something to the subject only after a block of 100 trials will provide less opportunity to communicate expectations than a design in which the experimenter speaks to the subject ten times in 100 trials. Face-to-face contact between subject and experimenter allows greater communication between the two than other types of physical arrangements. Since we know nothing about these variables in the studies surveyed by R & R, there is little one can conclude about their Table 5; but one can hope that future surveys will attempt to describe some of the specific mechanisms by which experimenter expectations are communicated.

If, as hypothesized, larger experimenter effects are found in those situations which (a) maximize ambiguity of subject task, (b) call for face-to-face interaction between subject and experimenter, (c) require frequent verbal exchange between subject and experimenter, and (d) use between-subject rather than within-subject design, two content areas in which experimenter expectancy effects should be both widespread and of considerable magnitude are immediately suggested: the effects of psychotherapy, and the effects of drugs. The frequently-held observation that all forms of psychotherapy, no matter how wildly divergent their theoretical basis, show some success might be due to the genuine conviction, in either client or therapist, or both, that the method will work. Similarly, the abatement of symptoms after the use of a placebo in a double blind study can be interpreted as an expectancy effect. The use of Cohen's *d* will now allow us to partial out the relative contribution of expectancy effects of the central variable.

It speaks well of psychology that such questions are now being asked. It takes a kind of intellectual toughness and iconoclasm to wonder if the emperor is really clothed. Not to ask these questions suggests a massive form of repression – an attitude hardly worthy of a scientific discipline. With the tool and the model provided by R & R, perhaps we can determine with greater precision more of what transpires when subject and experimenter meet to engage in a psychological experiment.

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Social-cognitive factors in expectancy effects: why apples and oranges are fruits

The issue in Rosenthal & Rubin's (1978) expectancy effects leaves me with some confusion concerning two problems. First, there is the problem of the unitary character of the phenomenon under study, implicitly presupposed by the combination of data from various studies. Several commentators, such as ADAIR, ELLSWORTH, and GADLIN, wonder whether there is any common denominator that justifies the viewing of different expectancy effects listed by R & R as instances of the same psychological phenomenon. Nevertheless, the unitary view has intuitive appeal, and GLASS defends it by the argument that apples and oranges are comparable in the study of fruit. However, this argument is worthless as long as the fruit-like properties of R & R's harvest are not specified.

Second, I wonder how to think about the following field experiment run in the numerous cafés of Louvain. The basic procedure involved real-life experimenters' expecting that waiters would bring them beer. Outstanding expectancy effects were obtained. They were mediated by intentional verbal cues to the expectee from the expecter, such as: "May I have a beer please?!" Should this result be accepted as valid support for the existence of expectancy effects as they are conceived of by R & R? The target article is too vague to allow for a definite answer, but according to the authors' Response, the answer should be unreservedly positive. Indeed, as to expectancy effects with real-life experimenters, Rosenthal and Rubin (1978b, p. 412) advocate a particularly broad definition, allowing not only for intentional cues to the expectee from the expecter, but even for observer errors and cheating. But why, then, do the painstaking job of combining 345 studies to prove the existence and estimate the size of a phenomenon that can be easily and superabundantly produced by simple, purposive behavior? Perhaps the expectancy effects illustrated by the 345 studies constitute a separate class after all. However, on the basis of which distinctive feature?

A similar feature might be sought in the behavioral mediation between an expectancy and its fulfillment. However, I have the impression that it is exactly the emphasis upon behavioral mediation that has led commentators to dispute the unitary character of the expectancy effects under study. The feature we need should not only define the class of expectancy effects intended by R & R, but it should also function as a psychological common denominator by which these expectancy effects are united. I think that such a feature may be found in the social-perceptual implications of the expectancy effects in question. These cases considered by R & R all seem to imply at least one naive observer who misperceives the causal impacts of expecter and expectee upon the fulfillment of the expectancy. The impact of the expecter is underestimated, while that of the expectee is overestimated. This misperception may be accounted for by the same cognitive laws over a great variety of situations. Parallel to Rosenthal and Rubin's (1978b) "narrow" and "broad" definition, we can have, at one extreme, cases in which everybody, including the expecter, is misperceiving the causes of an effect, while at another extreme only a naive bystander is misperceiving the situation, and the expecter is in the process of cheating.

The present view brings the research on expectancy effects closer to the area of social cognition and causal attribution. This approach may be added (as a fourth concern about expectancy effects) to the three proposed by STEWART. It is also in line with MILLER's position – with which I disagree, however, as far as research on expectancy effects is argued to have been a vital precedent for the contemporary focus on attribution processes and social cognition. Actually, both areas developed simultaneously and largely independently of each other. In point of fact, they might profit considerably from some more mutual contact. As to the area of expectancy effects, the profit may extend beyond the academic satisfaction of a suitable definition. This is illustrated with the two following hints, which will, I hope, open some stimulating avenues:

1. Social-cognitive research has revealed two opposite cognitive tendencies within subjects: a) a tendency toward cognitive "consistency" or "simplicity," and b) a tendency toward cognitive complexity. Expectancy effects can be argued to make for cognitive simplicity, in that they prevent the cognitive field from being complicated by unexpected environmental information that would not fit into the pre-established cognitive structures of the expecter. It would be worthwhile to investigate whether conditions fostering tendencies toward cognitive simplicity would also foster expectancy effects and vice versa.

2. Students of problem-solving have observed that subjects fail to find correct solutions to problems because they are biased toward "verifying hypotheses" rather than "falsifying hypotheses" (Wason and Johnson-Laird 1972). This has been shown to be interpretable as the manifestation of a very general social-cognitive and behavioral bias (Peeters 1971). Thus, observations concerning subjective hypotheses in problem-solving may be generalized to subjective expectancies in general. In this way, expecters can be assumed to be set for seeking information that confirms rather than disconfirms their expectations. Perhaps it is this selective set that gives rise to the unintentional cues that often make expectees behave in the expected ways.

Further, Wason and Johnson-Laird (1972) have observed that the tendency to verify rather than to falsify hypotheses prevails if the subject is unfamiliar with the problem setting, such as when abstract symbols are used instead of familiar concrete objects. It might follow that expectancy effects should prevail in situations that are unfamiliar to the expecter. Does this perhaps explain the intriguing contrast between the relatively strong expectancy effects in, say, animal studies, and the relatively weak expectancy effects in, say, interview studies?