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ABSTRACT

Consistent with prior research, expected performance on a midterm examination decreased for 48 college students as the test approached in time, as did grade-level goal and perceived adequacy of effort, although indices of goal value and of motivation to achieve the goal remained constant. Changes were generally monotonic across three occasions. These data implicate test proximity and overestimation of future effort as influences on academic expectations that seem worthy of more attention by teachers. They may reflect a tacit student strategy of changing goal levels in order to maintain desire in the face of declining expectations. Also the influence of expectancy and two types of value on motivation seemed to vary with proximity to an examination. Results support the importance of expectancy-value variables but also indicate the complexity of their contribution to classroom motivation. (Contains two tables and eight references.) (Author/SLD)

Expectancy, Value, and Motivation forTest Taking When Optimism Declines: A Continuation

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Abstract

Consistent with prior research, expected performance on a midterm exam decreased as it approached in time, as did grade-level goal and perceived adequacy of effort, though indices of goal value and of motivation to achieve the goal remained constant. Changes were generally monotonic across three occasions. These data implicate test proximity and overestimation of future effort as influences on academic expectations that seem worthy of more attention by teachers. They may reflect a tacit student strategy of changing goal levels in order to maintain desire in the face of declining expectations. Also the influence of expectancy and two types of value on motivation seemed to vary with proximity to an exam. Results support the importance of expectancy-value variables but also indicate the complexity of their contribution to classroom motivation.

Expectancy, Value, and Motivation forTest Taking When Optimism Declines: A Continuation

At least year's meeting of AERA we described research on the temporal dynamics of factors that influence classroom test-taking motivation. borrowing from literature on "unrealistic optimism" (Shepperd, Ouellette, & Fernandez, 1996; Taylor, 1989) and expectancy-value theory (Feather, 1982; Pekrun, 1993) to look at changes in motivation, values, expectations, and related variables with regard to a midterm exam as it approached in time (Wicker, Turner, Reed, McCann, & Huskey, 1998).

Consistent with prior studies of unrealistic optimism, it was found that optimism and grade expectations were reduced as the test drew nearer. But that change was not accompanied by changes in motivation or value. It seemed possible that students were demonstrating a motivation-maintenance strategy: rather than lowering desire for the goal as expectancies dropped, they lowered their goal standard but not their desire to attain that standard.

There also appeared to be changes in relationships among expectancy-value variables across time. The particular operative mix of expectancy-value factors appeared not to be stable, but to change with temporal context.

Thus the earlier research seemed to have several interesting implications for classroom motivation. Before speculating more on implications of that study, however, it seemed prudent to see if its results could be replicated and extended in a second study. That is the one to be reported here.

Extensions were designed to reduce ambiguities in results from the previous study. For example, we attempted to better understand the nature of the loss in optimism across time, by addressing it in relation to classical dimensions of causal attribution. Also, in the previous study participants had indicated their goal for the test by circling a specific letter grade. That may have forced them artifactually to choose a goal where they would not have chosen one on their own, or to choose a more specific goal than they would have chosen on their own. In this study, students indicated the degree of specificity as well as the level of their goal. Scales related to global optimism and self-presentational bias were also added so we might control for these factors in data analyses.

In the previous study data were collected at two points in time, so we could not tell if differences reflected gradual changes across time or a more sudden change when facing the test. In the current study, data were collected at three times.

Method. Forty-eight students participated in class for extra credit. They filled out a brief questionnaire on three occasions: four weeks before the scheduled midterm, one week before, and on the day of the test just before taking it.

Because several questionnaire items asked about reactions to "making a good grade," participants were first asked to indicate what the phrase "making a good grade" meant to them by circling one of seven letter grades (A, A-, B+, B, B-, C+, C) spaced along a line of the page. In later items they indicated their expected grade and their goal for the test with the same scale. They indicated how much they wanted to make a good grade on the test, how optimistic they were about their performance on it, and how hard they expected to work toward doing well on it by circling one of nine numbers framed by the phrases "Not at all" and "Extremely." What we call "positive-based value" was indicated by having them imagine that they had just found out that they made a good grade on the test and rate how good they would feel by circling one of nine numbers bounded by "Not at all good" and "Extremely good." "Negative-based value' was tapped in two ways. They were asked to imagine they had fallen just short of making a good grade on the test "(e.g., a B+ if you define a good grade as an A-)" then indicate how bad they would feel by circling one of nine numbers bounded by "Not at all bad" and "Extremely bad." Second, they did the same when asked to imagine they just found out that they made a C or lower on the test. The negative-based value scale assesses affective reaction to failure of goal attainment, but with test grades failure may happen to different degrees. Therefore the two items were included: one on "near-goal failure" and one on more severe failure.

The above scales were replications of those used before. In addition, there were questions intended to assess optimism with respect to particular causal dimensions: "To what extent do you feel confident in your **ability** to do well on this test?, "To what extent do you feel that you are **lucky** on tests like this?," "How **difficult** a test do you expect it to be?" and "Will the **effort** you expect to exert on this test be adequate to do well on it?" Ratings were again made by circling a number from 1 to 9.

