMOR AND VIRTUES

*Corresponding author:

Ursula Beermann, Section on Personality and Assessment, Department of Psychology,
University of Zurich, Binzmuehlestrasse 14/7, 8050 Zurich, Switzerland.

Phone: +41 44 635 75 23; Fax: +41 44 635 75 29 89; e-mail: u.beermann@psychologie.uzh.ch

Manuscript information: abstract 149 words, main text 6907 words, 33 references, 3 tables, 3
figures

Abstract

Despite the diverse philosophical accounts of the relation of humor to virtue or vice, this ethical dimension has not been included explicitly in psychological humor instruments. Yet, behavior described in humor questionnaires covering a broad variety of components can be used to study an implicit relation of humor to vices and virtues. The main aim of the present paper was, (a) to find humorous behavior and attitudes representing virtues and vices within an item pool of 12 popular humor questionnaires; and (b) to investigate the nature of the virtues represented by their item contents. A comprehensive measure of humor covered the entire range from virtue to vice, with the majority of items evaluated as neutral. Humanity and wisdom were most strongly represented, but the items cover all six core virtues (Dahlsgaard, 2004) to varying degrees. Further research can now investigate the relationship of humor and individual virtues more closely.

Keywords: humor; vice; virtue; questionnaires; instruments

How virtuous is humor?

What we can learn from current instruments

Introduction

Humor as virtue: theoretical approaches

Throughout history, as well as in current research, the term “humor” has been treated in a multitude of divergent, sometimes even contradictory manners. The differences pertain to its meaning, to theories related to those meanings, and to more exact conceptualizations of those meanings (see Keith-Spiegel, 1972; Martin, 2007; Ruch, 2004, 2007). In particular the main issue of the present paper, namely the position of “humor” on the continuum from vice (in the sense of acting morally bad and maliciously) to virtue (acting morally, humanely, benevolently), has varied from antiquity until today.

In the past, humor has been seen as morally negative, morally neutral, and morally positive. Aristotle (335 BC/1932) considered comedy “a representation of inferior people” and “the laughable [...] a species of the base or ugly” (Section 1449a). In early Christianity, humor and laughter were also seen negatively. Expressions of humor were considered failures of self-mastery and were condemned, especially in the religious orders (Le Goff, 1997; Verberckmoes, 1997). Le Goff (1997), for example, described various monastic rules of the early Middle Ages in which laughter was considered the most horrible and most obscene way of breaking the monastic silence, a fundamental virtue. Laughter was therefore the opposite of the virtue of humility. Le Goff assumed that the condemnation of laughter resulted from its strong connection to the body. It is not clear if *humor* per se was condemned (as distinguished from laughter) or just its open bodily expression. Also the Counter-Reformation of the sixteenth and seventeenth centuries had a negative attitude towards humor. Verberckmoes (1997) cited Ignatius of

Loyola, principal founder of the Society of Jesus, who demanded: “Do not laugh and do not say anything which arouses laughter” (p.79).

In other historical descriptions of the phenomenon of humor, any positive or negative connotation of it was ignored. Kant’s explanation of why people laugh, for example, was rather neutral and technical: “Laughter is an affection arising from the sudden transformation of a strained expectation into nothing” (Kant, 2007/1790, p.161).

In contrast to this, for the humanists of the eighteenth century humor was a cardinal virtue. Shaftesbury (1671–1713) treated humor (or “good humour”) as the benevolent, tolerant form of laughter. For him it denoted the sovereign attitude of exposing oneself to the criticism and mockery of others—to a “test of ridicule” (see Schmidt-Hidding, 1963). Thomas Aquinas (see Verberckmoes, 1997) argued that moderate laughter in the sense of *eutrapelia* (the property of being funny in a civilized way) does not interfere with Christian charity, but rather offers an “honest recreation on the frivolous occasions which the human imperfections offer” (p. 82). Many contemporary philosophers and theologians have considered humor to be virtuous as well. In stark contrast to the attitude expressed in monastic rules (see Le Goff), Comte-Sponville (2001) and Roberts (1988) maintained that humor *leads* to humility by allowing oneself to feel less self-important and by taking oneself less seriously. Roberts (1988), for example, saw a virtuous aspect of the sense of humor in its facilitation of an interpretation of moral failures as mere incongruities. Additionally, according to Roberts, virtue is achieved through the amusement derived from one’s own follies, thus enabling one to distance oneself from one’s traits. Similarly, Bühler (2007) understood humor as handling everyday life wisely. Furthermore, while humor has been seen as a virtue in itself, it may also be possible that humor is in the service of other virtues such as wisdom (e.g., giving good advice in a humorous way), humanity (e.g., comforting sad people by making a humorous remark), or even more virtues at the same time.

Frankl's (1984) accounts of the conscious use of humor between him and his fellow inmates in the concentration camps to keep up morale suggest a connection to humanity (helping each other in this terrible situation), courage (outdaring the fatal conditions), or transcendence (hoping to survive).

Current research in the field of Positive Psychology views character strengths and virtues as determinants of the good life and life satisfaction (e.g., Peterson & Seligman, 2004; Seligman, 2002). Humor is one of 24 character strengths in the VIA-Classification (Peterson & Seligman, 2004) and is understood as part of the virtue transcendence. It is among those character strengths that contribute to life satisfaction most strongly (Peterson, Ruch, Beermann, Park, & Seligman, 2007).

These differences in the appraisal of humor also seem to have shaped the existing differences in the understanding of the term “humor” (Ruch, 2004). One major terminological system considers humor a benevolent world-view, roughly the tendency to smile in the face of adversity (as opposed to other manifestations of *the comic*, such as wit, mockery or fun; Schmidt-Hidding, 1963). Another major terminological system (Ruch 2004) treats humor as an umbrella term for anything that is funny, including not only neutral and positive, but also negative facets such as cynicism or sarcasm. In current everyday usage, it is also not entirely clear what is meant when people speak of ‘humor’. A survey by Ruch (2002) in different parts of the world found that humor has been considered by some to be a mood, a talent, a frame of mind, and/or a virtue. Most generally, though, it has been considered to be a temperament.

Particularly in philosophical literature, humor has been both vilified and praised. However, there are two problems: First, philosophical views are not specific as to humor itself being a virtue or humor rather leading to virtues—and as to what these other virtues may be. And second, the philosophical literature does not provide precise examples of everyday virtuous humorous behavior. Despite this diversity in which

humor is discussed by philosophers, and possibly because of it, empirical humor research could benefit from addressing this ethical dimension of humor. This would make it possible to study those humor components that are indeed virtuous and as such can lead to positive effects, for example, on life satisfaction.

To address these issues, in particular in view of the lacking examples, several approaches are possible to obtain facets and examples in which humor can itself be a virtue or serve a virtue. One way would be to ask experts to provide representative examples of behavior. Another would be to ask lay people to report situations of virtuous humor that they encountered in daily life. A third would be to study the contents of current humor questionnaires with considerable bandwidth. Most humor instruments have not been constructed for the purpose of assessing humor as, or in the service of, a virtue or vice, but are intended to capture underlying theories about a number of different humor-related issues. However, items from these questionnaires can serve as an extensive collection of the most diverse humor-related behaviors. Some of them may be evaluated as positive or even highly desirable, some as neutral or negative. Thus, in order to identify prototypes of humorous behavior representing virtue or vice, a collection of questionnaires should prove to be a good starting point.

