Short Report

Psychological Science
21(4) 545–547

DOI: 10.1177/0956797610363541
http://pss.sagepub.com

Motivation by Anticipation: Expecting Rapid Feedback Enhances Performance

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Received 6/23/09; Revision accepted 9/18/09

We have all waited to receive evaluations of our performance. Indeed, feedback on some of life's most consequential endeavors—such as writing exams, developing business proposals, and preparing manuscripts for publication—arrives with substantial delay. Although the importance of feedback in learning and other domains is well recognized (e.g., Schmidt & Bjork, 1992), the question of whether people's performance is influenced by when they expect to receive feedback on it has not been examined previously.

When anticipated feedback is more proximate, so is the threat of disappointment—the negative affect experienced when an outcome falls short of expectations (van Dijk, Zeelenberg, & van der Pligt, 2003). The desire to avoid disappointment is a powerful motivator, leading people to alter their choices (Mellers, 2000), lower their expectations (Carroll, Sweeny, & Shepperd, 2006; Shepperd, Ouellette, & Fernandez, 1996), and intensify their efforts to perform well (Norem & Cantor, 1986). Thus, we hypothesized that the mere anticipation of more proximate feedback would cause people to perform better.

We tested this hypothesis in a field experiment involving a highly consequential behavior: individual presentations in a university course. Each student gave a 4-min oral presentation that was peer-graded. The course comprised seven sections. Within each section, students were randomly assigned to a presentation date; typically, 10 students made presentations in each class session. All students in the audience rated each presentation on a scale from 0 (*poor*) to 10 (*excellent*). The mean of these ratings formed the presenter's grade for this component of the course.

Method

An e-mail was sent to each student enrolled in the course 1 day, 8 days, or 15 days prior to his or her presentation. The e-mail contained a brief description of the study and a link to a Web site. Students who visited the site and volunteered to participate first completed a Web-based informed-consent procedure. They were then reminded of their presentation date and informed of the date on which they would learn their grade. After that, they were asked to predict their performance in terms of the rank of their grade among the 10 presentation grades on their assigned date.[1] To participate in the study, students had to submit their prediction on the same day the e-mail was sent.

Of the 501 students who gave a presentation in the course, 274 initially volunteered to participate in the study. Three of these were excluded from the analysis because illness prevented them from making their presentations on the assigned day. Thus, the final sample consisted of 271 participants (133 males, 138 females), who ranged in age from 18 to 32 years ($M = 20.3$).

Two between-subjects factors were manipulated independently—*feedback proximity* and *prediction timing*. Both factors were coded as the temporal distance (in days) from the participant's presentation date. Feedback proximity was manipulated as follows: Peer evaluations were batch-processed in such a way that there were five feedback dates on which students received their presentation grades. Each batch covered all presentation dates since the previous feedback date. Participants' feedback proximity was determined through their random assignment to a presentation date, which implied a particular amount of feedback delay. The proximity of feedback ranged from 0 (same day) to 17 days ($M = 8.33$). Prediction timing was manipulated by randomly assigning participants to submit their performance prediction 1 day, 8 days, or 15 days prior to their assigned presentation date.

We examined two dependent variables: actual performance (presentation grade) and predicted performance (rank). Grades ranged from 6.7 to 9.6 ($M = 8.71$, $SD = 0.6$), and rank predictions ranged from 1 to 10 ($M = 4.41$, $SD = 2.6$). For each of these variables, we estimated a mixed-effects regression model, with a random effect for course section and a dummy covariate for each feedback date—to account for possible variation in

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performance and optimism over time (Gilovich, Kerr, & Medvec, 1993).

Results

As hypothesized, participants who anticipated more proximate feedback attained higher grades (linear term: $\beta = -0.020$, $p < .05$, $p_{rep} = .96$). The absence of any evidence of nonlinearity (quadratic term: $\beta = -0.001$, $p = .29$, $p_{rep} = .78$) indicates that this effect was linear. Moreover, it was of substantial magnitude, as it represented a performance difference of 0.56 standard deviations (22 percentile ranks) across the range of feedback proximity used in this study (0 vs. 17 days). Prediction timing did not affect grades ($\beta = -0.008$, $p = .17$, $p_{rep} = .83$), nor did it moderate the effect of feedback proximity ($\beta = 0.001$, $p = .36$, $p_{rep} = .74$).

As a check, we estimated the same model for those students who did not participate in the study and who were, thus, not given advance notice as to when they would receive feedback. The presentation grades of these nonparticipants were not influenced by the proximity of feedback ($\beta = -0.008$, $p = .34$, $p_{rep} = .75$), which rules out the possibility that the effect on participants' performance was due to some unobserved confounding variable that might have affected students' performance on the specific presentation dates. There was no difference in mean presentation grade between participants ($M = 8.72$) and nonparticipants ($M = 8.69$, $\beta = -0.03$, $p = .39$, $p_{rep} = .73$).

