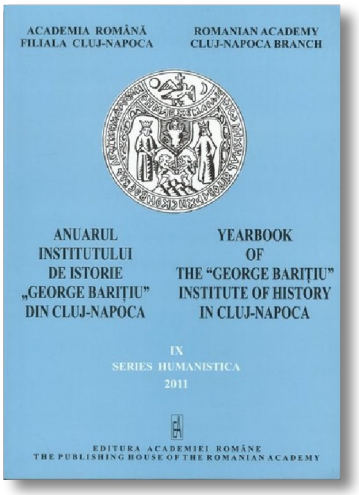

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CHEERFULNESS AND EVERYDAY HUMOROUS CONDUCT

Willibald Ruch[1], René T. Proyer[2], Claudia Esser[3], & Otilia Mitrache[4]

Abstract. *Trait cheerfulness, seriousness, and bad mood have been proposed to form the temperamental basis of humor. Bypassing the vague folk concept of the "sense of humor" they are expected to predict humor-related thoughts, feelings, and actions just like the sense of humor should. The State-Trait-Cheerfulness-Inventory that measures these three concepts both as states (STCI-S; Ruch et al., 1997) and traits (STCI-T; Ruch et al., 1996) is introduced. To test the underlying assumptions the trait part of the State-Trait-Cheerfulness-Inventory (STCI-T; Ruch et al., 1996) was administered to 105 adults together with two lists of everyday humor behavior, the HUMOR (Manke, 2007) and the self- and peer-administered Humorous Behavior Q-Sort Deck (HBQD; Craik, Lampert, & Nelson, 1996) in Study I. In Study II 169 adults filled in the STCI-T together with the rating form of the HBQD and the Humor Styles Questionnaire (HSQ; Martin et al., 2003). It turned out that the STCI-T is predictive of many but not all of the self- and peer-reported humor behaviors. Trait cheerfulness is strongly correlated with the socially warm, affiliative, self-enhancing humor style and use of humor in everyday life, and also predictive of competent, earthy, and self-defeating humor. Low trait seriousness is involved in the prediction of the major humor styles but also is involved in earthy and aggressive humor and predicted the frequency of everyday humor interactions (HUMOR). Bad mood is involved in the prediction of major humor styles (negatively) and also predicts inept, repressed and mean spirited humor and has incremental validity in the prediction of self-defeating humor. Taken together these results support the view that traits forming the temperamental basis of humor are able to predict everyday humorous behavior demonstrating their utility as a valid alternative to the folk concept of the sense of humor. Nevertheless, neither the STCI-T nor a direct measure of the sense of humor could predict all humor behaviors. An adaptation of the scale and its first use in Romanian samples is described. Psychometric characteristics are encouraging and some validity information recommends the use of the scale with Romanian participants.*

Key words: *humor, cheerfulness, seriousness life satisfaction, state-trait models*.

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Clearly, the sense of humor is not unidimensional[5]. However, the exact number and nature of the underlying dimensions are still unknown. Sampling the domain of humor and humorlessness, Ruch[6] compiled lists of German type nouns (e.g., wit, cynic, grump), verbs (e.g., to tease, to joke), and adjectives (e.g., funny, witty, cynical) that were then used to map the field of humor. Factor analysis of self- and peer reports of the type nouns yielded two major bipolar factors, namely playful vs. serious (representing a mentality dimension) and grumpy vs. cheerful (representing an affective dimension of positive-negative mood). The HUWO (Humor Words[7]) is a yet unpublished compendium of 99 German type nouns that can be scored for some domains as well as those two factors.

1. THE TEMPERAMENTAL BASIS OF HUMOR

As the expression of humor is very culture specific, Ruch, Köhler and vanThriel[8] argued that a *temperamental* approach to humor might be meaningful. Rather than describing humor behaviors, thoughts, and feelings, the underlying mental state and affective basis were the focus in this approach. In short, the authors saw *trait cheerfulness* as a factor facilitating the expression of humor, while *trait seriousness* and *trait bad mood* represent dispositions for different forms of humorlessness. Besides traits, actual states were considered as well. The need for states can be seen in the fact that in everyday language we often use phrases like to be *in good humor*, *in the mood for laughing*, *out of humor*, *in a serious mood* or *frame of mind* etc. to refer to states of enhanced or lowered readiness to act humorously. Within a state-trait framework, Ruch, Köhler and vanThriel[9] postulated that in individuals in a *cheerful* state, the elicitation of amusement will be facilitated, while individuals in a more *serious* frame of mind or in a *bad mood* will be less readily inclined to laugh or smile at a given stimulus. This is the foundation of a state-trait model of cheerfulness (*Figure 1*).

2. FACET MODELS FOR THE HUMOROUS STATES AND TRAITS

Based on the study of several sources a structural model of the three trait-concepts was outlined and tested. There were five facets distinguished for

[5] *** *The Sense of Humor.* W. Ruch (ed.), Berlin: Mouton de Gruyter, 2007.

[6] W. Ruch, *A Psycholexical Study of the "sense of humor": Taxonomizing German Humor-Related Nouns*, The Thirteenth International Humor Conference, Birmingham, 1995, July 31-August 4.

[7] *Ibidem*.

[8] W. Ruch, G. Köhler, & C. van Thriel, *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", 1996, 9, 303–339.

[9] Idem, *To Be in Good or Bad Humor: Construction of the State form of the State-Trait-Cheerfulness-Inventory – STCI*, "Personality and Individual Differences", 1997, 22, 477–491.

cheerfulness, six for seriousness, and five for bad mood, respectively. The definitional components of trait-cheerfulness (CH) were a prevalence of cheerful mood (CH1), a low threshold for smiling and laughter (CH2), a composed view of adverse life circumstances (CH3), a broad range of active elicitors of cheerfulness and smiling and laughter (CH4), and a generally cheerful interaction style (CH5). Trait-seriousness (SE) is made up of the elements of the prevalence of serious states (SE1), a perception of even everyday happenings as important and considering them thoroughly and intensively (SE2), the tendency to plan ahead and set long-range goals (SE3), the tendency to prefer activities for which concrete, rational reasons can be produced (SE4), the preference for a sober, object-oriented communication style (SE5), and a "humorless" attitude about cheerfulness-related matters (SE6). Finally, trait-bad mood (BM) is basically composed of the predominance of a generally bad mood (BM1), sadness (i.e., despondent and distressed mood) (BM2), and ill humouredness (i.e., sullen and grumpy or grouchy feelings) (BM4). Two further facets are related to the sad (BM3) and ill-humored (BM5) individual's prototypical behavior in cheerfulness evoking situations. Factor analyses for German and US data showed that the facets of the constructs indeed loaded on the respective factors[10].