Current approaches to the measurement of humor in conjunction with virtue and vice

The multidimensionality of humor has also influenced the development of its measurement, which began in the twentieth century. Especially over the last 30 years a large number of measurements has been constructed. A survey done by Ruch (2007) yielded about 70 historically and currently used psychological instruments. They measure humor as an ability, as an attitude, or, most often, as a temperamental trait, and partially accommodate its differing evaluative character.

Two approaches examined humor in the context of virtue. Webster (2003) constructed the *Self Assessed Wisdom Scale* (SAWS) containing a subscale “humor.” Peterson and Seligman (2004) developed a classification of character strengths, which can be assessed with the *Values in Action Inventory of Strengths* (VIA-IS). Here, humor was considered a character strength leading to the virtue of *transcendence*.

Subscales of personality tests portray behavior that potentially could represent vice. The Objective-Analytic Test Kit (*Jokes and Tricks*; Cattell & Schuerger, 1971) provides a subtest that asks participants to rate the funniness of a series of pranks. A sample item is *Put a frog on someone’s neck* (Q.1).

Very few approaches to the assessment of humor exist that can be considered comprehensive. Among them, the *Humorous Behavior Q-Sort Deck* (HBQD; Craik, Lampert, & Nelson, 1993) intends to “give a comprehensive portrait of a person’s style of humor” (Craik, Lampert, & Nelson, 1996, p. 276). This instrument consists of 100 non-redundant statements, each identifying a characteristic of humor-related everyday behavior. These statements can be evaluated as elements of ten styles that are organized along five factors. Each factor is characterized by two contrastive styles of humorous conduct, namely: *socially warm vs. cold*, *reflective vs. boorish*, *competent vs. inept*, *earthy vs. repressed*, and *benign vs. mean-spirited*. Due to its bandwidth, such a test might serve as the best instrument for studying whether humor also involves virtue or vice. While its authors did not directly refer to vice or virtue, they did conduct social desirability ratings for the items of the HBQD and found that in particular socially warm and competent humor styles were considered to be socially desirable. Among the noncomprehensive measures, some treat humor as neutral and some as a highly desirable trait.

Studying the instruments briefly introduced above should allow for a first inspection of whether and how humor can be a virtue or serve one. For that purpose, this

paper will address the following questions. First, do we find humorous behavioral manifestations and attitudes that are regarded as representing virtue or vice in current humor measures? In particular, what do analyses of a comprehensive measure of humor reveal about the relation of its comprehensiveness to the ethical dimension of virtue vs. vice? And second, which are the virtues represented in these items? These questions were addressed in the two studies.

Study I

The aim of the present study is to address the question of how prevalent virtue or vice is in humorous behavioral manifestations by using existing instruments and to identify those behaviors representing virtue or vice. The items of twelve contemporary humor instruments were combined in the *Humor Rating List* shown in Table 1.

Insert Table 1 about here

The choice of questionnaires included in the *Humor Rating List* (Table 1) was guided by the following criteria: a) The HBQD (Craig et al., 1993) was chosen as a comprehensive measure of the sense of humor. b) Uni- and multidimensional instruments encompassing the broadest possible variety of humor's manifestations, including aspects of humor that are identified as positive and/or negative, and the phenomenon of "laughing at oneself" were included. c) Two scales were chosen that assess humor in the context of virtue: the subscales *humor* of the VIA-IS (Peterson & Seligman, 2004) and of the SAWS (Webster, 2003).

Method

Participants

The sample consisted of $N = 76$ psychology students (16 males and 60 females) of the University of Zurich, Switzerland, between 19 and 47 years of age ($M = 25.39$, $SD = 7.50$). Participants were given credit hours for participation.

Material

The *Humor Rating List* consists of 298 items, the contents of which were rated for their degree of vice or virtue on a 9-point bipolar Likert-scale ("Humor Vice Virtue Rating", HVVR). The scale ranged from a *very high degree of vice* (= -4) via *neutral* (= 0) to a *very high degree of virtue* (= 4). Each level of the scale was labeled to express the degree of vice or virtue¹. The items were presented as if a fictitious person had answered them using the highest (most strongly agreeing) answer choice. The items originated from 12 different questionnaires (see Table 1) with differing answer formats. Thus, for each item the top scoring original answer alternative was provided in parentheses. For example, an item was presented in the following way: "[The person] uses good-natured jests to put others at ease. (Most characteristic)." If a rater found that this behavior represents a fair degree of virtue, this item had to be rated as "3". Negatively keyed items remained in the original wording.

Procedure

The participants were asked to fill in the *Humor Rating List* online. In general, results from web-based studies using self-report data converge well in terms of the reliability and the validity with samples from paper-pencil studies (Gosling, Vazire, Srivastava, & John, 2004). The *Humor Rating List* was arranged in accordance with the guidelines described in Hattie (2006). The participants were informed about the aim of the study.

They were instructed to answer the items not as if they applied to themselves, but to rate the humor behaviors and attitudes with respect to “vice” and “virtue” using the *HVVR*. Raters were provided with definitions of these two concepts. They were informed that humor could represent either virtue or neutrality or vice and were given very global examples for each of the categories. The items were presented in blocks of 10. For each instrument, which came in their own blocks, the participants were informed about all answer alternatives of the instrument’s original answer format. They were instructed to take breaks at their convenience. Every item had to be answered.

Results

The convergence of the 76 raters was calculated by computing a Cronbach’s α for the raters (as variables) across all 298 items (as cases). This resulted in an $\alpha = .99$, yielding a confidence interval of ± 0.31 . The average intercorrelation of all pairs of raters was $r = .50$. There were no gender differences (the ratings differed in 15 items which is as much as would be expected by chance). For every item, a mean *Humor Vice Virtue Rating* (mean *HVVR*) across all 76 raters was calculated.

Virtue and vice in a comprehensive humor instrument

First, the mean *HVVR* was analyzed separately for the HBQD (Craig et al., 1993). The *HVVR* scale was graded into intervals (class width of .5). The frequency distribution of the 100 statements across these intervals was examined. Figure 1 shows the frequency distribution for the HBQD.

Insert Figure 1 about here

Figure 1 shows that the HBQD covered almost the entire span of the continuum from virtue to vice. The majority of the items, though, were perceived as neutral. In fact

the mean was $-.04$ ($SD = 1.35$) and 68% of the responses were in the neutral area (between -1.5 and $+1.5$). Behavioral manifestations that were rated as positive, but not yet clearly as virtuous (i.e., were *below* 1.5), were, for example, *Enjoys the routines of stand-up comedians* (Q.64), or *Finds humor in the everyday behavior of animals* (Q.16). Negative item contents that were not regarded as representing vice (i.e., were above -1.5) were for example *Recounts familiar, stale jokes* (Q.45), or *Laughs without discriminating between more and less clever remarks* (Q.84).

One third of the item contents were rated as exemplifying virtue or vice (15% of the items were above 1.5 and 17% below -1.5). The item contents considered to be the most highly virtuous were either globally “having a good sense of humor” (i.e., *Has a good sense of humor*, Q.18), or traits that would help maintain or increase the positive feelings of others (e.g., *Maintains group morale through humor*, Q.91) or to be perceptive to humorous aspects of everyday life (e.g., *Appreciates the humorous potential of persons and situations*, Q.1). The item contents considered representing a high degree of vice were *Jokes about others’ imperfections* (Q.40) and *Is scornful; laughs “at” others, rather than “with” them* (Q.79).

