The measurement of state and trait cheerfulness

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Cheerfulness as a temperamental trait received theoretical and experimental attention by both German and American personality psychologists already at the beginning of this century. For example, Meumann (1913) considered cheerfulness as one of 12 basic temperaments (along with seriousness, grumpiness, but also the four classic Greek temperaments) and described them with the help of the two dimensions of pleasure-displeasure (separating cheerful from serious and grumpy) and shallow-profound nature (separating grumpy from cheerful and serious). Morgan, Mull, and Washburn (1919) demonstrated that cheerful people recall more pleasant terms (and less unpleasant ones) than depressed persons, who showed the opposite pattern. Later, however, Young (1937a, 1937b) concluded that a bipolar dimension of cheerfulness-depression is not tenable.

More recently, the interest in a concept of cheerfulness as both a state and a trait arose again in the context of experimental research into smiling and laughter. The behavioral, physiological, and experiential responses to stimuli, such as humor, tickling, and laughing gas, were conceptualized in terms of an emotion construct labeled exhilaration (Ruch, 1993). It was proposed that the term exhilaration be used according to its Latin root (hilaris = cheerful) to denote either the process of making cheerful or the temporary rising and fading out of a cheerful state (Ruch, 1993). The outline of the concept included the exhilarants (i.e., the stimuli and situations capable of inducing exhilaration), the social and physical conditions of the situation, as well as actual and habitual organismic factors facilitating or inhibiting the release of exhilaration. Within this framework, cheerfulness as a mood state and cheerfulness as a personality trait were both assigned prominent roles. Both should serve for controlling (i.e., predicting or explaining) individual differences in exhilaratability. Cheerful mood was seen to be the very state that facilitates the induction of exhilaration (Ruch, 1990; in press). It was claimed that a concept of cheerfulness as an enduring disposition is also necessary, since individuals differ habitually in the frequency, intensity, and duration of cheerful mood states as well as in the ease with which exhilaration is induced (Ruch, 1993). While cheerfulness as a state and a trait facilitates the induction of exhilaration, it was argued that antagonistic factors have to be considered as well, i.e., states and traits that impair the induction of smiling and laughter (Ruch, 1990). A serious frame of mind and a prevalent bad mood were considered to be such factors.

CHEERFULNESS, SERIOUSNESS, AND BAD MOOD AS STATES AND TRAITS

Consequently, a state-trait model of "exhilaratability" (i.e., the disposition for laughter and exhilaration) was developed which incorporates the three concepts of cheerfulness, seriousness, and bad mood as both states and traits (Ruch, 1995; Ruch, Köhler, & van Thriel, 1996). The relationships among the three concepts as well as between states and traits were outlined and tested, and some basic postulates were formulated.

While the formal definition of the three concepts is that they represent actual (state) and habitual (trait) dispositions for lowered (cheerful) and enhanced (seriousness, bad mood) thresholds for the induction of exhilaration and laughter, the study of several sources allowed to outline a facet model for the three trait concepts. The hypothesized facet structure was put to an empirical test (utilizing the German long version in self- and peer-evaluation as well as the English pilot long version) and appeared to be highly generalizable across the samples (Ruch et al., 1996). Likewise, the three state concepts could be extracted from intercorrelations of the state items considering both interindividual and intraindividual variation (Ruch, Köhler, & van Thriel, 1997). Subcomponents of the three states were derived based on identification of clusters in the three-dimensional space with the help of cluster analysis and consideration of item content. While the clusters separated for the two affective states were located very proximate to each other in the factorial space, they functioned differently in several studies. Thus, it was decided to keep them as subscales. Joint factor analyses of the items of the state and trait standard forms yielded six factors representing the three concepts as both states and traits with the homologous factors positively correlated.

