Affective consequences of optimism and pessimism in the face of failure: Evidence of a moderation by attribution

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ABSTRACT

The present experiment set out to investigate the affective consequences of dispositional optimism and attribution in performance settings. Optimistic and pessimistic participants ($N = 42$ each) experienced failure at solving two cognitive tasks in an alleged team setting. The failure could either be attributed to themselves (internal condition) or a teammate (external condition). We found disordinal interactions of optimism and attribution on the feelings of success and feelings of failure. While the affective state of optimists deteriorated significantly if they attributed the failure internally compared to externally, pessimists were emotionally unaffected by the locus of attribution. Moreover, optimists experienced affective benefits compared to pessimists when they attributed the outcome externally. The reverse was true if they had attributed internally. Affective consequences of optimism and pessimism after failure therefore seem to differ depending on attributions. Furthermore, pessimists seemed to be unresponsive to the affective effects of attribution in our study. This insensitiveness implies differences in the cognitive processing of outcomes, a trait × cognition interaction that should be investigated further.

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1. Introduction

Dispositional optimism is usually considered to be highly functional across a wide range of domains, including health, well-being, and social resources (e.g., relationships). Pessimism, in turn, is linked to unfavorable outcomes (Carver, Scheier, & Segerstrom, 2010). While research on optimism often focuses on the positive effects in these areas and their mediating mechanisms, such as coping strategies (Carver et al., 2010), experimental settings with a focus on performance and the pressure to succeed are largely neglected. However, pessimism might have positive consequences in achievement contexts. According to James (1890, p. 310f.), feelings of self-worth are determined by the ratio of actual success to pretensions. This means that low expectancies, a key feature of pessimism, might yield affective benefits: lower standards should lead to higher positive affect (e.g., pride) in the case of success and lower negative affect (e.g., disappointment) in the case of failure.

The evidence related to this prediction is mixed so far. While studies on task expectancies find no support for benefits of a pessimistic outlook (Brown & Marshall, 2001; Marshall & Brown, 2006), others show that optimism could indeed have affective costs (Sweeny & Shepperd, 2010). Moreover, people tend to prepare themselves for an (potentially unfavorable) outcome feedback by means of a "pessimistic shift" in expectations (Sweeny, Carroll, & Shepperd, 2006). The latter result suggests that pessimism may indeed improve affect in performance settings, although James's assumption about outcomes was not tested directly. However, previous research found evidence that dispositional optimism can have a discernible effect on affective reactions in line with James's predictions. In two experiments the authors ensured that participants succeeded at several tasks (Lau et al., 2014). They separated optimism from the outcome attribution (internal vs. external) and analyzed their effects on feelings of success (e.g., pride). Interestingly, James's prediction about the benefits of pessimism was supported only when using an extreme groups sample (i.e., including participants from both ends of the optimism dimension): compared to optimists, pessimists experienced increased feelings of success, regardless of the attribution (Lau et al., 2014, Experiment 2). Attribution had no significant effect on affect, which implies that the effect of attribution depends on the trait characteristics of the sample under investigation. In summary, this study demonstrated that pessimism was associated with affective benefits, if the analyzed spectrum of optimism was wide enough. Furthermore, it was important to experimentally separate the effects of optimism and attributional style, which otherwise are

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probably confounded (see Marshall & Brown, 2006). Yet, there remained some open questions in Lau et al.'s study (2014). An emotional benefit of pessimism was found for the case of success and positive affect. However, James (1890) suggested that low expectations would also serve to protect from disappointments. Presumably, the effects of failure might be more important for well-being. Moreover, the role of attribution still seems ambiguous, as there was a main effect in Experiment 1 but not in Experiment 2. The authors suggested an interaction but could only observe a disordinal trend that did not reach significance. This may be due to a limitation of the study that saw unsuccessful participants dropping out of the experiment and hence the reduced statistical power (see Lau et al., 2014).

The present study aims to build upon and extend this previous research, while addressing some of its limitations. The experimental design will be adapted and transferred to the case of *performance failure* as outcome, in order to test James's (1890) hypothesis comprehensively. In line with James we predicted that pessimism would show its benefits by a decreased negative affective reaction to failure (i.e., less disappointment) and also a lesser decline in positive affect. Moreover, we sought to clarify the possibility of an interaction between optimism and attribution by preventing participants from dropping out and thereby increasing statistical power.