What are the humorous behavioral manifestations representing vice and virtue?

In order to examine item contents that incorporate vice or virtue, all 298 items of the *Humor Rating List* were included in the analyses. Scales or subscales may serve as vehicles of topics or aspects of humorous behaviors. Thus, frequency analyses were conducted for the complete *Humor Rating List* as well as on the subscale level. For the analyses, the scores of the negatively keyed items were reversed. In multidimensional instruments, the items were plotted separately for subscales measuring positively and negatively evaluated concepts of humor. Figure 2 shows the mean *HVVR* ratings for the items of every instrument.

Insert Figure 2 about here

Figure 2 shows that psychologically positively-evaluated concepts were generally closer to virtue, while psychologically negatively-keyed items were generally closer to vice. This can be seen as evidence for the validity of the method used in this study. However, on the positive as well as on the negative side, items also existed that were classified as neutral (i.e., the mean *HVVR* was between 1.5 and -1.5). In total, 183 items (63.32%) were regarded as neutral (108 items or 37.37% between 0 and 1.5, and 75 items or 25.95% between 0 and -1.5). Furthermore, 23 items (7.96%) were evaluated as representing a low degree of vice (between -1.5 and -2), and a further 13 items (4.50%) were rated as representing an at least moderate degree of vice (i.e., with a mean rating below -2). Conversely, 50 items (17.30%) were considered slightly virtuous (between 1.5 and 2) and further 20 items (6.92%) were regarded as virtuous (exceeding 2).

It can be said that behavioral manifestations represented by the items of several scales, both multidimensional (HBQD, HSQ, SHS) and unidimensional (SHRQ, HUMOR), covered the whole range from vice to virtue. For instance, the SHS contains eight subscales, seven of which refer to several aspects of sense of humor and predominantly fell between neutral and virtuous. One subscale refers to lack of humor, namely *seriousness and negative mood*. This subscale was rated between neutral and vice on the *HVVR*.

Furthermore, scales with contents predominantly scoring closer to virtue were found. Some of them have mostly neutral to positive contents (CHS, SHQ), whereas the items of some (sub-)scales were primarily rated as representing virtues (SAWS Humor, STCI-T<60> Cheerfulness, VIA-IS Humor). Expectedly, the Jokes and Tricks scale ranged between neutral and vice.

In more detail, items representing *virtue* strongly (i.e., above 2 on the *HVVR*) belonged to the following sub-scales (percentages relate to the total number of items of the subscale, in descending order): SAWS-Humor (5/8 items; 62.50%), HBQD socially warm humor style (4/12 items; 33.33%), HSQ Affiliative Humor (2/8 items; 25.00%), STCI-T<60> Cheerfulness (4/20 items; 20.00%), VIA-IS Humor (2/10 items; 20.00%), SHS Enjoyment of Humor (1/5 items; 20.00%), HSQ Self-enhancing Humor (1/8 items; 12.50%), and HBQD Reflective humor style (1/16 items; 6.25%). Surprisingly, while all items of the SHS subscale *Laughing at Oneself* were on the positive side, no item was classified as virtuous. *Vice* was strongly (i.e., below -2 on the *HVVR*) represented in the (sub-)scales (in descending order of the percentage) HSQ Aggressive Humor (2/8 items; 25.00%), HBQD Earthy humor style (2/10 items; 20.00%), Jokes & Tricks (3/18 items; 16.67%), HBQD Cold humor style (2/12 items; 16.67%), HBQD Mean spirited humor style (2/12 items; 16.67%), and HUMOR (2/13 items; 15.39%).

Virtue ratings, item means, and social desirability

It was examined how the mean *HVVR* related to item means (derived from other studies) of the questionnaires HBQD, HSQ, SHRQ, CHS, SHS, HUMOR, VIA-IS Humor, and STHI-T<60> Cheerfulness and to social desirability ratings for the HBQD items (derived from Craik et al., 1996). The *HVVR* was correlated with the item means ($r = .82$, $df = 241$, $p < .001$), that is, the more the described behavior or attitudes were regarded as virtuous, the more they were reported to have occurred in daily life. Furthermore, high positive values on the *HVVR* went along with high ratings for social desirability for items of the HBQD ($r = .84$, $df = 98$, $p < .001$).

Discussion

The present study revealed that humor as assessed in a comprehensive instrument (the HBQD) was normally distributed with respect to the continuum of vice to virtue. The

majority of the humorous behaviors were ethically neutral. About one sixth of the humorous item contents of the questionnaires portrayed vice in attitudes and behavior, and about the same number portrayed virtue. Given the comprehensiveness of humor behaviors within the HBQD, this can be seen as a first hint as to how virtue and vice are represented in humor in general. Within the HBQD, attitudes representing vice were exemplified by mean-spirited humor contents. Virtuous attitudes were often connected with being receptive and ready to appreciate absurdities of everyday life, or with “keeping up people’s morals”.

Within the complete *Humor Rating List*, behavioral manifestations evaluated as containing vice can generally be described as either mean-spirited or aggressive (for instance, practical jokes or behavior which might hurt another person physically, e.g., putting a tack on a chair, or psychically, e.g., laughing at weaknesses of another person), or as earthy (e.g., bathroom humor). Quite unexpectedly, a socially cold humor style (e.g., inappropriate smiling or fixed smiling without sincerity) and an inept humor style (e.g., chuckling or laughing in an exaggerated way in order to hide one’s fears or uncertainty) was also regarded as representing vice. Item contents regarded as virtuous were often connected with spreading good cheer or with being amused by everyday incongruities and absurdities, or intellectual wordplay. Also, items expressing amusement relating to one’s own embarrassing episodes (e.g., items from the SAWS) were seen as incorporating virtue. However, no item of the subscale *Laughing at oneself* from the SHS was regarded as virtuous.

Further analyses revealed that the more a type of humorous behavior was considered to be virtuous, the more it also occurred in actual behavior. That is, people seem to show a certain behavior more often when they assume that it is valued as virtuous. In addition, behavior rated as virtuous was also considered socially desirable. Thus, it seems that virtuousness incorporates social desirability but goes beyond it. The

concept of social desirability differs from the concept of virtuous behavior with respect to approval. Social desirability is a response tendency (meaning that people are actually biasing their self-reports when filling out the questionnaire to simulate desired behavior), whereas virtuous behavior is morally prized (implying that people don't bias their answers, but indeed show the indicated behavior when they report it).

The current study identified humor content areas that are indeed perceived as virtuous. In the next step, the nature of virtues connected with humor needs to be examined. In particular, experts on virtues should be involved in order to identify the particular kind of virtue. Here, only items with an HVVR rating of 1.5 or higher should be studied. This is the task for the second study reported here.

Study II

Aims

The nature of virtue in humor questionnaires

Based on lay people's judgments, Study I yielded a list of humor behaviors containing virtuous aspects. Study II involves experts on virtues, i.e., philosophers and theologians, who were asked to identify the specific type of virtue to which these items are related. The following questions are addressed in Study II: (1) Do lay people and experts converge in the degree of their virtue ratings? And (2), what is the nature of the virtues represented by the items? That is to say, given a catalog of six virtues, to what degree do experts see each of these virtues represented by the items?