State cheerfulness represents an affective state of enhanced preparedness to respond to an appropriate stimulus with smiling and laughter. It was designed to represent the segment of positive affectivity presumably related to exhilaratability. Empirical analysis suggested to distinguish two components of state cheerfulness: a more shallow and outwardly directed hilarity (which merges felt actions tendencies, such as being ready to laugh or to have some fun with states of feeling merry and chipper) is separated from those items reflecting a more calm and composed cheerful mood. This separation parallels the phenomenological distinctions of cheerfulness and hilarity/merriment drawn by Lersch (1962). Trait cheerfulness is an affective trait, or temperament, presumably representing a habitually lowered threshold for the induction of exhilaration and laughter. The five definitional components distinguished are 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).

State seriousness is understood as a quality of the frame of mind; i.e., an actual mental attitude, presumably inhibiting the induction of exhilaration and laughter. State seriousness denotes the readiness to perceive, act, or

communicate seriously. In a state of high seriousness the individual is attentive, perhaps immersed in deep thought, involved in something perceived as really important (as distinguished from something frivolous), applies a sober or objective perspective or style, is earnest in purpose, and not mentally set for levity or amusement. Three clusters of <u>earnestness</u>, <u>pensiveness</u>, and <u>soberness</u> appeared to be identifiable in the empirical analysis, however, the low number of items did not allow a definite interpretation. Their more scattered location in the three-dimensional space suggested that state seriousness is a more heterogeneous construct. <u>Trait seriousness</u> as a habitual quality of the frame of mind/view of and attitude toward the world 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, <u>state bad mood</u> is an affective construct fusing the two elements of sadness/melancholy and ill-humouredness. Both were seen as important facets of exhilaratability, because their presence might impair or inhibit the generation of positive affect, albeit for different reasons. While an ill-humored person (like the serious person) may not <u>want</u> to be involved in humor and cheerful interaction, the person in a sad mood may not be <u>able</u> to do so even if he or she would like to be. Also, while the sad, gloomy, or downhearted person is not antagonistic to a cheerful group, the ill-humored, sullen, crabby, or cross one may be. While the item pool studied related to these two qualities, associated action tendencies, and to general bad mood (which should provide a link between them), the two definitional components of sadness/melancholy and ill-humouredness came out quite clearly with the few general bad mood items merging with the latter cluster. <u>Trait bad mood</u> is basically composed of the predominance of three mood states and their respective behaviors. These components are 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 specifically related to the sad (BM3) and ill-humored (BM5) individual's prototypical behavior in cheerfulness evoking situations.

THE STATE-TRAIT-CHEERFULNESS-INVENTORY (STCI)

Aim of the State-Trait-Cheerfulness-Inventory (STCI) is to provide a reliable, valid, and economic assessment of the three humor-related constructs of <u>cheerfulness</u>, <u>seriousness</u>, and <u>bad mood</u> both as <u>states</u> (STCI-S) and <u>traits</u> (STCI-T). Pursuing a rational-theoretical construction strategy, the formulation of items was strictly guided by the predefined facet contents. Based on the data of about 1,100 German subjects (splitted up into a construction and various replication samples) a <u>component (or long) trait form</u> with 106 items (STCI-T<106>) and a <u>standard trait form</u> with 60 items (STCI-T<60>) were constructed recently (Ruch et al., 1996). The long form

provides a valid assessment of the facets (or definitional components) of the constructs, thereby allowing a more specific testing of hypotheses related to the facets rather than the global constructs.

The <u>standard state form</u> (STCI-S<30>) containing 10 items per scale is aimed at providing an assessment of the three states, but also allows to score the clusters. The items of the state scale were selected on the basis of item and factor analysis, but also their sensitivity to changes in prototypical cheerful, serious, or sad/sullen situations was considered. The construction was based on about 1,000 subjects who partly filled in the scale several times (Ruch et al., 1997).

An international pilot version (STCI-T<106i>; STCI-S<45i>; Ruch, Köhler, Deckers, & Carrell, 1994) was generated and administered to approximately 1,000 American subjects. English standard and short versions were developed for both the trait and state parts.

The psychometric characteristics of the facets and scales turned out to be satisfactory and replicable. Table 1 gives the psychometric characteristics of the standard trait (STCI-T<60>) and state (STCI-S<30>) forms in English and German samples.