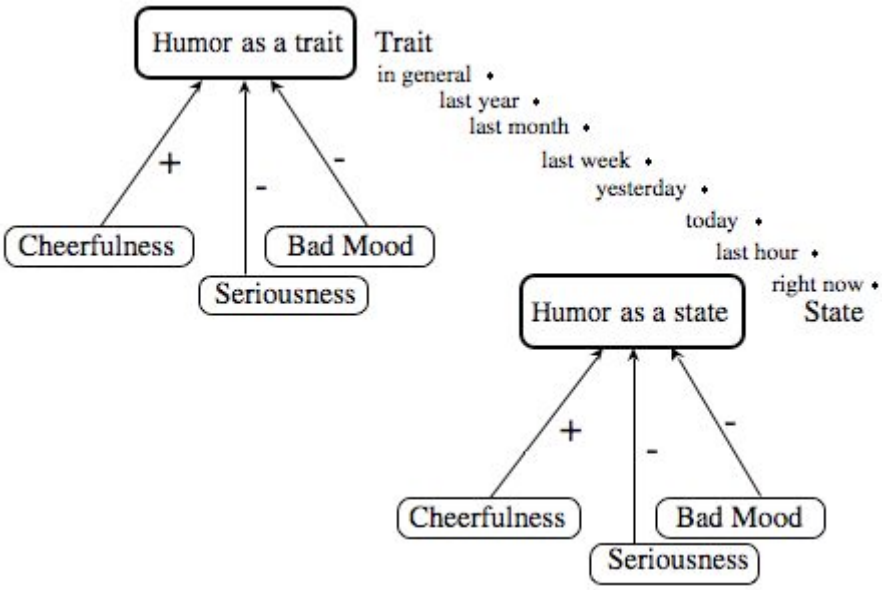

Fig. 1. A State-Trait Model of Cheerfulness, Seriousness, and Bad Mood.
Signs express the hypothesized relationship between cheerfulness, seriousness,
and bad mood as states and traits and the inclination to humor.

[10] Idem, *Assessing the "Humorous Temperament": Construction of the Facet and Standard Trait Forms of the State-Trait-Cheerfulness-Inventory – STCI*, …

As regards cheerfulness, seriousness, and bad mood as *states*, the formal definition of the concepts relates to the location of the threshold for the induction of amusement or other forms of humor behavior. Two facets were formulated for state cheerfulness and bad mood (items refer to variants of these states) and three for state serious-mindedness. The facets of state cheerfulness (CH) were cheerful mood (i.e., the presence of a cheerful mood state; more tranquil, composed) and hilarity (i.e., the presence of a merry mood state; more shallow, outward directed than cheerful mood). State seriousness (SE) is defined by earnestness (i.e., the presence of an earnest mental attitude and a task-oriented style), pensiveness (i.e., the presence of a pensive or thoughtful mood state), and soberness (i.e., the presence of a sober or dispassionate frame of mind). Finally, state bad mood (BM) is defined by sadness/melancholy (i.e., the presence of a sad or melancholy mood state) and ill-humor (i.e., the presence of an ill-humored, grumpy or grouchy mood state).

Items refer to the mentioned and related mood states and frames of mind, but were also composed of felt action tendencies (e.g., "I am in the mood for laughter"; "I am prepared to do a task in earnest"). Like for the traits, negative correlations were expected between cheerfulness on the one hand and bad mood (higher coefficients) and seriousness (lower coefficients) on the other hand. Furthermore seriousness and bad mood were expected and found to be mildly positively intercorrelated[11].

3. **STATE-TRAIT-CHEERFULNESS-INVENTORY (STCI)**

Instruments were designed for the assessment of these states and traits[12]. The long form of the trait part of the *State-Trait-Cheerfulness Inventory* (*STCI-T*[13]) is a 106-item questionnaire in a 4-point answer format providing scores for the three traits of *Cheerfulness* (STCI-T CH; 38 items), *Seriousness* (STCI-T SE; 37 items), and *Bad Mood* (STCI-T BM; 31 items) and their 5, 6, and 5 definitional components, respectively. The standard trait form uses 60 items to assess the three traits with 20 items per scale each. The standard state form (STCI-S) has 30 items in a four-point answer format. The measures have been validated in a variety of studies[14]. Recently also short forms and a children's version of the instruments were developed.

[11] See: *ibidem*; W. Ruch, & G. Köhler, G., *A Temperament Approach to Humor*, in: *** *The Sense of Humor*, W. Ruch (ed.), Berlin: Mouton de Gruyter, 2007, p. 203–230.

[12] W. Ruch, G. Köhler, & C. van Thriel, *Assessing the "Humorous Temperament": Construction of the Facet and Standard Trait Forms of the State-Trait-Cheerfulness-Inventory – STCI*, …; Idem, *To Be in Good or Bad Humor: Construction of the State form of the State-Trait-Cheerfulness-Inventory – STCI*, …

[13] W. Ruch, G. Köhler, & C. van Thriel, *Assessing the "Humorous Temperament": Construction of the Facet and Standard Trait Forms of the State-Trait-Cheerfulness-Inventory – STCI*, …

[14] W. Ruch, & G. Köhler, *The Measurement of Atate and Trait Cheerfulness*, in: *** *Personality Psychology in Europe*, I. Mervielde, I. Deary, F. De Fruyt, & F. Ostendorf (eds.), Tilburg, NL: Tilburg University Press, 1999, 7, p. 67–83; W. Ruch, & G. Köhler, *A Temperament Approach to Humor*, …

Ruch and Köhler[15] report high internal consistencies for the traits (CH: .93, SE: .88, and BM: .94) and states (CH: .93, SE: .85, and BM: .93) measured by the standard forms in a sample of 600 adults. As expected, the one-month retest-stability was high for the traits (between .77 and .86) but low for the states (between .33 and .36), confirming the nature of enduring traits and transient states.

In order to accumulate research findings on a trait it is important to have comparable instruments in different countries. Therefore, researchers wished to translate the STCI into different languages (e.g., Chinese, English, French, Japanese, Spanish) typically yielding comparable findings. Also a Romanian version of the standard trait and state form was established using the standardized procedure. First the English version of the STCI<60> and STCI-S<30> were translated into Romanian. Then a second bilingual person did do an independent back-translation. The original version was compared with the back translation and in case of discrepancies the first author pointed out the difference and how to retranslate the items. A final Romanian version was established (see Appendix) and administered to a sample of 199 Romanians of both sexes (34 % males) via the internet. Their age range was from 18 to 64 years (M = 27.87, SD = 9.70). The distribution statistics, internal consistencies, and the item-total correlations were computed (see *Table 1*).

Table 1

Reliability of the Romanian and English versions of the STCI[16]

	N_i	M	SD	Alpha	CITC
Romanian STCI					
trait part (N = 199)					
STCI-T CH	20	63.75	9.70	.91	.58 (.34-.78)
STCI-T SE	20	58.12	8.70	.83	.44 (.21-.65)
STCI-T BM	20	38.75	10.39	.90	.53 (.33-.74)
state part (N = 195)					
STCI-S CH	10	27.22	6.36	.91	.68 (.45-.81)
STCI-S SE	10	28.62	5.12	.83	.53 (.21-.68)
STCI-S BM	10	15.78	6.35	.93	.72 (.62-.83)
English STCI					
trait part (N = 978)					
STCI-T CH	20	64.51	9.70	.93	
STCI-T SE	20	50.25	8.28	.84	

[15] W. Ruch, & G. Köhler, *The Measurement of Atate and Trait Cheerfulness*, …

[16] *Notes*. N_i = number of items per scale; CH = cheerfulness, SE = seriousness, BM = bad mood. CITC = corrected item-total correlation (Mean, minimal, maximal).