By reviewing historical texts across several cultures and religions, Dahlsgaard (2004) identified six broad universal virtues that are associated with various character strengths that will form the basis of Study II. These virtues are *wisdom* (cognitive strengths referring to gaining and using knowledge for good purposes; character

strengths involved are creativity, curiosity, judgment, love of learning, and perspective), *courage* (involving emotional strengths concerning the will to achieve goals in the face of external or internal opposition; these strengths are authenticity, bravery, perseverance, and zest), *humanity* (interpersonal strengths involved in relating to another in a kind, empathetic, and benevolent way; i.e., kindness, love, and social intelligence), *justice* (civic strengths which form the basis of a healthy community life, such as fairness, leadership, and teamwork), *temperance* (strengths that master excess; including the character strengths forgiveness, humility, prudence, and self regulation), and *transcendence* (strengths that concern connections to the larger universe and provide meaning; the virtue is realized by exercising appreciation of the beauty, gratitude, hope, spirituality, and humor).

Method

Participants

The expert sample consisted of 17 students (six males and 11 females) at the University of Zurich, Switzerland, at an advanced stage of or with completed degrees in philosophy (with the background in general or applied ethics), or in theology, or in science of religion. The age of the participants ranged from 20 to 64 years ($M = 29.29$, $SD = 11.91$).

Instruments

The *Humor Rating List II* was composed of 73 items from Study I that reached mean *HVVR* ratings of 1.5 or higher. The virtues used for the classification of the item contents were *wisdom*, *courage*, *humanity*, *justice*, *temperance*, and *transcendence*.

Definitions of each of the six virtues and their related character strengths (according to Peterson & Seligman, 2004) that underlie the present study were provided in the

instructions. As an exception, humor, which for Peterson and Seligman is subsumed under the virtue of transcendence, was left out of the list of related character strengths. In addition, a category “other virtue” was provided, which was to be filled out only when none of the listed virtues and their related character strengths sufficiently described the virtuous aspect of the item. Otherwise it was to be crossed out. On basis of the definitions, every item of the *Humor Rating List II* had to be judged regarding the degree of every virtue on a 10-point Likert scale. The following answer alternatives were provided: 0 = “not represented,” 1 = “very slightly represented,” 3 = “slightly represented,” 5 = “moderately represented,” 7 = “strongly represented,” and 9 = “very strongly represented.”² The remaining levels “2,” “4,” “6,” and “8” were declared as intermediate levels. The answer format allowed for items to be scored highly in virtuousness in more than one virtue as well as to be scored as not representing any virtue at all.

Procedure

The participants were informed about the aims of the study and that they were approached as experts on virtue. They were given the paper pencil questionnaires in classes or they received them via postal mail and filled them out by themselves. The experts were informed that lay people previously had rated the degree of virtue within the items. It was explicitly pointed out that it is possible that some of the behavior descriptions don't represent any virtue. In this case they should choose “0” for every virtue. They were instructed to choose the answer “1” or higher only if a virtue is represented at least *very slightly*. As a reward for returning the questionnaires participants were given a voucher for coffee.

Results

Convergence of the raters

A reliability analysis for the 17 raters across all 73 items of the *Humor Rating List II* was computed, i.e., with the raters as variables and the items as cases. This revealed a Cronbach's α of .88 with a confidence interval of the ratings of +/-0.99.

How do the ratings of Study I and II converge?

A multiple regression analysis with the mean *HVVR* of Study I as the criterion and the six mean virtue ratings as predictors was calculated. The multiple correlation was $R = .53$ ($F[5, 72] = 4.20, p < .001$). Thus, despite the reduced variance in Study II, the separate judgments of the experts on the six virtues predict the overall virtuousness as rated by the lay people sufficiently well.

What is the nature of virtues covered by humor instruments?

Only one expert used the category "other virtue" in one case. He or she considered the item Q.24 from the SAWS (*At this point in my life, I find it easy to laugh at my mistakes.*) as incorporating the virtue "self-deprecation" (German: *Selbstironie*). Overall, this item was classified as representing wisdom (wisdom score 5.94). The category "other virtue" was thus not integrated for the group analyses.

In order to determine differences in the type of virtues identified by the experts, a one-way ANOVA for repeated measures with the type of virtue as repeated measurement factor for the degree of virtue as a dependent variable was performed. The analysis revealed a significant main effect for the type of virtue ($F[5, 72] = 37.77, p < .001$). Figure 3 shows the mean ratings for the six virtues.

Insert Figure 3 about here

Post-hoc tests (Fisher PLSD) revealed that among the six mean virtue ratings, the highest were achieved for wisdom ($M = 4.12$, $SD = 1.12$; see Figure 3). Humanity ($M = 3.71$, $SD = 1.65$) and transcendence ($M = 3.57$, $SD = 0.96$) ratings (which were not significantly different from each other) followed, ahead of courage ratings ($M = 3.06$, $SD = 0.86$). Justice ($M = 2.18$, $SD = 1.53$) and temperance ratings ($M = 2.08$, $SD = 1.21$) were the lowest and did not differ from each other.

Three cut-off points were defined in order to identify items classified as representing virtue “slightly” (3), “moderately” (5), and “strongly” (7). Table 2 shows the frequencies of ratings of the 73 items below 3, between 3 and 5, between 5 and 7, and above 7 for each virtue.

Insert Table 2 about here

As can be seen in Table 2, according to the raters only two virtues were represented *strongly* (i.e., exceeding 7) by item contents: Two items were classified as belonging to humanity and one item to temperance. Furthermore, the virtues humanity and wisdom were most frequently represented by the items at least to a *moderate* degree (i.e., exceeding 5), namely by 21 and 17 items, respectively. Although wisdom had the highest mean rating, followed by humanity, and temperance had the lowest of all six mean virtue ratings, the highest *single* ratings were achieved for temperance. The virtue of courage was represented no higher than *slightly* by the item contents. To illustrate the nature of items classified for the different virtues, two sample items for each are shown in Table 3.

Insert Table 3 about here

Table 3 shows the two highest-scoring items as sample items for the virtues. However, some item contents seemed to be representative for more than one virtue, albeit sometimes to different degrees. If an item ranked highest for more than one virtue, it was only listed under the virtue for which it had the higher mean in order to avoid double entries. For the other virtue(s) the next-highest ranking item was given. For example, the humanity item HSQ Q.31 was scoring highest not only for humanity, but also for temperance (temperance rating = 7.12) and third highest for justice (justice rating = 6.35); likewise, item HSQ Q.15 was also rated highest for justice (justice rating = 6.88). For the two highest-scoring items, these co-occurrences only existed for humanity, justice, and temperance. However, the items given in Table 3 illustrate the different aspects that might have lead the experts to the classification for a certain virtue.

It is instructive to analyze the items of the humor subscales of the SAWS and VIA-IS separately to examine whether they indeed represent wisdom and transcendence, respectively. For Study II, eight of the ten VIA-IS Humor items were included. Experts considered four of them moderately virtuous (with scores higher than 5) for the virtues humanity (three items) and transcendence (one item). However, all VIA-IS Humor items represented virtue at least slightly (above 3). The virtues identified most often to a slight degree only were wisdom (seven items) and transcendence (six items).

Within the seven of the total of eight items of the SAWS that were included in Study II, six items were considered to be at least moderately virtuous by the experts. They incorporated the virtues wisdom (one item), wisdom and transcendence (three items), and humanity (two items). All seven items were regarded as at least slightly virtuous, and they incorporated all six virtues. Wisdom was identified most often (for all seven items), followed by transcendence and courage (both for five items).