Table 1.   Reliability of the German and English versions of the STCI

	$\underline{N_i}$	$\underline{M}$	$\underline{SD}$	Alpha	r_{tt}
<u>German STCI</u>					
trait part (<u>N</u> = 600)					
STCI-T CH	20	61.06	9.60	.93	.84
STCI-T SE	20	48.89	9.69	.88	.86
STCI-T BM	20	39.59	10.95	.94	.77
state part (<u>N</u> = 595)					
STCI-S CH	10	25.75	6.87	.93	.33
STCI-S SE	10	24.28	6.03	.85	.34
STCI-S BM	10	15.20	6.31	.93	.36
<u>English STCI</u>					
trait part (<u>N</u> = 978)					
STCI-T CH	20	64.51	9.70	.93	
STCI-T SE	20	50.25	8.28	.84	
STCI-T BM	20	39.64	11.14	.92	
state part (<u>N</u> = 1357)					
STCI-S CH	10	28.80	6.36	.91	
STCI-S SE	10	26.51	5.01	.79	
STCI-S BM	10	15.22	5.90	.93	

Table 1 confirms that Cronbach alpha is sufficiently high for the state and trait forms of both language versions. Stability of scores over an interval of one month was conducted for the German versions and yielded a high retest reliability for the trait scale, while the low correlations found for the state scale underscore their nature as transient states.

A variety of validation studies were conducted for both forms which are partly published already (Köhler & Ruch, 1996; Ruch, in press; Ruch & Köhler, in press; Ruch et al., 1996, 1997). The present manuscript focuses on basic questions regarding the relationship between states and traits and the examination of potential distal consequences in the field of health.

THE RELATIONSHIP BETWEEN STATES AND TRAITS

There are several postulates associated with the state-trait model of cheerfulness (Ruch, 1995). For example, it was hypothesized that trait cheerfulness moderates 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, 1995).

Furthermore, 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. First support for this hypothesis comes from the joint factor analysis of state and trait items (Ruch et al., 1997). The primary factor solutions of both samples studied confirmed that while homologous states and traits form distinguishable factors they were positively intercorrelated. Moreover, in the submatrices containing the state-trait correlations, the diagonals (i.e., state-trait correlation of homologous factors) yielded the highest coefficients (exceeding the coefficients for non-homologous scales). In order to rule out the alternative interpretation of positive correlations of homologous concepts emerging only due to semantic overlap, the convergence between states and traits was also studied and confirmed utilizing peer-evaluations for the assessment of traits (Ruch et al., 1997).

The present paper presents two further studies examining the state-trait relationships more closely. First, a questionnaire study will investigate various parameters presumably involved in that relationship. Second, an experiment will be conducted focusing on the robustness of mood; i.e., the tendency of trait cheerful individuals to maintain in cheerful mood even under adverse circumstances.

DIMENSIONS OF THE STATE-TRAIT RELATIONSHIP: A RATING STUDY

A questionnaire study was conducted to investigate whether trait cheerful types come into state cheerfulness more easily (threshold in), experience that state more strongly (intensity), and remain in that state longer (duration), even when factors capable of inducing negative affects become active (robustness, or threshold out). While the former three dimensions are common parameters of the relationship between states and traits, the latter needs some explanation. Robustness of mood refers to a tendency to maintain a particular mood longer even in the presence of factors suiting to induce antagonistic mood states. While the threshold in should describe that for the high scorer in a particular trait lower levels of stimulus potency are sufficient to induce the homologous state, robustness (or threshold out) should denote that (compared to the low scorer) higher intensity levels are required to diminish the homologous state and increase non-homologous antagonistic 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") which is therefore expected to be the best predictor among all components of cheerfulness. This dimension allows to discuss the phenomenon of "keeping" or "loosing one's humor" within the framework of the state-trait model of cheerfulness/exhilaratability.