	N_i	*M*	*SD*	Alpha	CITC
STCI-T BM	20	39.6	11.14	.92	
state part (*N* = 1357)					
STCI-S CH	10	28.8	6.36	.91	
STCI-S SE	10	26.5	5.01	.79	
STCI-S BM	10	15.2	5.90	.93	

Table 1 shows that the Romanian version of the STCI has good psychometric results and may be recommended for research and application. As expected, cheerfulness did not correlate with trait seriousness (r = .05; *ns*) but very negatively with bad mood (r = -.36; p < .001), and the latter two were positively correlated (r = .23; p < .001). The correlations among the state scales followed the same pattern but were higher (CH vs. SE: -.27; CH vs. BM = -.65; SE vs. BM: .28). The correlations between homologous states and traits were .61, .62, and .56, for cheerfulness, seriousness, and bad mood, respectively. Females (r = .35, p < .001) and younger participants (r = -.27, p < .001) had higher scores in bad mood.

4. THE RELATIONSHIP BETWEEN STATES AND TRAITS

Several postulates regarding the state-trait model of cheerfulness were put forward[17] and tested in questionnaire studies, experiments and behavioral observations.

Ruch and Köhler[18] presented several postulates regarding the relationships between state and trait cheerfulness and exhilaration (or amusement, Ruch[19]); for example, it was hypothesized that both state and trait cheerfulness moderate the effects of exhilarating, laughter-inducing stimuli. Indeed, individuals high in trait cheerfulness laughed and smiled more after inhaling nitrous oxide and being confronted with a clowning experimenter than low trait cheerful persons did (Ruch[20]). Likewise, individuals in a cheerful mood smile and laugh more (i.e.,

[17] W. Ruch, G. Köhler, & C. van Thriel, *Assessing the "Humorous Temperament": Construction of the Facet and Standard Trait Forms of the State-Trait-Cheerfulness-Inventory – STCI*, …; W. Ruch, & G. Köhler, *The Measurement of Atate and Trait Cheerfulness*, in: *** *Personality Psychology in Europe*, I. Mervielde, I. Deary, F. De Fruyt, & F. Ostendorf (eds.), Tilburg, NL: Tilburg University Press, 1999, 7, p. 67–83; W. Ruch, & G. Köhler, *A Temperament Approach to Humor*, …; W. Ruch, & K. Zweyer, *Heiterkeit und Humor: Ergebnisse der Forschung*, in: *** *Heiterkeit und Humor im Alter*, R. D. Hirsch, J. Bruder, & H. Radebold (eds.), Bornheim-Sechtem, Germany: Chudeck-Druck, 2001, p. 9–43; K. Sommer, & W. Ruch, *Cheerfulness*, in: *** *The Encyclopedia of Positive Psychology*, S. J. Lopez (ed.), Massachusetts, MA: Blackwell Publishing, 2009, p. 144–48).

[18] *** *The Sense of Humor.* W. Ruch (ed.), Berlin: Mouton de Gruyter, 2007.

[19] K. Sommer, & W. Ruch, *Cheerfulness*, …

[20] W. Ruch, G. Köhler, & C. van Thriel, *To Be in Good or Bad Humor: Construction of the State form of the State-Trait-Cheerfulness-Inventory – STCI*, …

show a Duchenne display) when confronted with humor, and the emergence of amusement enhances subsequent cheerful mood (Ruch[21]). This can count as evidence that cheerfulness as a temperament and as a mood state forms one element of the habitual and actual basis of humor, respectively.

Regarding the relationship between states and traits it was postulated that while everybody is in a cheerful state now and then, individuals high and low in trait cheerfulness will differ with respect to the threshold, frequency, intensity, duration, and robustness in prevalence of state cheerfulness (Ruch & Köhler[22]). Ruch and Zweyer[23] added that trait cheerful individuals are expected to have a higher speed of recovery of cheerful mood once being "out of humor". These predictions were formalized and are presented in *Figure 2*.

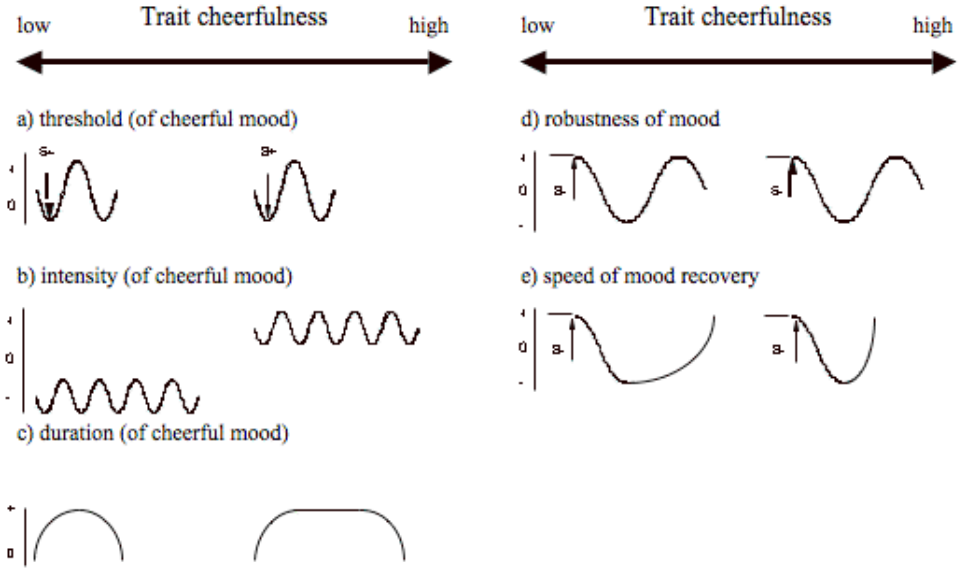

Fig. 2. The relationship between state und trait cheerfulness: (a) classic parameter (threshold, intensity, duration) and (b) new parameters (robustness, recovery). S+ = positive stimulus; S- = negative stimulus. (bold indicates intensity of stimulus).

Figure 2 shows that trait cheerful types are expected to (a) get into state cheerfulness more easily (*threshold in*); i.e., it takes a less potent stimulus to induce cheerful mood. Furthermore, (b) they experience the cheerful mood more strongly (*intensity*), and (c) remain in that state longer (*duration*) until it fades out naturally. They are expected to (d) remain in a cheerful state longer than the low trait cheerful even when factors capable of inducing negative affects become active

[21] *Ibidem*.
[22] W. Ruch, & G. Köhler, *The Measurement of Atate and Trait Cheerfulness*, …
[23] W. Ruch, & K. Zweyer, *Heiterkeit und Humor: Ergebnisse der Forschung*, ...

