Laughter and temperament

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Some experiments may fail because the tremendous interindividual differences in the frequency or intensity of smiling and laughter overpower the effects of treatments. A review of studies which used different elicitors of smiling/laughter (*e.g.*, tickling, laughing gas, humor) yielded that typically between 5 and 39 percent of the subjects show *no* facial response at all to the elicitor (Ruch, 1990). Hence, the search for moderator variables seemed to be of high priority, and the temperamental dimension of Extraversion appeared to be the most promising candidate. Indeed, as the target article shows, introverts formed the majority of the nonresponders as regards both smiling and laughter. Moreover, extraverts and introverts differed with respect to the frequency and intensity of enjoyment displays. The study quite clearly showed that obviously the verification of most of the tested hypotheses is contingent on the separation of enjoyment and non-enjoyment displays. Hence, we maintained this separation in further studies on Extraversion and laughter where we also differentiated among different intensities of laughter by including type and length of vocalization and movements of the head and the upper part of the body. From those studies, we have learned that it is also necessary to control for the perceived funniness of the stimuli; extraverts obviously only laugh more than introverts when things are funny, but they do not differ much in facial expressiveness when they considered the presented videotapes not funny but dull.

We have gone three ways since the target study. First, we considered that more narrower temperamental traits might more

powerfully account for individual differences in smiling and laughter than the broad superfactor of Extraversion does. Second, we reckoned that *states* might have an impact as well, and third, we wanted to study concepts (states *and* traits) that might be predictive of enhanced thresholds for the release of smiling and laughter; seriousness and bad mood were considered to be qualities antagonistic to the release of smiling and laughter. This led us to the formulation of a state-trait model of cheerfulness, seriousness, and bad mood (Ruch, 1995), to the construction of the State-Trait-Cheerfulness-Inventory (STCI; Ruch, Köhler, & van Thriel, in press), and to a variety of validity studies. State-cheerfulness indeed was predictive in FACS studies of smiling and laughter induced by humorous slides, funny videotapes, or a psychophysical gag. Subjects in a more cheerful mood showed enjoyment smiles at lower minimal levels of rated funniness than did cheerful subjects in a less cheerful mood. This relationship was more pronounced when subjects were tested in the mere presence of the experimenter or a confederate than when tested in physically alone. The hypothesized negative relations with the antagonistic stated emerged as well. We found state-seriousness to be inversely correlated with successful induction of exhilaration in a weight-judging paradigm; subjects in a less serious frame of mind showed more enjoyment-displays when lifting the incongruous weight than subjects in a more serious frame of mind. In another study, all three concepts were correlated with FACS—coded facial behavior in response to six funny videos. Subjects who displayed more facial signs of exhilaration (the index included several levels of smiling

to pronounced laughter) were scoring higher in state-cheerfulness and lower in state-seriousness and state-bad mood. Currently, we are trying to alter subjects' mood experimentally along these three dimensions and study the effects on the induction of smiling and laughter using different elicitors.

No further study of alcohol was carried out. However, in a recent pharmacopsychological experiment, we found that trait-cheerfulness moderated the impact of nitrous oxide (*i.e.*, "laughing gas") on state-cheerfulness (Ruch, 1995). Thus, trait-cheerfulness seems indeed predispose people to react more readily with smiling, laughter, and exhilaration/amusement. The validity of this hypothesis is also tested in the experiments currently carried out.

So far, the inclusion of temperamental traits, such as cheerfulness or Extraversion, in the experimental study of smiling and laughter seems to be have been fruitful.

References

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