For the purpose of the present study four different forms of the pilot state scale (STCI-S<40>) were generated by modifying the instructions and changing the answer scales of the 40 items. While in the regular state scale participants are asked to what extent statements such as I am ready to have some fun, I am in a serious frame of mind, or I am in a grumpy mood suit to describe their actual feeling state, in the version modified to assess habitual intensity of mood they are asked to rate for each item the typical intensity ("if you are in that state, how intense it is usually": from 1 = very weak to 7 = very strong). For duration ("if this state emerges, how long does it typically last") six categories (seconds, minutes, hours, days, weeks, months) were provided and Ss were asked to choose the suiting category; for further quantification they could enter a number in front of the suiting category (e.g. two hours). The versions for threshold ("how much does it take to bring you into that mood state"; 1 = very hard to 7 = very easy) and robustness ("if you are in that state, how much does it take to bring you out of that state"; 1 = very little to 7 = very much) again used 7-point answer scales. Total scores were derived by summing up the 10 items per scale (applying the scoring key of the standard version).

Subjects were 92 paid students (from 18 to 67 years of age; $\underline{M}$ = 26.6, $\underline{SD}$ = 9.1 years) of the University of Düsseldorf who participated in an extensive questionnaire study. Among other inventories they filled in the component trait form (i.e., the STCI-T<106>). The correlations between the trait form and the modified state forms are presented in Table 2.

Table 2.   Correlations of the STCI-T scales with the intensity, duration, threshold and robustness of a cheerful, serious or bad mood state.

	STCI-T<106>		
	Cheerfulness	Seriousness	Bad Mood
Duration			
Cheerfulness	.56***	-.29**	-.40***
Seriousness	-.33**	.37***	.21*
Bad Mood	-.25*	.13	.37***
Intensity			
Cheerfulness	.50***	-.29**	-.18
Seriousness	-.34***	.40***	.34***
Bad Mood	-.23*	-.03	.40***
Threshold			
Cheerfulness	.60***	-.42***	-.44***
Seriousness	-.52***	.42***	.45***
Bad Mood	-.39***	.13	.68***
Robustness			
Cheerfulness	.48***	-.30**	-.59***
Seriousness	-.31**	.50***	.19
Bad Mood	-.35***	.26*	.35***

Note.   Correlations between homologous scales were italicized.
         * $p<.05$; ** $p<.01$; *** $p<.001$.

Table 2 shows a general convergence of <u>homologous</u> scales (all Ps<.001), that is, the three trait scales correlated <u>positively</u> with the intensity, duration, threshold, and robustness of the state scales labeled equally. While the overall convergence was highest for cheerfulness (average coefficient of .54), seriousness yielded the highest coefficient for robustness and bad mood yielded the highest coefficient for threshold. In other words; the high scorers' tendency to come easily into the homologous mood and to maintain the homologous mood is most pronounced so for trait bad mood and trait seriousness, respectively.

While the off-diagonals (involving <u>non-homologous</u> scales) generally showed the expected direction of relationship among the concepts (cheerfulness correlated negatively with seriousness and with bad mood, the latter being positively correlated themselves), there were also marked deviations from the pattern as found for the regular state and trait scales. For example, trait cheerfulness correlated <u>negatively</u> with all parameters of state seriousness and state bad mood, i.e., it takes much to bring high trait cheerful individuals (compared to the low scorers) into these two states, little to make these states vanish, and the typical intensity and duration of these states is low. However, unlike for the intercorrelations among the regular state and trait scales, the coefficients tended to be higher for state seriousness than for state bad mood; in particular so for the threshold.

While trait bad mood does not predict intensity of state cheerfulness, it is evident that for the high scorer in trait bad mood cheerfulness is a state that

does not last long: he does not get in easily and it takes little to bring him out again. Inspection of the facets of trait bad mood confirmed that these correlations were primarily boosted by the facets that describe melancholic or grumpy behavior in cheerful situations (i.e., facets BM3 and BM5) while the homologous correlations were higher for facets referring to prevalent melancholic and grumpy behaviors and moods (i.e., facets BM1, BM2, and BM4).

Finally, there is an asymmetry in the state-trait predictions for seriousness and bad mood. For trait bad mood individuals states of seriousness are of high intensity and it takes little to come into that state. The converse is not true: trait serious individuals do not experience state bad mood in higher intensity than low trait serious people and they also do not have a lowered threshold for state bad mood.