Combinations of the six virtues within the used item contents

Several items incorporated more than one virtue. For example, all three items that were rated high for temperance, when representing virtue at least moderately, also represented humanity. One item (1.37%) had four virtues that were represented at least moderately. This was an item from the subscale *Aggressive Humor* of the HSQ (*Even if something is really funny to me, I will not laugh or joke about it if someone will be offended*, HSQ, Q.31.) Three items (2.74%) represented three virtues at least moderately (i.e., above 5), seven items (9.59%) exceeded 5 for two virtues, 29 items (39.73%) incorporated one virtue above 5, and 34 items (46.58%) did not reach 5 for any virtue. Every item, however, had at least one virtue represented at least *slightly* (i.e., exceeding 3). In fact, one item even incorporated all six virtues at least slightly. This was an item from the subscale *Reflective vs. Boorish* of the HBQD (*Achieves a detached perspective on self and others*, Q.53).

Discussion

Study II showed a high degree of convergence among the experts not only with respect to the virtues to which they assigned the statements but also to their degree of relevance. Also, there was a moderate degree of convergence between the experts' judgments and the lay people's judgments. This convergence could be found despite several differences in the rating situations and formats: The lay people's judgment of a global degree of virtuousness (which was opposed to vice, that is, the degree of virtuousness in the lay people's judgments only ranged from 0 to 4) was related to the expert's ratings for six different virtues (assessed by an answer format ranging from 0 to 9), which reduced comparability.

The main aim of Study II was to examine the nature of virtues in the humor item pool more closely. This yielded two main results. First, the two virtues incorporated

most often were humanity and wisdom. And second, all six used virtues were represented to some extent, i.e., at least slightly, in current humor instruments. When considering a moderate degree of virtue as a minimum requirement, all virtues except courage were incorporated.

The affinity of humor to humanity and wisdom is compatible with philosophical descriptions of humor. For example contemporary researchers like Roberts (1988) and Bühler (2007) view humor as a means for dealing wisely with everyday life. Item contents representing wisdom were present in about half of the scales. Items classified as belonging to wisdom typically referred either to intellectual play on language or to a humorous consideration of everyday incidents or one's own mistakes.

The humanists of the seventeenth century distinguished “good humour” from “bad humour”, “true wit” from “false wit” (or “put-down witticisms”; Ruch, 2004) and referred to the benevolent forms of humor (laughing *with* in contrast to laughing *at*) based on sympathy (Schmidt-Hidding, 1963). Humanity (in at least moderate degrees) was found in items of nine scales. Among them, the virtues represented at least moderately by the item contents of the VIA-IS Humor scale were mainly humanity according to the experts of the current study. This seems reasonable, as Peterson (2006) refers to humor as a character strength of the heart (as opposed to strengths of the mind), which is compatible with other character strengths of humanity. Items representing humanity were often connected with *not* laughing or joking about others (even if it would be tempting) or with showing of a dislike of this behavior if displayed by others. Furthermore, items describing behavior such as comforting or relaxing others by cheering them up were typically understood to stand for humanity.

Within the VIA-Classification (Peterson & Seligman, 2004) humor belongs to the virtue transcendence. In the present study, transcendence was among the three virtues with the highest means and was (in at least moderate degrees) identified in items of four

scales. The subscale humor from the VIA-IS also contained one item representing transcendence. Transcendence was mainly connected with a hopeful or optimistic perspective on life or life crises.

Closely related to humanity, justice and temperance were also often represented by an aversion against using humor to put others down or laugh at them. Typically, items identified as belonging to justice are identified as belonging to humanity to an even higher degree. Temperance reached very high single ratings. However, the mean temperance rating was the lowest. This is surprising, as an oft-cited core component of the sense of humor, the tendency to *laugh at oneself*, is often described as the main virtuous component of humor leading to modesty (and thus to temperance; e.g., Comte-Sponville, 2001). This component, as measured by the SHS (McGhee, 1996), was not perceived as virtuous by the lay people and thus did not enter Study II. However, aspects related to actually laughing at oneself in one item of the SAWS (*At this point in my life, I find it easy to laugh at my mistakes*, Q.24) were identified as virtuous (although as representing wisdom). Items scoring high in temperance seem to highlight the tendency to refrain from doing things, even if they are tempting, because they would offend others. However, items representing temperance at least weakly are often connected to regulating one's emotions.

Although the mean virtue rating for courage was higher than that for justice and temperance, courage did not reach very high ratings among single items. The highest courage ratings were given for items describing open and authentic humor behavior or a brave and composed behavior or attitude in the face of unpleasant situations.

Some of the humorous behaviors and attitudes from the questionnaires incorporated more than one virtue. For example, several items represented temperance, humanity, and justice. The co-occurrence of temperance and humanity or justice might possibly be explained by looking at the wording of the rated material. When temperance

means “to refrain from doing something” (e.g., from laughing at someone else’s weakness), *although it would be tempting*, this might well be motivated by humanity or justice (because it would be mean and inhumane to laugh at such a person, and because it’s not that person’s fault and thus not fair to laugh at him or her).

Whereas future studies should examine whether or not some virtues or configurations of virtues go together with humor more or less often than others, one should not jump to conclusions. On the one hand, these items have not been constructed to measure (single) virtues. Thus, if these items must not necessarily stand for any virtue, or, for instance, only for courage, or only for justice, this does not mean that it is impossible to construct items that do so. On the other hand, it should be noted that the items included in this study are not a random sample of items. Different questionnaires have been included and the percentages of items per questionnaire are not identical. Thus, the statistical results of these studies must be considered with caution.

Taken as a whole then, Study II could not only replicate the judgments of virtuousness, it could also show that six core virtues were represented at least slightly and five virtues even at least moderately. In this study, wisdom and humanity are the virtues connected most strongly and most frequently with humor. Whether these two virtues always have a stronger connection with humor or whether this was just the case for the item pool given in this study, will have to be examined systematically.

General discussion

In general, the two studies reveal that it is fruitful to examine the connection between virtue and humor. Out of a collection of humor behaviors and attitudes taken from several questionnaires, those behaviors and attitudes were indeed extracted that combine humor and virtue *implicitly*. Some items from the questionnaires used incorporate one virtue or even more virtues, as judged by lay people as well as experts on virtues. Other

items were rated as neutral or as representing vice, suggesting that only certain aspects of humor are associated with virtue. The more a given behavior or attitude was evaluated as virtuous, the more it was also reported to be shown.

The approach chosen in the present paper has advantages and disadvantages. The advantage is that an existing pool of numerous behavioral manifestations (which are largely missing in philosophical literature about humor and virtue) could be taken as a basis to empirically address the relation of humor and virtues (as well as vices) in everyday life. The disadvantage is that—because of the heterogeneous sampling and wording of the items from the different questionnaires—the results yielded by these studies might be distorted. The item pool of the HBQD made it possible to examine the relation of humor, vice, neutral aspects and virtue *per se*. On the other hand, virtuous aspects not covered by the HBQD could be found by adding additional questionnaires.

It must be kept in mind that virtues are not incorporated *explicitly* and systematically by the items in these questionnaires, i.e., the items have not been constructed in order to assess virtuous humor. However, all virtues are represented by the items, but not to the same extent. Some items represent more than one virtue. No final conclusion can be drawn as to whether it is in the nature of certain virtues to co-occur with certain other virtues more (or less) often in the context of humor or whether all virtues can also emerge distinctly when associated with humor. This is the first step in a broader project to study the relation of humor and virtue. In a second step evidence of humorous and virtuous behavior in everyday situations will be collected and analyzed which will complement the virtuous humor behaviors extracted in the current studies. From there it might be possible to systematically study and assess humor behavior prototypical for each virtue of the VIA-Classification.