(*robustness*, or *threshold out*); i.e. it takes a more potent aversive stimulus to bring them out of that state. This dimension allows discussing the phenomenon of "keeping" or "loosing one's humor" within the framework of the state-trait model of cheerfulness. Finally, once a stimulus did alter mood to the negative, trait cheerful individuals will (e) rebuild the cheerful mood more quickly (*speed of mood recovery*); i.e., high trait cheerful people will overcome the negative affects associated with adverse situations more quickly. While the first three dimensions are common parameters describing the relationship between states and traits, the latter two are relatively new and were created to help discussing and explaining facts typically associated with the "sense of humor" within the state-trait model of cheerfulness. Robustness of cheerful mood refers to the tendency to maintain a positive mood longer even when facing adversity; i.e., in the presence of factors that induce antagonistic mood states. The idea of robustness of mood is especially well compatible with the facet of cheerful composure (facet description: "The cheerful-composed individual has a positive and carefree outlook of life, can unwind well, and enjoys the present moment. He/She can accept even unpleasant circumstances calmly and with composure, can look on the light side of things and is able to find something positive in them"[24]). These factors are expected to be the best predictor among all components of cheerfulness. So far no research has been carried out regarding the mood recovery hypotheses but the other postulates received ample support with different types of data (e.g., Beermann & Ruch[25]; Beermann, Gander, Hiltebrand, Wyss, & Ruch[26]; Ruch[27]; Ruch, Beermann, & Proyer[28]; Ruch & Köhler[29]; Thompson, Hasenöhrl, & Ruch[30]).

Not only do states and traits converge; self- and peer-evaluations of the traits converge as well. Carretero-Dios, Eid, and Ruch[31] undertook a multilevel

[24] W. Ruch, G. Köhler, & C. van Thriel, *Assessing the "Humorous Temperament": Construction of the Facet and Standard Trait Forms of the State-Trait-Cheerfulness-Inventory – STCI*, …

[25] U. Beermann, & W. Ruch, *How Virtuous is Humor? What We Can Learn from Current Instruments*, "Journal of Positive Psychology", *2009, 4,* 528–539.

[26] U. Beermann, F. Gander, D. Hiltebrand, T. Wyss, & W. Ruch, *Laughing at Oneself: Trait or State?*, in: **** Proceedings of the FACS-Workshop 2007*, E. Bänninger-Huber, & D. Peham (eds.), Innsbruck, Austria: Innsbruck University Press, 2009, p. 31–35.

[27] W. Ruch, *State and Trait Cheerfulness and the Induction of Exhilaration: A FACS Study*, "European Psychologist", 1997, 2, p. 328–341.

[28] W. Ruch, U. Beermann, & R. T. Proyer, *Investigating the Humor of Gelotophobes: Does Feeling Ridiculous Equal Being Humorless?*, "Humor: International Journal of Humor Research", 2009, 22(1/2), 111–143.

[29] W. Ruch, & G. Köhler, *The Measurement of Atate and Trait Cheerfulness*, …; W. Ruch, & G. Köhler, *A Temperament Approach to Humor*, …

[30] R. Thompson, R. Hasenöhrl, & W. Ruch, *Enhanced Cognitive Performance and Cheerful Mood by Standardized Extracts of Piper Methysticum (Kava-kava)*, "Human Psychopharmacology: Clinical & Experimental", 2004, 19, 243–250.

[31] H. Carretero-Dios, M. Eid, & W. Ruch, *Temperamental Basis of Sense of Humor: A Multilevel Confirmatory Factor Analysis of Multitrait-Multimethod Data*, Manuscript submitted for publication, 2010.

confirmatory factor analysis of multitrait-multimethod data collected for a sample of German participants. Participants completed the trait form (STCI-T) in a single session and also answered the state form (STCI-S) once a day at predetermined times on eight successive days. Moreover, the participants chose three close acquaintances each who rated them on the peer-evaluation form of the STCI-T. The results show that cheerfulness, seriousness and bad mood, as both state and traits are homogeneous factors no matter how they were measured. Aggregated states measures were clearly connected with the respective traits. Furthermore, strong evidence in favor of convergent (homologous scales correlated well) and discriminant (non-homologous scales were less well correlated) validity of the STCI was observed. Finally, also the expected pattern of correlations between the three dimensions was confirmed in the methods sampled.

5. HUMOROUS TEMPERAMENT AND HUMOR BEHAVIOR

The crucial questions remains whether the traits labeled to be the temperamental basis of humor do indeed predict humor behaviors sufficiently well. Several studies have been carried out to confirm the view that trait cheerfulness, seriousness, and bad mood are factors underlying the sense of humor. For example, factor analyses of a variety of humor instruments repeatedly resulted in factors related to cheerfulness and (low) seriousness (e.g., Ruch[32]; Köhler & Ruch[33]), but also bad mood (Ruch & Carrell[34]). These studies included most humor instruments designed before 1996.

In the present project a few new and more comprehensive instruments will be used as criteria, such as the *Humor Use in Multiple Ongoing Relationships* measure (HUMOR[35]), the *Humorous Behavior Q-Sort Deck* (HBQD[36]), the *Humor Styles Questionnaire* (HSQ[37]) and the *Sense of Humor Scale* (SHS[38]).

[32] W. Ruch, *Temperament, Eysenck's PEN System, and Humor-Related Traits*, "Humor. International Journal of Humor Research", 1994, 7, 209–244.

[33] G. Köhler, & W. Ruch, *Sources of Variance in Current Sense of Humor Inventories: How Much Substance, How Much Method Variance?*, "Humor: International Journal of Humor Research", 1996, 9, 363–397.

[34] W. Ruch, & A. Carrell, *Trait Cheerfulness and the Sense of Humor*, "Personality and Individual Differences", 1998, 24, 551–558.

[35] B. Manke, *Genetic and Environmental Contributions to Children's Interpersonal Humor*, in: *** *The Sense of Humor*, W. Ruch (ed.), Berlin: Mouton de Gruyter, 2007, p. 361–384.

[36] K. Craik, M. D. Lampert, & A. Nelson, *Sense of Humor and Styles of Everyday Humorous Conduct*, "Humor: International Journal of Humor Research", 1996, 9, p. 273–302.

[37] R. A. Martin, P. Puhlik-Doris, G. Larsen, J. Gray, & K. Weir, *Individual Differences in Uses of Humor and Their Relationship to Psychological Well-Being: Development of the Humor Styles Questionnaire*, "Journal of Research in Personality", 2003, 37, 48–75.

[38] P. E. McGhee, *Health, Healing and the Amuse System: Humor as Survival Training*, Dubuque, Iowa: Kendall/Hunt Publishing Company, 1996.

5.1. STUDY I

In *Study I* the sample was given a variant of the HUMOR[39], which was developed to assess the frequency with which individuals use a variety of specific humor behaviors in daily interactions. Sample items include, "I play practical jokes," and "I laugh at movies, TV or radio programs that I think are funny." The items often refer to acting clownish and silly and therefore a stronger involvement of (low) seriousness is expected. The same sample (plus one peer each) will be also given the HBQD[40] that consists of 100 non-redundant statements, each identifying a characteristic of humor-related everyday behavior. They can be evaluated separately, but also 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*. While the factors have not yet been replicated one can say that this model of humor is the most comprehensive one existing. It has been shown that the folk concept of the sense of humor only covers two of the dimensions, namely socially warm vs. cold and competent vs. inept. Craik and Ware[41] recommend the HBQD for studying the everyday humorous conduct of persons in three levels: (1) at the individual level of descriptive statements, by analyzing its 100 items separately; (2) at the overall pattern level, by incorrelating individual or composite HBQD descriptions; and (3) at the stylistic level, by calculating factor scores for the individual HBQD statements.

Given the nature of the concepts a strong positive correlation is expected between the socially warm vs. cold humor style and the three humor traits (but also the HUMOR and the Sense of Humor Scale by McGhee[42]). No hypotheses regarding the other styles were put forward. As the HBQD has never been used in its German version before an analysis of the scale including the correlations between self- and peer will be undertaken.