Because of its theoretical importance the predictive power of cheerful composure (CH3) was compared to the ones of the other facets of <u>trait cheerfulness</u>. As expected, cheerful composure is particularly predictive of a high threshold for ($\underline{r}$ = -.49), and low intensity ($\underline{r}$ = -.28) and duration ($\underline{r}$ = -.31) of state bad mood, and high robustness of state cheerfulness ($\underline{r}$ = .35; df = 90; all at least $\underline{p}$<.01). The analysis of the <u>state facets</u> of the states yielded differences too. While trait cheerfulness correlated more highly with robustness of states of ill humor ($\underline{r}$ = .38) than of sadness ($\underline{r}$ = .27); this pattern was reversed for duration.

Taken together the results of this rating study suggest that the trait cheerful peoples' prevalence of state cheerfulness is facilitated by a disposition to get easily into and the tendency to maintain this mood, and is fostered by enhanced thresholds for the induction of antagonistic states.

TRAIT CHEERFULNESS AND THE ROBUSTNESS OF MOOD: AN UNOBTRUSIVE EXPERIMENT

Experiments are needed to substantiate the hypothesis that trait cheerfulness (and in particular so the facet of cheerful composure) represents a disposition for robustness of prevailing cheerful state. In the study above, participants only stipulated typical characteristics of their mood; none of the mood changes actually took place or were felt. As a next step participants should be confronted with adverse circumstances in an experimental setting and the direction and intensity of changes in mood needs to be assessed.

In the present experiment it was attempted to induce mood changes rather unobtrusively with the help of the physical conditions that make up the atmosphere of rooms. Nothing else varied; the participants were requested to do the same things in all three rooms. Three different rooms were prepared using lucidity, color, size/space, and interior/equipment to form prototypical <u>cheerful</u>, <u>serious</u>, or <u>bad mood</u> atmospheres. It was assumed that the mere but prolonged exposure to rooms of such different quality (supported by tasks aimed at facilitating the reception of that atmosphere) will alter the

participants' mood accordingly. However, it was expected that only individuals low in cheerful composure will change into serious and bad mood states, while the mood states of the high scorer in cheerful composure will be robust; i.e., remain relatively stable.

Methods

Subjects. Subjects were 36 female and 36 male non-psychology students of the University of Düsseldorf. Mean age was 24.78 years ($\underline{SD} = 4.98$, min. = 16, max. = 43 years). They were recruited by means of advertisement and were paid DM 10 for their participation. Participants were randomly assigned to one of the three experimental groups ($\underline{n} = 24$ each).

Procedure—General overview. After being introduced into the (putative) scope of the experiment, participants filled in questionnaires in a room with a neutral atmosphere (room A) for 15 minutes. This should both homogenize the mood level and get them acquainted with the state scale. Afterwards, under the pretext that the intended experimental room is not yet available (the previous subject came late and is not yet done), Ss were escorted to one of the three prepared rooms. There they were kept occupied for approximately one hour with filling in further questionnaires and performing various tasks, some of which were intended to draw their visual attention to the room. Their mood states (STCI-S) were assessed after a short and a long duration of stay, that is, after approximately 20 minutes (of answering personality scales) and after 45 minutes. Before the second mood assessment, participants were instructed to memorize one event of their life (the first that popped into their mind) and to write up the story in much detail. The affective quality of the story was rated later on by three persons independently from each other. During the whole course of the experiment the experimenter only came into the room to give instructions and left immediately afterwards leaving the participants exposed to the room in solitude most of the time.

After the return in room A, participants were informed about the real scope of the experiment, received their payment, and were discharged.

The experimental rooms. A room with an expansion of about 20 m², large windows, and walls painted yellow was used as the basis for creating a cheerful atmosphere utilizing bright colors and light (room B). Additionally, funny posters, balloons, garlands, and colored draperies were placed in the room. Participants were told that it is prepared for a birthday party to take place this very evening. This was the only room lighted by daylight. Room C (a psychophysiology lab) was a small shielded chamber (8 m²) without any windows, gray walls, and poorly lighted. Its serious and scientific outlook was underscored by leaving technical apparatus (computer, TV, and measuring instruments) in the room and having conference posters and plots of results on the walls. Room D (a lab for perception experiments), intended to give a stifling atmosphere, was totally painted black and had an expansion of about 90 m². In one corner of the room stood a small table with a chair in front of it. The area around the table was lighted by one small frosted bulb; the rest of the

room remained dark (due to not functioning ceiling lights). The windows were shielded by black shutters.