Our results are consistent with prior work on bracing (Shepperd et al., 1996) in that performance predictions were less optimistic when participants anticipated more proximate feedback (linear term: $\beta = 0.29$, $p < .01$, $p_{rep} = .99$), and this effect was stronger for smaller amounts of feedback delay (quadratic term: $\beta = -0.01$, $p = .07$, $p_{rep} = .89$). Moreover, predictions were more optimistic when they were made further in advance ($\beta = 0.13$, $p < .01$, $p_{rep} = .99$), and feedback proximity had a weaker effect on optimism when predictions were made further in advance (Feedback Proximity × Prediction Timing interaction: $\beta = -0.01$, $p < .05$, $p_{rep} = .92$).

This pattern of results is consistent with the notion that the anticipation of more rapid feedback enhances performance by making the threat of disappointment more salient. Expecting more proximate feedback caused participants to perform better, and yet to brace themselves for disappointment by making less optimistic predictions. Figure 1 illustrates these influences by showing the fitted regression lines for actual and predicted performance.

Discussion

This study shows that the mere anticipation of more rapid feedback improves performance. It is noteworthy that an intervention as minor as altering the date on which individuals expect to receive feedback can cause substantial differences in important outcomes, such as university grades. Interestingly, anticipated feedback proximity has contrasting effects on actual and predicted performance: People do best precisely when their predictions about their own performance are least optimistic. Our findings provide a novel perspective on the relationship between feedback and performance (Kluger & DeNisi, 1996), and they have important practical implications for all individuals who are responsible for mentoring and for evaluating the performance of others.

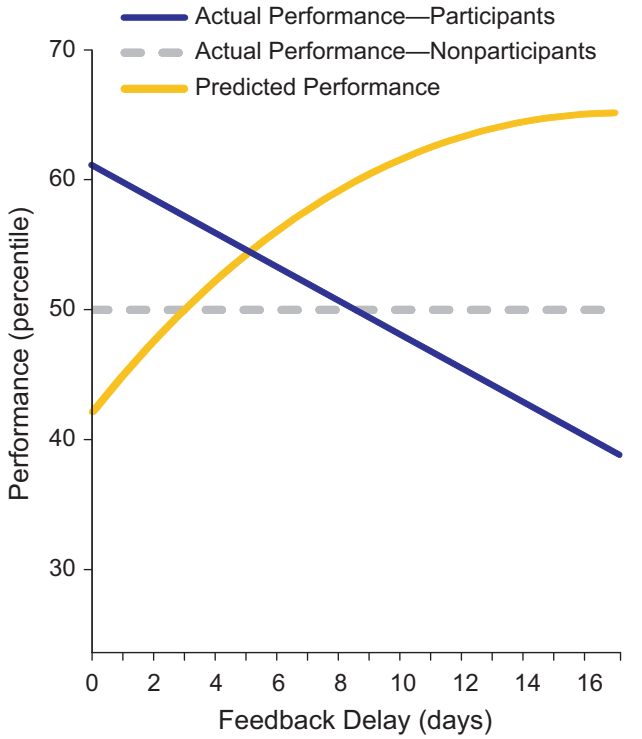

Fig. 1. Actual and predicted performance as a function of feedback delay. For this graph, actual grades (for both participants and nonparticipants) were converted to percentiles (based on all 501 presentation grades), and predicted grades (ranks) were converted to equivalent percentiles (e.g., rank 1 = 95th percentile, rank 2 = 85th percentile).

Declaration of Conflicting Interests

The authors declared that they had no conflicts of interest with respect to their authorship or the publication of this article.

Note

1. Although fewer than 10 presentations were given on some dates (because section sizes were not all multiples of 10), all participants anticipated that theirs would be 1 of exactly 10 presentations on their assigned date.

References

Carroll, P., Sweeny, K., & Shepperd, J.A. (2006). Forsaking optimism. *Review of General Psychology*, *10*, 56–73.

Gilovich, T., Kerr, M., & Medvec, V.H. (1993). Effect of temporal perspective on subjective confidence. *Journal of Personality and Social Psychology*, *64*, 552–560.

Kluger, A.N., & DeNisi, A. (1996). The effects of feedback interventions on performance: A historical review, a meta-analysis, and a preliminary feedback intervention theory. *Psychological Bulletin*, *119*, 254–284.

Mellers, B. (2000). Choice and the relative pleasure of consequences. *Psychological Bulletin*, *126*, 910–924.

Norem, J.K., & Cantor, N. (1986). Defensive pessimism: Harnessing anxiety as motivation. *Journal of Personality and Social Psychology*, *51*, 1208–1217.

Schmidt, R.A., & Bjork, R.A. (1992). New conceptualizations of practice: Common principles in three paradigms suggest new principles for training. *Psychological Science*, *3*, 207–217.

Shepperd, J.A., Ouellette, J.A., & Fernandez, J.K. (1996). Abandoning unrealistic optimism: Performance estimates and the temporal proximity of self-relevant feedback. *Journal of Personality and Social Psychology*, *70*, 844–855.

van Dijk, W.W., Zeelenberg, M., & van der Pligt, J. (2003). Blessed are those who expect nothing: Lowering expectations as a way of avoiding disappointment. *Journal of Economic Psychology*, *24*, 505–516.