5.1.1. **Method**

Subjects and procedure

The sample included 105 paid German adults (49 men and 56 women) from 19 to 65 years of age ($M = 37.2$; $SD = 11.4$). They were very heterogeneous with respect to several sociodemographic variables and filled in the questionnaires at home. They were instructed to find one peer that is willing to describe them in the HBQD.

[39] B. Manke, *op. cit.*

[40] K. Craik, M. D. Lampert, & A. Nelson, *op. cit*.

[41] K. H. Craik, & A. P. Ware, *Humor and Personality in Everyday Life*, in: *** *The sense of humor*, W. Ruch (ed.), Berlin: Mouton de Gruyter, 2007, p. 63–94.

[42] P. E. McGhee, *op. cit*.

Instruments

STCI-T. The long form of the trait part of the *State-Trait-Cheerfulness-Inventory* (STCI-T[43]) is a 106-item questionnaire in a 4-point answer format providing scores for the three traits of *Cheerfulness* (STCI-T CH; 38 items), *Seriousness* (STCI-T SE; 37 items), and *Bad Mood* (STCI-T BM; 31 items) and their 5, 6, and 5 definitional components, respectively.

A variant of the *Humor Use in Multiple Ongoing Relationships* measure (HUMOR[44]) with 13 items was used. Subjects are asked to indicate how often they engage in each of the humor behaviors on a 5-point Likert scale (1 = never, 5 = always). Item scores were summed to form a total score, which yielded an alpha of .77.

The *Humorous Behavior Q-sort Deck*[45] is a Q-sort technique consisting of one hundred descriptive statements describing specific forms of everyday humorous conduct. The respondent (or an observer) sorts those statements into piles from one to nine, with one being the least, five being neutral, and nine being most characteristic of the person being assessed with the following specified distribution: 5, 8, 12, 16, 18, 16, 12, 8, 5. A German translation by Ruch and Esser was used. Five total scores were computed by adding the statements assigned to one factor.

The *sense of humor scale* (SHS[46]) in a German translation by the first author is a rationally developed scale with 40 items in a four-point answer format (1 = strongly disagree; 4 = strongly agree) that is aimed at measuring the sense of humor and its eight components: enjoyment of humor, seriousness and negative mood, playfulness and positive mood, verbal humor, laughter, finding humor in everyday life, laughing at yourself, and humor under stress.

5.1.2. **Results and discussion**

The instruments were correlated with sociodemographic variables first. Age correlated positively with trait seriousness ($r = .19$, $p < .05$) and negatively with the HUMOR ($r = -.35$, $p < .001$), and none of the humor styles were correlated with age. Males scored higher in competent (self: $r = -.34$; $p < .001$; peer: $r = -.25$; $p < .05$) and earthy (self: $r = -.38$; $p < .001$; peer: $r = -.22$; $p < .05$) humorous styles and female were higher in bad mood ($r = .20$, $p < .05$). Living alone went along with practicing an earthy humor (self- and peer-evaluation; $p < .001$) style. Next, the 13 items of the HUMOR and its total score were correlated with cheerfulness, seriousness and bad mood (*Table* 2).

[43] W. Ruch, G. Köhler, & C. van Thriel, *Assessing the "Humorous Temperament": Construction of the Facet and Standard Trait Forms of the State-Trait-Cheerfulness-Inventory – STCI*, …

[44] B. Manke, *op. cit.*

[45] K. Craik, M. D. Lampert, & A. Nelson, *Sense of Humor and Styles of Everyday Humorous Conduct*, …

[46] P. E. McGhee, *op. cit*.

Table 2

Correlations between trait cheerfulness, seriousness and bad mood and the HUMOR[47]

Items		CH	SE	BM
Nr	**Name**			
1	I tell memorized jokes that I have heard from other peoples	.19	-.18	-.12
2	I tell funny stories about things that have happened to other people.	.26**	-.37***	-.03
3	I tell funny stories about things that have happened to me.	.39***	-.44***	-.12
4	I joke around by pushing and shoving.	.22*	-.36***	-.06
5	I play practical jokes	.39***	-.37***	-.17
6	I laugh about upsetting things that have happened to me.	.22*	-.37***	.01
7	I make fun of other people.	.09	-.20*	.00
8	I laugh and joke as a way to avoid talking about something that is bothering me.	.02	-.12	.11
9	I joke around by teasing.	.32***	-.33***	.08
10	I act goofy and silly.	.30**	-.35***	.06
11	I laugh at TV or radio programs that I think are funny.	.29**	-.18	.03
12	I imitate the behavior of others.	.17	-.17	-.05
13	I make jokes and laugh when I feel the situation is getting too serious	.24*	-.22*	-.06
Total	Total score in humor in relationships	.45***	-.54***	-.05

Overall, *Table 2* confirms that humor behavior is related to both high cheerfulness and low seriousness while bad mood is not predictive at all. The HUMOR total score correlated highly with trait seriousness (r = -.54) and with cheerfulness (r = .45). Some items correlated more highly with trait cheerfulness ("I laugh at TV or radio programs that I think are funny; I play practical jokes") but more individual items were primarily low seriousness ("I laugh about upsetting things that have happened to me." "I joke around by pushing and shoving").

To see which of the 16 facets of the STCI-T were involved in the prediction of the HUMOR total score (as the criterion variable) and how much variance is accounted for, a step-wise regression analysis was undertaken. Four facets entered the equation and yielded a multiple regression coefficient of .70 which was highly significant, $F(4, 104) = 24.207$; $p < .0001$. CH5 ("cheerful interaction style"; β = .485) entered the equation first, followed by SE5 ("preference for a sober, object-oriented communication style"; β = -.308), CH4 ("broad range of elicitors of smiling and laughter"; β = .330) and CH1 ("prevalent cheerful mood"; β = -.244). Thus, while *all* facets of cheerfulness and seriousness were predictive in the zero-order correlations, those entered the equation that related primarily to interaction

[47] *Note.* N = 105. CH = trait cheerfulness scale of the STCI-T <60>; SE = trait seriousness, BM = trait bad mood. *p < .05; **p < .01; ***p < .001.

styles. It should be noted that individual facets significantly predicted the HUMOR items that were not significantly correlated to the STCI-T total scores in *Table 2*.

The HBQD data were analyzed next. The five bipolar dimensions were intercorrelated for the self- and peer-data separately (*Table 3*) and their convergence was determined at the level of raw (*Table 4*) and aggregated data (*Table 5*).

Table 3

Intercorrelations among humor styles of HBQD in the self- (above the diagonal) and peer- (below the diagonal) administration[48]

HBQD styles	HBQD 1	HBQD 2	HBQD 3	HBQD 4	HBQD 5
HBQD 1	1.00	.00	.26**	.15	.27**
HBQD 2	.32**	1.00	.13	-.06	-.04
HBQD 3	.35***	.28**	1.00	.26**	.09
HBQD 4	.01	-.37***	.20*	1.00	-.36***
HBQD 5	.14	.41***	.19	-.50***	1.00

Table 3 shows that in the self-evaluation most of the intercorrelations among the dimensions were non-significant. However, the socially warm style was also correlated with competent and benign. Furthermore, earthy vs. repressed tended to correlate negatively with benign (vs. mean-spirited) and positively with competent. In the peer-evaluation the reflective (vs. boorish) style also tended to go along with socially warm, competent, repressed and benign. While socially warm did not correlate with benign, the negative correlation between benign vs. mean-spirited and earthy vs. repressed was much higher than in the self-data.