Acknowledgements

The authors wish to thank Christian F. Hempelmann and Frank A. Rodden for helpful comments on prior versions of the manuscript.

References

- Aristotle (1932). The Poetics. In: W.H. Fyfe (Ed. & Trans.). *Aristotle in 23 Volumes* (Vol. 23). Cambridge, MA: Harvard University Press. (Original work published about 335 BC).
- Bühler, P. (2007). Ethik des Alltäglichen [Ethics of the ordinary]. *Berliner Theologische Zeitschrift*, 24, 278–288.
- Cattell, R.B. & Schuerger, J.M. (1971). *Objective-Analytic (O-A) Test Kit*. Champaign, IL: Institute for Personality and Ability Testing.
- Comte-Sponville, A. (2001). *A short treatise on the great virtues: The uses of philosophy in everyday life*. New York: Metropolitan Books.
- Craik, K.H., Lampert, M.D., & Nelson, A.J. (1993). *Research manual for the Humorous Behavior Q-sort Deck*. Berkeley, CA: University of California, Institute of Personality and Social Research.
- Craik, K.H., Lampert, M.D., & Nelson, A.J. (1996). Sense of humor and styles of everyday humorous conduct. *Humor: International Journal of Humor Research*, 9, 273–302.
- Dahlsgaard, K. (2004). Universal virtues?—Lessons from history. In C. Peterson and M.E.P. Seligman (Eds.), *Character strengths and virtues* (33–52). New York: Oxford University Press.
- Frankl, V.E. (1984). *Man's search for meaning*. New York: Washington Square Press.
- Gosling, S.D., Vazire S., Srivastava S., & John, O.P. (2004). Should we trust web-based studies? A comparative analysis of six preconceptions about Internet questionnaires. *American Psychologist*, 59, 93–104.
- Hattie, J. (2006). ITC guidelines on computerbased and internet-delivered testing [Special Issue]. *International Journal of Testing*, 6 (2).

- Kant, I. (2007). *Critique of judgement*. (N. Walker, Ed. & J.C. Meredith, Trans.). Oxford, UK: Oxford University Press. (Original work published 1790).
- Keith-Spiegel, P. (1972). Early conceptions of humor: Varieties and issues. In J.H. Goldstein & P.E. McGhee (Eds.), *The psychology of humor: Theoretical perspectives and empirical issues* (pp. 3–39). New York: Academic Press.
- Le Goff, J. (1997). Laughter in the Middle Ages. In J. Bremmer & H. Roodenberg (Eds.), *A cultural history of humour: From antiquity to the present day* (pp. 40–53). Cambridge, UK: Polity Press.
- Manke, B. (2007). Genetic and environmental contributions to children's interpersonal humor. In W. Ruch (Ed.), *The sense of humor: Explorations of a personality characteristic* (pp. 361–384). New York: Mouton de Gruyter.
- Martin, R.A., & Lefcourt, H.M. (1983). Sense of humor as a moderator of the relation between stressors and moods. *Journal of Personality and Social Psychology*, *45*, 1313–1324.
- Martin, R.A., & Lefcourt, H.M. (1984). Situational Humor Response Questionnaire: Quantitative measure of the sense of humor. *Journal of Personality and Social Psychology*, *47*, 145–155.
- Martin, R.A. (2007). *The psychology of humor: An integrative approach*. Burlington, MA: Elsevier Academic Press.
- Martin, R.A., Puhlik-Doris, P., Larsen, G., Gray, J. & Weir, K. (2003). Individual differences in uses of humor and their relation to psychological well-being: Development of the Humor Styles Questionnaire. *Journal of Research in Personality*, *37*, 48–75.
- McGhee, P.E. (1996). *The laughter remedy. Health, healing and the amuse system*. Dubuque, IA: Kendall/Hunt.

- Peterson, C. (2006). *A primer in positive psychology*. New York: Oxford University Press.
- Peterson, C., Ruch, W., Beermann, U., Park, N., & Seligman, M.E.P. (2007). Strengths of character, orientations to happiness, and life satisfaction. *Journal of Positive Psychology, 2*, 149-156.
- Peterson, C., & Seligman, M.E.P. (2004). *Character strengths and virtues: A handbook and classification*. New York: Oxford University Press.
- Roberts, R.C. (1988). Humor and the virtues. *Inquiry, 31*, 127–149.
- Ruch, W., Köhler, G. & van Thriel, C. (1996). Assessing the "humorous temperament": Construction of the facet and standard trait forms of the State-Trait-Cheerfulness-Inventory—STCI. *Humor: International Journal of Humor Research, 9*, 303-339.
- Ruch, W. (2002, July) *State of the art in humour research. (Presidential address)*. 21st International Humor Conference and the 14th Conference of the International Society for Humor Studies, Forli, Italy.
- Ruch, W. (2004). Humor (playfulness). In C. Peterson and M. E. P. Seligman (Eds.), *Character strengths and virtues* (pp. 583–598). New York: Oxford University Press.
- Ruch, W. (2007). *The sense of humor: Explorations of a personality characteristic*. (2nd Ed.) Berlin: Mouton de Gruyter.
- Schmidt-Hidding, W. (1963). *Europäische Schlüsselwörter. Band I: Humor und Witz*. [European key terms. Volume I: Humor and Wit]. Munich, Germany: Huber.
- Seligman, M.E.P. (2002). *Authentic happiness: Using the new Positive Psychology to realize your potential for lasting fulfillment*. New York: Free Press.
- Svebak, S. (1996). The development of the Sense of Humor Questionnaire: From SHQ to SHQ-6. *Humor: International Journal of Humor Research, 9*, 341–361.

- Verberckmoes, J. (1997). The comic and the counter-reformation. In J. Bremmer & H. Roodenberg (Eds.): *A cultural history of humour: From antiquity to the present day* (pp. 76–89). Cambridge: Polity Press.
- Webster, J.D. (2003). An exploratory analysis of a self-assessed wisdom scale. *Journal of Adult Development, 10*, 13–22.
- Ziv, A. (1981). The self concept of adolescent humorists. *Journal of Adolescence, 4*, 187–197.

Footnotes

1. The German originals for the answer format in Study I were: -4 = “sehr lasterhaft,” -3 = “ziemlich lasterhaft,” -2 = “lasterhaft,” -1 = “eher lasterhaft,” 0 = “weder Tugend noch Laster,” 1 = “eher tugendhaft,” 2 = “tugendhaft,” 3 = “ziemlich tugendhaft,” 4 = “sehr tugendhaft.”
2. The German originals for the answer format in Study II were: 0 = “überhaupt nicht vorhanden,” 1 = “sehr schwach vorhanden,” 3 = “schwach vorhanden,” 5 = “mittelstark vorhanden,” 7 = “stark vorhanden,” 9 = “sehr stark vorhanden.”

Table Titles

Table 1. Questionnaires included in the Humor Rating List.

Table 2. Absolute and relative number of items that were perceived as not at all, slightly, moderately, and strongly virtuous, for each virtue.

Table 3. Sample humor items representing the six core virtues.

Figure Captions

Figure 1. Distribution of the averaged Humor Vice Virtue Rating (HVVR).

Figure 2. Averaged Humor Vice Virtue Rating (HVVR) for the items of all instruments, separated for subscales with positive and negative valence.