2. The present research

We followed the rationale outlined by Lau et al. (2014, see Experiment 2)—keeping the strengths in form of the experimental team-setting and the recruitment of extreme groups, while improving it in several aspects. Optimists and pessimists were recruited from a large new screening sample and randomly assigned to two attribution conditions. Participants were to complete two tasks together with another, unknown "teammate" who had previously worked on the given tasks. The amount of groundwork by the teammate would constitute the attribution manipulation. We adapted the setting to the outcome of failure: in the internal condition participants received tasks with *much groundwork* done by their "teammate". Thus, an eventual failure to complete the tasks would mainly be due to the participant. In contrast, participants of the external condition received tasks with only *little groundwork*, thus making the completion of the tasks appear more difficult. Hence, a failure could be attributed to the teammate in this condition in the sense of an external attribution. Within this set up, we examined the effects of *optimism* (optimists vs. pessimists) and outcome *attribution* (internal vs. external) on feelings of failure and feelings of success. To tackle the previous problem of drop outs, we introduced new tasks including unsolvable items, which ensured that all participants failed to complete the team task eventually.

2.1. Method

2.1.1. Participants

We screened 467 students of a German university with the German adaptation of the revised Life Orientation Test (LOT-R; Glaesmer, Hoyer, Klotsche, & Herzberg, 2008; Scheier, Carver, & Bridges, 1994). Participants from the fourth (i.e., optimistic) and first (i.e., pessimistic) quartile of the resulting optimism distribution were then invited via e-mail to participate in the study.

84 participants followed our invitation and completed the experiment. Of these, 52 were female (61.9%). The mean age was 23.83 years ($SD = 3.78$). The sample consisted of 42 optimists and 42 pessimists, who were randomly assigned to the two attribution conditions (internal vs. external). For compensation, all

participants had the chance to win one of six vouchers (25 EUR, approximately 31 US $, each). Psychology students additionally received course credit. All participants were carefully debriefed after the experiment. Afterwards, they also received a short feedback report about the hypotheses and results of the study via e-mail.

2.1.2. Cover story

Participants were told that the experiment would be about the effectiveness of teammates without direct contact. They would work on two types of tasks (i.e., anagrams and figure tracing puzzles) in collaboration with another, unknown student. All participants were then told that they would enter a condition where they had 10 min of time to complete the tasks that the teammate had already worked on before in the same amount of time (i.e., 10 min). The *amount of groundwork* on these tasks, delivered by the "teammate", was in fact standardized and served as our starting point to manipulate the attribution.

2.1.3. Independent variables

Optimism and pessimism All items of the LOT-R (Scheier et al., 1994) were rated on Likert-type 5-point scales with the endpoints 1 (*not at all*) and 5 (*completely true*), with the sum score possibly ranging from 6 (strongly pessimistic) to 30 (strongly optimistic). Participants recruited from the fourth quartile of the screening sample (i.e., optimists) showed LOT-R scores ranging from 25 to 30, with a mean of 26.3 ($SD = 1.26$). The participant's sum scores from the first quartile (i.e., pessimists) ranged between 8 and 19, with a mean of 17.1 ($SD = 2.30$). The internal reliability of the LOT-R scores was good, Cronbach's $\alpha = .87$. Scores of optimism were not correlated with the conditions of attribution, $r = .03$, $p = .793$.

Attribution We introduced two standardized conditions of groundwork that participants received for completion from their "teammate". Given a fair standard of effectiveness, the teammate should have solved about half of the items. Participants in the *external condition* therefore received tasks where only one third of the items had been solved, hence suggesting a poor performance by the teammate and facilitating the external attribution of the eventual failure. Participants of the *internal condition* received tasks where already two thirds of the items had been solved. Here, the eventual failure could not easily be attributed to a poor advance performance of the teammate, thus facilitating internal attribution to one's own lack of effort.

2.1.4. Tasks and dependent measures

In contrast to previous work, our tasks should ensure a failure and not success. Accordingly, the participants solved anagrams and completed tracing puzzles on two sheets of paper. These types of tasks are commonly used in studies that feature unsolvable items (e.g., anagrams: Aspinwall & Richter, 1999; tracing puzzles: Wallace, Ready, & Weitenhagen, 2009). The 15 items of the anagram-task were constructed following the guidelines proposed by Gilhooly and Hay (1977). The worksheet contained a total of 15 anagrams, of which 10 (internal condition) or 5 (external condition) had already been visibly solved by the teammate. One of the remaining anagrams was designed to be unsolvable. In the same fashion, we adapted six tracing puzzles from open source material from websites for hobby logicians. Of these six puzzles, the teammate had already solved four (internal condition) or two (external condition). Again, one of the remaining puzzles was unsolvable. Several pretest trials ensured that the unsolvable items were not identified as such by the participants.

It seemed appropriate to use the objective outcome feedback introduced by Lau et al. (2014). If failure in experimental tasks is