Table 4

Distribution of coefficients of correlations between self- and peer administration of the HBQD for items and persons

from (≥)	to (<)	n of items	%	n of people	%
-.20	-.10	0	0.0	2	2.0
-.10	.00	8	8.0	1	1.0
.00	.10	15	15.0	5	5.1
.10	.20	33	33.0	6	6.1
.20	.30	24	24.0	8	8.2
.30	.40	17	17.0	24	24.5
.40	.50	3	3.0	19	18.4
.50	.60	0	0.0	21	21.4
.60	.80	0	0.0	12	12.5
Sum		100	100.0	98	100.0

[48] *Note*. $N = 101 – 102$; HBQD 1 = Socially Warm vs. Socially Cold; HBQD 2 = Reflective vs Boorish; HBQD 3 = Competent vs. Inept; HBQD 4 = Earthy vs. Repressed; HBQD 5 = Benign vs. Mean-Spirited Humor Style. *$p < .05$; **$p < .01$; ***$p < .001$

Table 4 shows that about 40% of the individual statements yielded significant correlations, and about 20% of them were substantial. Overall, the coefficients ranged from -.02 to .48 with a mean of .22. The items with the highest level of agreement were: I52 ("Responds with a quick, but short-lived smile"; r = .48; p < .001), I99 ("Enjoys exchanging topical jokes and keeps up to date on them"; r = .45; p < .001), and I51 ("Fails to see the point of jokes"; r = .42; $p \leq .001$). The lowest correspondence was found for: I94 ("Uses wit to keep people at a distance"; r = -.07, *ns*), I55 ("Has a suggestive, insinuating laugh"; r = -.05; ns), and I94 („Uses humor to gain the affection and approval of others; r = -.05, *ns*); i.e., all items were open to interpretation depending on the perspective of the referee.

Likewise, the correspondence between self- and peer-evaluation was determined for each participant by computing the correlations across the 100 items. The coefficients were between -.12 and .73 with a mean of .41. About 85% of the participants yielded a significant correlation but most of the participants (74.%) were between .30 and .60.

The correlation between self- and peer-administration was quite high when correlated across the means of the 100 items, r = .94, p < .001. Also the means correlated well with the rated social desirability of the items (self: r = .67, p < .001; peer: r = .68, p < .001). Thus, the correlations between self- and peer-evaluation were low at the level of raw data but not when using aggregated data. When aggregated to styles of humor one should expect a higher correlation than found for the average item (see *Table 5*).

Table 5

Intercorrelations among the self- and peer-rated humor styles[49]

HBQD styles	Self-administration				
	HBQD 1	**HBQD 2**	**HBQD 3**	**HBQD 4**	**HBQD 5**
Peer administration					
HBQD 1	.35***	.13	.12	.12	.09
HBQD 2	-.07	.20#	-.02	-.11	-.06
HBQD 3	.13	.15	.45***	.14	.09
HBQD 4	.16	-.01	.22*	.58***	-.10
HBQD 5	-.11	.10	-.08	-.45***	.28**

Table 5 shows that the five bipolar dimensions of humor styles converged to some extent. The average self-peer correlation for the styles (r = .37) clearly exceeded the one for the average item (r = .19). Moreover, the convergent validity coefficients tended to be the highest in the respective column. Still, two anomalies should be noted. First, the convergence turned out to be very low for reflective vs. boorish (and only significant in the one-tailed test) and low for benign vs. mean-

[49] *Note*. N = 98. For abbreviations see *Table 3*. #p < .05 (one-tailed); *p < .05; **p < .01; ***p < .001.

spirited. Furthermore, while the peer evaluation in benign vs. mean-spirited humor style correlated with the self-evaluation, it correlated more highly so with the self-evaluation of earthy vs. repressed. Thus, self-acclaimed mean-spirited humor styles tended to be seen as "earthy" by the peers, and a benign style was additionally and primarily perceived as "repressed".

Next, the STCI-T scales and the HUMOR were correlated with the self- and peer-assessed humor styles. A measure of the sense of humor (SHS; McGhee, 1996) was added as well to see whether or not the HBQD styles might be predicted by the sense of humor. The results are given in *Table 6*.

Table 6

Correlations between the self- and peer-rated humor styles and humor measures[50]

HBQD styles	**CH**	**SE**	**BM**	**HUMOR**	**SHS**
HBQD 1: Self	.56***	-.45***	-.35***	.45***	.57***
HBQD 1: Peer	.26**	-.34***	-.20*	.31**	.36***
HBQD 2: Self	-.04	.03	-.04	.06	.05
HBQD 2: Peer	-.05	-.06	.05	.16	.06
HBQD 3: Self	.13	-.10	-.22*	.16	.23*
HBQD 3: Peer	.08	-.14	.01	.13	.18
HBQD 4: Self	.14	-.24*	-.07	.26**	.21*
HBQD 4: Peer	.16	-.04	-.10	.14	.16
HBQD 5: Self	.18	-.03	-.15	.04	.10
HBQD 5: Peer	-.09	.00	.16	-.05	-.11

Table 6 shows that the humor scales were predictive of both self- and peer-assessed socially warm humor. Socially warm humor was typical for individuals scoring high in cheerfulness, the HUMOR and the sense of humor scales. Furthermore, they were low in trait seriousness and bad mood. Thus, all three elements of the humorous temperament predicted the socially warm style. The peer-evaluated style generally yielded lower correlations but trait seriousness seemed to lose least of its predictiveness compared to the others. Of the peer-evaluated styles only socially warm vs. cold was predicted by the humor questionnaires.

The STCI-T dimensions did not predict individual differences in the reflective vs. boorish and benign vs. mean-spirited humor styles. Likewise, neither the HUMOR nor the SHS did; these styles seemed to be specific for the HBDQ. The competent humor style seemed to go along with low trait bad mood and high scores in the SHS. The earthy side of the earthy vs. repressed humor style was associated with high scores in the HUMOR, the SHS and with low trait seriousness. Thus, the HBQD's claim to "… give a comprehensive portrait of a person's style of humor"[51] is warranted. It is the humor instrument with the broadest

[50] *Note*. $N = 101 – 102$; For abbreviations see *Tables 2* and *3*. *$p < .05$; **$p < .01$; ***$p < .001$.
[51] K. Craik, M. D. Lampert, & A. Nelson, *op. cit*., p. 276.

bandwidth. All in all, one can conclude that the three constructs forming the "humorous temperament" were predictive of important humor behaviors. They form an alternative to the use of the sense of humor, which remains an elusive concept.

The HBQD utilizes an ipsative answer format. A Q-Sort only allows people to differ in their profile, not their *general level* of humor. The average score of every person is equal, namely 5. As the five scales have a different number of items this might lead to some bias, as a higher score in one factor with many items suppresses the score in the other factors. Perhaps a different pattern emerges if those 100 statements are directly rated rather than used in a Q-Sort. Thus, for *Study II* a rating form of the HBQD will be employed. Furthermore, *Study II* will expand the list of humor questionnaires studied.