A prejudgment of the three rooms by nine persons confirmed that the intended atmosphere was given for each room; rooms B, C, and D were rated highest in cheerful, serious, and sad/ill-humored, respectively. However, for the "serious" room the rating of ill-humor was only slightly lower than the one for serious. Furthermore, in free descriptions both room C and D were depicted as displeasant, uneasy, and ill-humored. Thus, while the prime quality was "serious", room C seemed to have adverse qualities as well. Given the constraints in changing physical qualities of rooms no further attempts to disentangle the two qualities was undertaken. However, a potential adverse quality of the serious room was acknowledged in the design of the planned comparisons.

Instruments. Subjects filled in both parts of the State-Trait-Cheerfulness-Inventory: The state part (STCI-S) is a 30-items questionnaire in a 4-point answer format assessing the mood states of cheerfulness, seriousness, and bad mood (10 items each); the trait part (STCI-T) consists of 106 items assessing the habitual levels of cheerfulness, seriousness, and bad mood, and their definitional components.

Results

After having checked that Ss' mood states were not different after a short stay in the experimental rooms ($F[2,69]$ = .418, .149, and .253 for state cheerfulness, state seriousness, and state bad mood, respectively; all n.s.), 3 x 2 ANOVAS were computed for difference scores of the STCI-S scales (long minus short stay) with room quality as treatment variable and cheerful composure as grouping variable (CH3 high vs. low; Median-split). Planned means comparisons were computed for habitually high vs. low composed individuals separately to test the averaged effects of the adverse rooms C and D against those of room B with the cheerful atmosphere. For the low scorers in cheerful composure, room quality had a significant effect on state cheerfulness and state bad mood ($F[1,66]$ = 4.616, p = .0354, and 5.145, p = .0266, respectively), while state seriousness just failed to be significant ($F[1,66]$ = 3.817, p = .0550). However, there was no such effect for the group of highly composed subjects ($F[1,66]$ = .434, 1.002, and .409, all n.s., for cheerfulness, seriousness, and bad mood, respectively). In fact, individuals low in cheerful composure showed a decrease of cheerfulness (pre-post difference = -3.86 and -2.20) and an increase of bad mood (pre-post difference = 4.43 and 1.50) when being exposed to rooms C and D, that is, to adverse circumstances, while highly composed persons maintained their degree of state cheerfulness (pre-post difference = -.41 and .50) and did not get in a bad mood (pre-post difference = .12 and -.29) in these rooms. While the mean differences were numerically larger for the serious room than for room D, there was no significant difference among the adverse rooms. On the contrary, the analysis of the content of stories yielded that stories written by low composure

individuals tended to be more of bad mood quality (sum of three raters) in room D than in the serious room (F[1,66] = 3.436, p = .0683).

A closer inspection of the state facets yielded that they were differently sensitive for the mood manipulation. Room quality only had an effect on cheerful mood (F[1,66] = 6.234, p = .0150), ill-humor (F[1,66] = 11.032, p = .0015), and sobriety (F[1,66] = 4.620, p = .0353) of the low scorer in cheerful composure. There were no effects on hilarity (F[1,66] = 2.305, n.s.), sadness/melancholy (F[1,66] = .710, n.s.) and the other facets of seriousness.

Grouping participants according to STCI-T CH (rather than the facet) yielded similar effects, but of lower power (p-values of .0773, .0773, and .0451 for state cheerfulness, seriousness, and bad mood, respectively; effect were significant for the state-facets), confirming that the facet of cheerful composure is especially relevant for the phenomenon of robustness of mood under adverse circumstances.