Figure 3. Mean ratings for the six virtues.

Table 1. Questionnaires included in the Humor Rating List.

Instrument ^a	Traits measured	No. of Items	No. of answer levels; most strongly agreeing answer
HBQD	10 styles of everyday humorous conduct which are organized along 5 contrastive factors: (1) socially warm vs. cold, (2) reflective vs. boorish, (3) competent vs. inept, (4) earthy vs. repressed, (5) benign vs. mean-spirited	100	9; most characteristic
JOKES	Assumed amusement when hypothetically performing a list of pranks during adolescence	18	2; yes
HSQ	Four unipolar styles of humor: (1) affiliative, (2) self-enhancing, (3) aggressive, (4) self-defeating	32	7; totally agree
SAWS	Humor as one component of wisdom	8	6; strongly agree
SHRQ	The individual's capacity to respond to a variety of pleasant or unpleasant situations with amusement, smiling or laughter; self-perception of humor	21	5; I would have laughed heartily
CHS	The degree to which individuals make use of humor in coping with stressful events	7	4; strongly agree
SHS	(1) Enjoyment of humor, (2) seriousness and negative mood, (3) playfulness and positive mood, (4) laughter, (5) verbal humor, (6) finding humor in everyday life, (7) laughing at yourself, (8) humor under stress	40	4; strongly agree
SHQZ	Two components of the sense of humor: (1) Humor appreciation, (2) humor creativity	14	7; very often

Table 1 (continued). Questionnaires included in the Humor Rating List.

Instrument ^a	Traits measured	No. of Items	No. of answer levels; most strongly agreeing answer
HUMOR	Frequency with which people use specific humor behaviors with their friends	13	5; constantly
VIA-IS	Degree to which respondents agree to statements reflecting 24 strengths of character; only subscale (23) Humor (defined as liking to laugh and tease; bringing smiles to other people) included	10	5; very much like me
STCI-T<60>	The temperamental basis of humor, i.e., cheerfulness, seriousness, and bad mood as habitual traits; only subscale "cheerfulness" included	20	4; strongly agree
SHQ-6	Two components of the sense of humor: (1) Meta-message sensitivity, (2) Liking of humorous situations	6	4; Yes indeed

Note: HBQD = Humorous Behavior Q-Sort Deck (Craik, Lampert, & Nelson, 1993); JOKES = Jokes & Tricks (Cattell & Schuerger, 1971); HSQ = Humor Styles Questionnaire (Martin, Puhlik-Doris, Larsen, Gray, & Weir, 2003); SAWS = Self-Assessed Wisdom Scale (Webster, 2003); SHRQ = Situational Humor Response Questionnaire (Martin & Lefcourt, 1984); CHS = Coping Humor Scale (Martin & Lefcourt, 1983); SHS = Sense of Humor Scale (McGhee, 1996); SHQZ = Sense of Humor Questionnaire (Ziv, 1981); HUMOR = Humor Use in Multiple Ongoing Relationships (Manke, 2007); VIA-IS = Values in Action Inventory of Strengths (Peterson & Seligman, 2004); STCI-T<60> = State-Trait-Cheerfulness-Inventory, Standard Trait Version (Ruch, Köhler, & van Thriel, 1996); SHQ-6 = Sense of Humor Questionnaire in the revised version (Svebak, 1996). ^a German adaptations or versions were used.

Table 2. Absolute and relative number of items that were perceived as not at all, slightly, moderately, and strongly virtuous, for each virtue.

Virtue	not at all		slightly		moderately		strongly	
	f	%	f	%	f	%	f	%
Wisdom	13	17.81	43	58.90	17	23.29	0	0.00
Courage	33	45.21	40	54.79	0	0.00	0	0.00
Humanity	32	43.84	20	27.40	19	26.03	2	2.74
Justice	56	76.71	11	15.07	6	8.22	0	0.00
Temperance	61	83.56	10	13.70	1	1.37	1	1.37
Transcendence	19	26.03	47	64.38	7	9.59	0	0.00

Note: Cut-off points for the degree of virtue: <3 = not at all, 3 = slightly, 5 = moderately, 7 = strongly.

f = frequency.

$N_{\text{Rater}} = 17$. $N_{\text{Items}} = 73$.

Table 3. Sample humor items representing the six core virtues.

Virtue	Sample items	Mean Virtue Rating
Wisdom	Uses humor to express the contradictory aspects of everyday events. (HBQD, Q.83)	6.41
	Finds intellectual word play enjoyable. (HBQD, Q.21)	6.29
Courage	Laughs heartily, from head to heel, not just with face and diaphragm. (HBQD, Q.42)	4.94
	I never allow a gloomy situation to take away my sense of humor. (VIA-IS, Q.142)	4.94
Humanity	Even if something is really funny to me, I will not laugh or joke about it if someone will be offended. (HSQ, Q.31)	7.35
	I do not like it when other people use humor as a way of criticizing or putting someone down. (HSQ, Q.15)	7.29
Justice	Achieves a detached perspective on self and others. (HBQD, Q.53)	6.59
	Is squeamish about “sick jokes” (e.g., regarding human deformity). (HBQD, Q.82)	5.82
Temperance	People are never offended or hurt by my sense of humor. (HSQ, Q.7)	5.59
	If I am feeling depressed, I can usually cheer myself up with humor. (HSQ, Q.2)	4.12
Transcendence	I have an optimistic outlook on life. (SHS, Q.11)	6.06
	I try and find a humorous side when coping with a major life transition. (SAWS, Q.14)	5.65

Note: HBQD = Humorous Behavior Q-Sort Deck; HSQ = Humor Styles Questionnaire;

SHS = Sense of Humor Questionnaire; SAWS = Self-Assessed Wisdom Scale; VIA-IS

= Values in Action Inventory of Strengths; Q. = Question number. $N_{\text{Rater}} = 17$.