5.2. STUDY II

Martin et al.[52] adopted a combined rational and empirical approach in their search for potentially adaptive and maladaptive styles of humor. Their instrument, the *Humor Styles Questionnaire* (HSQ) measures four distinct dimensions of humor, namely affiliative, self-enhancing, aggressive, and self-defeating humor. The concept of *affiliative* humor refers to the tendency to joke around with others, say witty things, tell amusing stories, laugh with others, and amuse others. In this sense it strongly resembles facet CH5 (a generally cheerful interaction style) of trait cheerfulness. The *self-enhancing* humor scale contains items relating to perspective-taking humor, the tendency to maintain a humorous outlook on life, and the use of humor in emotion regulation and coping and thus also overlaps with facet CH3 (a composed view of adverse life circumstances) of trait cheerfulness. The items from the *aggressive* humor scale relate to sarcasm, teasing, use of humor to criticize or manipulate others, and compulsive expressions of humor without regard for the effects on others. The playful expression of aggression indicates a negative correlation with trait seriousness. Finally, s*elf-defeating* humor comprises tendencies to use humor in an excessively self-disparaging and ingratiating way, to allow oneself to be the butt of others' jokes, and to use humor as a form of defensive denial to hide underlying negative feelings.

Study II used both the rating form of the HBQD and the HSQ as criteria for validating the STCI-T dimensions. Again, it examined whether the traits forming the humorous temperaments predict humor scales. A comparison with the results of Study I gave an estimate of the impact of the answering format (ipsative vs. direct rating).

5.2.1. **Method**

Subjects and procedure

This sample included 167 German adults (58 men and 111 women) from 20 to 93 years of age (M = 45.12, SD = 13.38). They were heterogeneous with respect

[52] R. A. Martin, P. Puhlik-Doris, G. Larsen, J. Gray, & K. Weir, *op. cit*.

to socio-demographic variables. The sample was recruited via advertisements in newspapers and participants were mailed the questionnaires to complete at home in solitude. They received feedback on group and individual results to honor their participation.

Instruments

The standard trait form STCI-T<60>[53] contains 60 items in a four-point answer format from 1 = "strongly disagree" to 4 = "strongly agree" measuring *cheerfulness*, *seriousness*, and *bad mood* as habitual traits.

The *HBQ Rating Form* (i.e., rating form containing the items of the *Humorous Behavior Q-Sort Deck—HBQD*[54]) consists of 100 statements in a seven-point answer format ("1 = least characteristic", "7 = most characteristic") describing humor-related behaviors or behavior tendencies. The statements were aggregated to five bipolar styles of humorous conduct, namely *socially warm vs. cold*, *reflective vs. boorish*, *competent vs. inept*, *earthy vs. repressed*, and *benign vs. mean-spirited* by summing the relevant items.

The *Humor Styles Questionnaire* (*HSQ*[55]) is a self-report questionnaire with 32 items in a seven-point answer format ("totally agree" = 7; "totally disagree" = 1) measuring four unipolar styles of humor, namely *affiliative*, *self-enhancing*, *aggressive*, and *self-defeating* humor.

5.2.2. **Results**

Age correlated positively with trait seriousness ($r = .36$; $p < .001$) and with benign humor style ($r = .21$; $p < .01$) of the HBQD and negatively with the affiliative ($r = -.26$; $p < .01$) and aggressive ($r = -.19$; $p < .05$) styles of the HSQ. There were no gender differences. Zero order correlations between the HBQD and the HSQ were computed to study their hitherto unknown relationship (see *Table 7*). Furthermore, zero order as well as multiple correlations between the three STCI-T scales (as predictors) and the scales of the HBQD and the HSQ (as criteria) were computed. The results are displayed in *Table 7*.

Table 7 shows that the two positive styles had a similar pattern in their correlations with the HBQD and so did the negative two. In detail, affiliative humor style in the HSQ correlated well with the HBQD socially warm, competent and earthy styles. Self-enhancing additionally correlated with reflective humor. Aggressive humor was mostly correlated with the mean spirited and earthy styles and also had a smaller correlation with reflective. Self-defeating was only correlated with the mean spirited and earthy humor styles. While the correlation between reflective and self-enhancing is plausible, it is surprising to see that reflective was related to aggressive as well. Finally, earthy vs. repressed correlated positively with all HSQ scales (be they positive or negative). Reflective vs. boorish

[53] W. Ruch, G. Köhler, & C. van Thriel, *op. cit*.
[54] K. Craik, M. D. Lampert, & A. Nelson, *op. cit*.
[55] R. A. Martin, P. Puhlik-Doris, G. Larsen, J. Gray, & K. Weir, *op. cit*.

is the style least well represented in the HSQ. All in all it is clear that the two instruments measuring styles of humor overlap without being identical. Therefore we expected that the STCI-T overlaps with both instruments.

Table 7

Correlation between the humor styles of the HBQD and the HSQ[56]

	HSQ scales			
HBQD rating form	Affiliative	Self-enhancing	Aggressive	Self-defeating
Socially warm vs. cold	.73***	.46***	.05	.09
Reflective vs. boorish	.09	.21**	.21**	.14
Competent vs. inept	.41***	.22**	.12	-.03
Earthy vs. repressed	.32***	.36***	.37***	.23***
Benign vs. mean spirited	.02	-.01	-.40***	-.22**

Table 8

Correlation between the STCI-T and the humor styles of the HBQD and the HSQ[57]

Humor styles measures	**CH**	**SE**	**BM**	**R**
HBQD[58] rating form				
HBQD (Craik et al., 1996) rating form				
F1: socially warm vs. socially cold	.70***	-.35***	-.56***	.71***
F2: reflective vs. boorish	-.01	-.07	.09	.16
F3: competent vs. inept	.24**	-.06	-.24**	.27**
F4: earthy vs. repressed	.26***	-.15*	-.16*	.26**
F5: benign vs. mean spirited	.10	.10	-.21**	.31**
HSQ (Martin et al., 2003)				

[56] *Note*. $N = 163 – 164$. $^{**}p < .01$; $^{***}p < .001$.

[57] *Note*. $N = 165 – 169$. CH = trait cheerfulness scale of the STCI-T <60>; SE = trait seriousness, BM = Trait bad mood; R = multiple correlation. $^{*}p < .05$; $^{**}p < .01$; $^{***}p < .001$.

[58] K. Craik, M. D. Lampert, & A. Nelson, *op. cit*.

Humor styles measures	CH	SE	BM	R
Affiliative humor	.69***	-.45***	-.50***	.71***
Self-enhancing humor	.58***	-.24**	-.36***	.59***
Aggressive humor	.07	-.34***	-.01	.38***
Self-defeating humor	.16*	-.12	.13	.38***

Table 8 shows that trait cheerfulness is a very potent predictor of the socially warm vs. socially cold humor style. Additionally, the rating form did allow for positive correlations with the competent and earthy styles that failed to be significant before. Furthermore, trait cheerfulness is the major predictor of affiliative and self-enhancing humor. Of the facets it is indeed CH5 (a generally cheerful interaction style) that correlates almost interchangeably with social humor, $\underline{r} = .80$, $p < .001$, and both CH3 (a composed view of adverse life circumstances, $\beta = .24$) and CH4 (elicitors of cheerfulness and smiling and laughter, $\beta = .44$) predict self-enhancing humor in a step-wise regression analysis, $R = .65$, $F(2,165) = 55.667$, $p<.001$. Trait seriousness was again related to socially cold and repressed humor styles, and low seriousness was involved in affiliative, self-enhancing and aggressive humor. Trait bad mood was again a potent predictor of the socially cold and inept humor styles. Additionally, bad mood was negatively correlated with benign, earthy, affiliative and self-enhancing humor styles.