The present results show that the degree of cheerful composure predicts individual differences in mood changes elicited by an unobtrusive induction procedure. Highly composed individuals maintain their cheerful mood and do not get into a bad mood when exposed to displeasant, uneasy circumstances. The mood states of habitually low composed persons are not as robust; the exposure to adverse circumstances significantly decreased their state cheerfulness and increased their bad mood (and their sober frame of mind) within the duration of stay.

TRAIT CHEERFULNESS AND PSYCHOSOMATIC COMPLAINTS

Taken together the results of both studies presented above suggest that trait cheerfulness represents a sort of resilience as regards the induction of negative affect. Trait cheerful individuals tend to remain in a positive mood even when the circumstances get adverse. Higher levels of adversity have not been studied so far, but it is safe to assume that trait cheerful individuals will eventually get grumpy and grouchy when being confronted with highly adverse circumstances.

Starting from the fact that trait cheerfulness relates to both a low threshold for the induction of state cheerfulness and an enhanced threshold for the induction of state bad mood one can speculate about proximal and distal effects. For example, one distal effect of being more resilient to negative events might be the rare occurrence of the health effects of predominant negative affect.

A pilot study investigated the relationship between trait cheerfulness and psychosomatic complaints. A sample of 247 adults answered both forms of an inventory (48 items; four-point answer format) assessing body complaints (Beschwerdenliste; von Zerssen, 1976) together with the STCI-T<106>. It was assumed that high trait cheerful individuals report less complaints than low cheerful individuals do. This effect should be particularly pronounced for the

facet of cheerful composure (STCI-T CH3); i.e., the facet that best predicted remaining cheerful under adverse circumstances. The correlations are given in Table 3.

Table 3.   Correlations between the list of psychosomatic complaints and the facets of cheerfulness

		STCI-T CH facets					STCI-T CH
	N	CH1	CH2	CH3	CH4	CH5	scale
Total	247	-.24***	-.11	-.35***	-.20**	-.15*	-.25***
male	97	-.33***	-.21*	-.39***	-.21*	-.14	-.30**
female	149	-.22**	-.12	-.31***	-.20*	-.20*	-.25**

Note. * p<.05; ** p<.01; *** p<.001

Table 3 shows that low trait cheerful males and females report suffering from psychosomatic complaints more strongly than their high trait cheerful counterparts do. As expected, cheerful composure is most predictive; the coefficients are higher than the ones found for the total scale and for any other facet. Predominance of cheerful mood (facet CH1) is predictive as well, but laughing easily and often (facet CH2) and a generally cheerful interaction style (facet CH5) are not predictive.

The results of this pilot study suggest to pursue the hypotheses of a link between cheerful composure and health further. However, a more complex design (including more variables, such as life stress) and a broader range of data (e.g. peer evaluations, medical data) should be included.

CONCLUSIONS

The present study confirms that homologous traits and states are interconnected in a variety of ways. The traits represent the disposition for the threshold, intensity, duration and "robustness" of states. Moreover, relations between non-homologous states and traits exist as well. The main finding, however, refers to the validation of cheerful composure as a disposition to maintain a cheerful mood even under adverse circumstances. It was confirmed that this facet of trait cheerfulness moderates the affective responses to adverse situations. Further support for this hypothesis comes from a study in which mood changes were induced by having 60 participants explain philanthropic and misanthropic sayings and proverbs. Again, trait cheerful individuals remained their level of state cheerfulness while the low scorer's state cheerfulness was reduced and degree of bad mood increased. Likewise, in a "Gedankenexperiment", in which 35 adults stipulated the most likely mood state of an average person in seven affect-laden scenarios, cheerfully composed individuals estimated the sad and sullen scenarios significantly lower in state bad mood than the low scorers who considered an increase in ill-humouredness as inevitable (Ruch and Köhler, in press). Taken together these studies provide evidence that this facet of trait cheerfulness constitutes a

model for the phenomenon of "remaining" or "loosing one's humor" bypassing the rather dubious quality of the sense of humor.

Further validational studies are required to estimate the utility of state and trait cheerfulness for research in personality, temperament but also other areas such as health or emotion.

ACKNOWLEDGMENTS

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