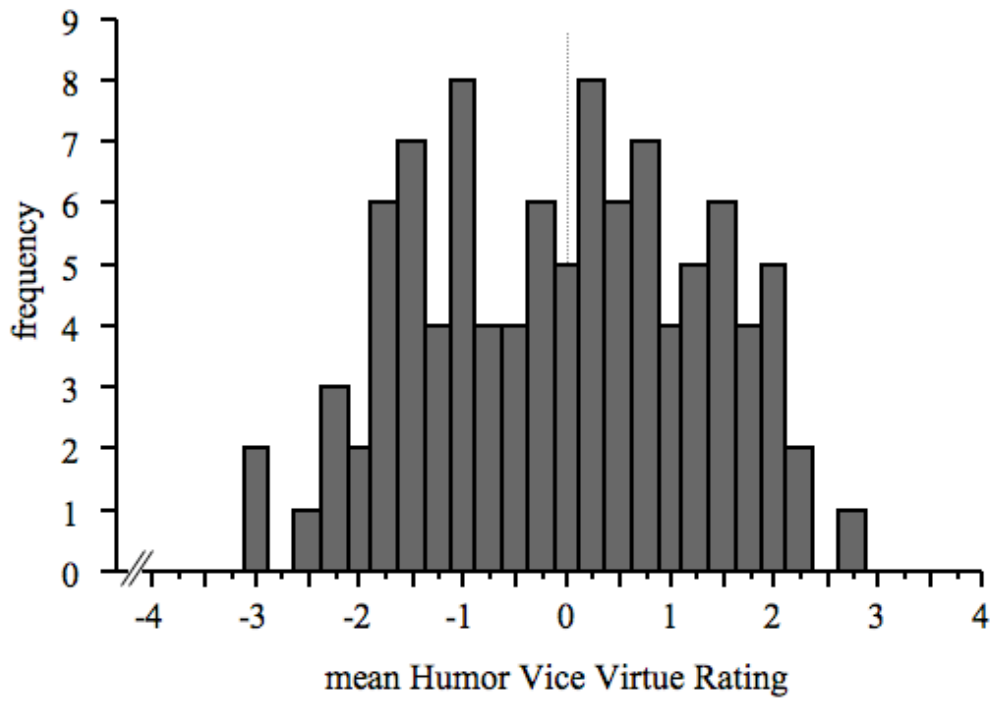
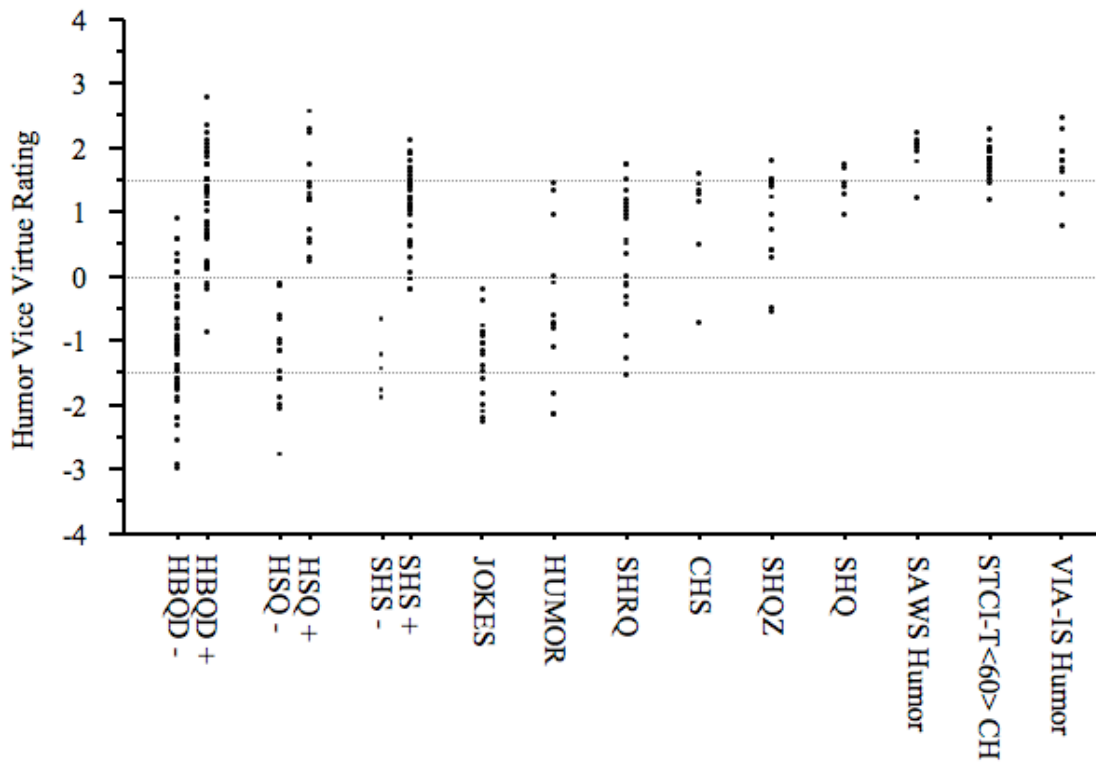


Figure 1. Distribution of the averaged Humor Vice Virtue Rating (HVVR) for the HBQD.



Note: + = subscales with positive valence, - = subscales with negative valence. HBQD = Humorous Behavior Q-Sort Deck; HSQ = Humor Styles Questionnaire; SHS = Sense of Humor Questionnaire; JOKES = Jokes and Tricks; HUMOR = Humor Use in Multiple Ongoing Relationships; SHRQ = Situational Humor Response Questionnaire; CHS = Coping Humor Scale; SHQZ = Sense of Humor Questionnaire; SHQ = Sense of Humor Questionnaire; SAWS Humor = Self Assessed Wisdom Scale, Subscale Humor; STCI-T<60>CH = State-Trait-Cheerfulness-Inventory, Trait Standard Version, Subscale Cheerfulness; VIA-IS Humor = Values in Action Inventory of Strengths, Subscale Humor. Negatively scored items were reversed.

Figure 2. Averaged Humor Vice Virtue Rating (HVVR) for the items of all instruments, separated for subscales with positive and negative valence.

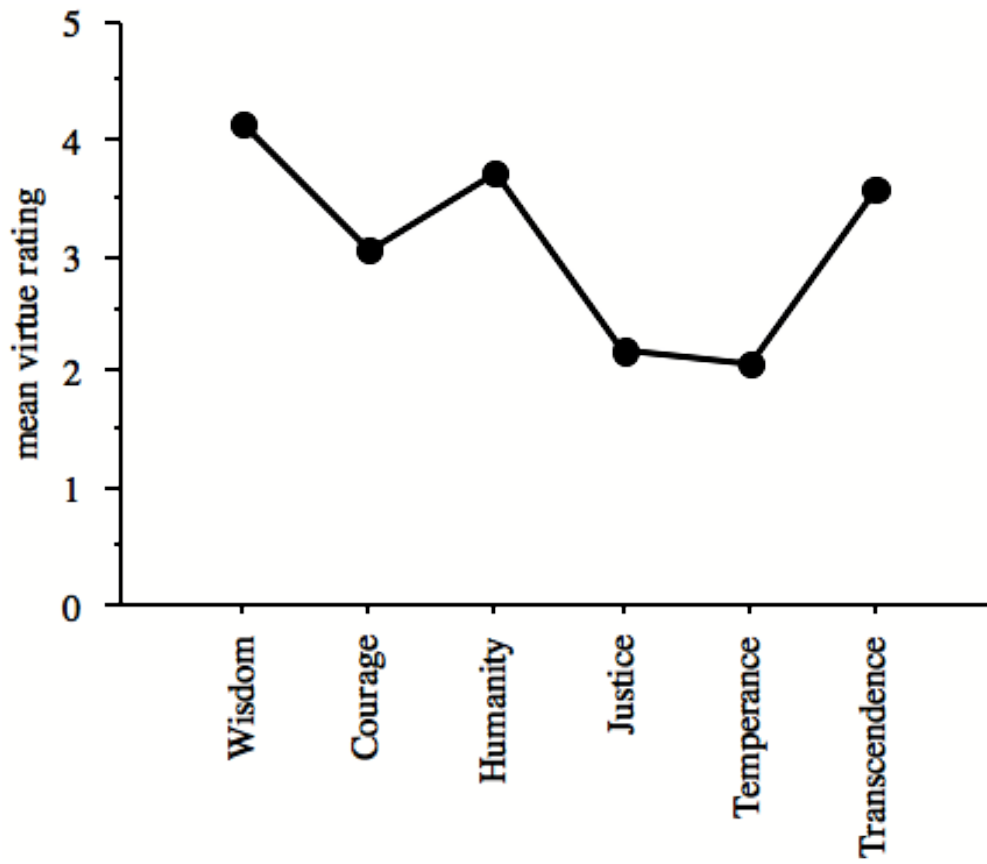


Figure 3. Mean ratings for the six virtues.