The multiple correlations showed that the three dimensions in the humorous temperament together predict up to 50% of the variance of a humor scale. Also, some suppressor variables were made salient; while the zero order correlations with self-defeating humor were low, the multiple regression showed that high scores seem to go along with high scores in both trait cheerfulness ($\beta = .32$) *and* bad mood ($\beta = .35$, both $p < .001$), and a tendency to be low in trait seriousness ($\beta = -.16$; $p < .06$) shedding some light on the underlying dynamics of self-defeating humor. Likewise, next to low trait seriousness ($\beta = -.42$; $p < .001$) also trait bad mood ($\beta = .20$, $p < .05$) was involved in the prediction of aggressive humor, suggesting that the playful grumpy/sad people show hostile humor. Finally, while trait seriousness had no zero order correlations with the benign vs. mean spirited humor style, it was predictive ($\beta = .25$; $p < .01$) of benign humor when combined with trait bad mood ($\beta = -.35$; $p < .001$).

5.2.3. **Discussion**

The study clearly shows that the STCI-T traits predict the contents of the two humor styles instruments, the HSQ and the HBQD. Trait cheerfulness again proved to be the main predictor of socially warm humor but also of the affiliative and self-enhancing humor styles. Thus, it forms the temperamental basis of what is typically

called sense of humor (i.e., benevolent and social form of humor). Earthy and aggressive humor styles seem to be an expression of low seriousness. Maybe it is the playful frame of mind that allows one to play with taboo topics or with (mock) hostility. Bad mood is predictive of inept and mean-spirited humor styles but the correlations are low. Finally, the STCI-T does not predict boorish vs. reflective humor, which is the style with a low alpha[59]. Also, self-defeating humor (combining cheerfulness *and* bad mood) is not well predicted at all.

The correlations with the HBQD-rating form seem to be higher than the ones found for the Q-Sort format. This is due to the unrestrained answering, as now individuals can be high in both trait cheerfulness and socially warm humor. However, this might also be due to answer distortions like social desirability. The question was put forward whether the HBQD mixes styles with ability as the competent style also refers to performing well in humor[60]. Abilities are better assessed by a humor test, and not a questionnaire. Competent humor style did not correlate well with a performance test of humor (i.e., the production of funny punch lines to caption removed cartoons). Thus, the number and nature of factors underlying humor are still not clear but the HBQD is a good approximation for this.

5.3. ROMANIAN REPLICATION[61]

To obtain some validity information the same 199 participants filling in the state and trait forms of the STCI were also administered Romanian translations of the HUMOR[62] and the satisfaction with life scale[63]. Both have a good Cronbach alpha (HUMOR: .85; SWLS: .87) in the present sample. The latter was used to see how humor predicts satisfaction with life in Romania. The results show that trait cheerfulness was the best predictor of the HUMOR (r = .43, p < .001), but low seriousness (r = -.15, p < .01) and low bad mood (r = -.16, p < .05) were predictive as well. However, for the subgroup of people older than 35 years seriousness and cheerfulness were equally predictive. Trait cheerfulness (r = .43, p < .001) and bad mood (r = -.38; p < .001) were the best predictors of life satisfaction, followed by the HUMOR (r = .21, p < .01). Trait seriousness was not predictive (r = .01, *ns*). A stepwise regression analysis with the six scales from the STCI-T and STCI-S and the HUMOR as predictors and the SWLS as a criterion yields a multiple correlation of .51, $F(2,188) = 38.387$, $p < .001$, with state cheerfulness (β = .32) and trait bad mood (β = -.28) as significant predictors entering the equation.

[59] W. Ruch, *Amusement*, in: *** *The Oxford Companion to the Affective Sciences*, D. Sander, & K. Scherer (eds), New York/Oxford: Oxford University Press, 2009, p. 27–28.

[60] W. Ruch, *Humor*, in: *** *Character Strengths and Virtues: A Handbook and Classification*, C. P. Peterson, & M. E. P. Seligman (eds.), Oxford, UK: Oxford University Press, 2004, p. 583–598.

[61] *Acknowledgements*. The help of Drs. Mariana Neagu, Carmen Popescu, Gelu Todea and Cristian Vasile in the recruitment of participants is gratefully acknowledged.

[62] B. Manke, *op. cit*.

[63] E. Diener, R. A. Emmons, R. J. Larsen, & S. Griffin, S., *The Satisfaction With Life Scale*, "Journal of Personality Assessment", 1985, 49, 71–75.

5.4. GENERAL DISCUSSION

Taken together the results of these studies show that the concepts that make up the humorous temperament do predict humor behaviors (without being richly satiated with humor content themselves) or aggregated humor styles without explaining all of humor. In particular the major dimension involved in humor (i.e., the sense of humor, socially warm/affiliative humor styles, self-enhancing humor) can be well predicted by trait cheerfulness. Individual differences in trait cheerfulness are related to an emotional system (amusement, or exhilaration) for which neurophysiological correlates were found[64]. This dimension predicts the frequency and intensity of Duchenne displays, i.e., the expression of enjoyment[65] and the laughter that people share that get along well. Also in prior studies trait cheerfulness was closely associated with the major factor extracted from humor instruments and (low) seriousness accounted for the minor second factor. Bad mood was predictive of the other forms of humorlessness; i.e., the emotional one that also predicts the fear of being laughed at[66]. The traits collected in the STCI cannot predict more special and rare forms of humor. However, one needs to discuss whether moral, cognitive or motivational influences on humor (as in repressed, benign, or mean-spirited humor styles) represent genuine variance in humor or merely the overlap between humor and other fundamental variables. It will be crucial to see whether the humor involved in such styles follows different mechanisms (e.g., incongruity, resolution of incongruity, relief of tension) as those in the other styles. Nevertheless, it goes without saying that the STCI was not meant to be a comprehensive system of describing humor behaviors at the surface but to cover the underlying dimensions. As such they are also expected to predict behaviors outside of humor. As the Romanian version of the STCI has good psychometric qualities it may be used for research on humor but also other phenomena, such as the prediction of inter- and intraindividual differences in affect and mental attitudes.

[64] A. M. Rapp, B. Wild, M. Erb, F.A. Rodden, W. Ruch, & W. Grodd, *Trait Cheerfulness Modulates BOLD-response in Lateral Cortical but Not Limbic Brain Areas*, a pilot fMRI study, "Neuroscience Letters", 2008, 445, 242–245.

[65] W. Ruch & P. Ekman, *The expressive pattern of laughter,* in *Emotion, qualia and consciousness*, A. Kaszniak (ed.), Tokyo, Word Scientific Publisher, 2001, p. 426–443.

[66] W. Ruch, U. Beermann, & R. T. Proyer, *op. cit*.