An omnibus question related to goal specificity presented six alternatives stating that the person's goal on the test was "a) to do as well as you can," "b) to make a grade at least as high as a(n) _____," "c) to make exactly the grade of_," "d) no goal at all," and "e) to do better than your classmates." Raters first circled all the alternatives that applied to them, then wrote in a letter grade for b) and c) if they circled it. To insure that goal level was rated by everyone,

another item asked "If you had to choose a specific goal, your goal for this test would be to make a grade of:" after which they circled letter grades from A to C.

A new scale designed as a second indicator of motivation level was "what is the maximum effort you would be willing to expend to make a good grade on this test?" Other new scales were "How anxious do you feel about the test?" "How important are other people's opinions about your performance in this course?" and "Would you describe your overall outlook on life as" "Very pessimistic" or "Very optimistic."

Results. Table 1 shows means at three points in time (M1, M2, and M3) for 16 variables, probability levels from the multivariate F test of the significance of differences among the three means (p), probability levels for the planned contrast between means at time 1 and time 2 (C1), and probability levels for the planned contrast between time 3 and the average of the first two times (C2). These results are quite consistent with those of the earlier study in terms of which variables changed with time and which didn't.

Results seemed clear with regard to the attributional locus of decreased grade expectations across time. This reduction was apparently not related to changes in perceptions of ability, luck, or task difficulty, because these perceptions did not decrease. Table 1 shows, for example, that subjects rated their ability at test taking just as high on the day of the test as on the earlier days. The significant difference was in the perceived adequacy of the effort they had expended in preparing for the test.

On the question related to goal specificity or goal type, virtually no student reported they had "no goal at all" or that they wanted "to do better than their classmates." A majority chose "To do as well as you can" and to "To make a grade at least as high as" a grade they specified, while only a few chose "To make exactly the grade of" a grade they specified. Though setting a specific letter-grade goal for the test was fairly rare, Table 1 indicates that the time pattern for "at least" goals, from the large percentage of subjects who reported them, was the same as that found for specific grade goals. The level of both decreased across time.

With regard to the question of when changes happen in time, it seems that, for the intended (expended) effort variable, change is localized totally in the difference between intentions of future effort and perceptions of past effort. For all other scales, changes in means show a monotonic trend (always decreasing or—for anxiety— always increasing), suggesting that the observed

changes are fairly continuous across time as the exam approaches, and not just the product of "test-day jitters."

Table 2 shows that, as in the previous study, positive-based value ("how good would it feel to make a good grade") tends to dominate among predictors at the earlier times, but positive-based value, negative-based value, and expectation make a more even contribution as time-3 predictors. A second, parallel set of regression analyses that also controlled for general optimism and self-presentational concern gave essentially the same pattern of weights as that in Table 2.

Conclusions. Results of this study replicated the two main findings of the earlier one: (1) the evidence of students' ability to maintain goal commitment despite lowered expectations, and (2) the evidence that expectancy-value predictors of rated motivation were not constant across time, helping to document the complexity of expectancy-value factors in motivation and possibly helping explain some inconsistencies in previous findings. As Sexton, Tuckman, and Crehan stated, "While static models are not incorrect, they provide only one part of a complex and changing pattern of relationships" (1992, p. 347).

Regarding students' ability to maintain motivation despite loss of optimism, future research directed at discovering the limiting conditions of this finding, as opposed to the conditions in which they just give up and lose commitment when their expectancies have been lowered, might have implications for maintenance of motivation. Because it seems impossible to avoid all situations that lower expectations in challenging instructional contexts, a better understanding of this phenomenon, and of when and how it can be encouraged, might be very useful.

This study also goes beyond the previous one in suggesting that students' unrealistic optimism at the earlier time was not based on an inflated view of their own ability or on how far luck could carry them or on a deflated view of test difficulty. It was based on overestimating the amount of effort they would be able to devote to the task. Perhaps it is easy to overestimate one's willingness to sustain the costs of high-effort work (costs of discomfort, of other activities forgone, etc.) when those costs are far enough in the future to be low in cognitive availability. This finding seems compatible with the suggestion in previous research that unrealistic optimism is higher for events perceived as controllable (Falkstein, 1997; McKenna, 1993), since effort tends to be perceived as more controllable than ability, luck, and task difficulty. Although the "illusion of unlimited future effort" appears to dissipate naturally

as the test approaches, perhaps teachers could help students confront and counteract it sooner so as to help them plan more effectively for test preparation.

The current study also raises questions about how best to represent peoples' academic goals (in theories and in the wording of questionnaires). The study suggests that goals might often be best represented at a level of specificity intermediate between specification of a particular grade outcome on the one hand and the vague self-instruction to "do my best" on the other hand, or that they may exist at several such levels simultaneously. If so, it will be difficult to ask questions about goals on questionnaires in a way that directly captures their representation by raters. Yet our results suggest that questionnaire items may still be useful even if they only reflect qualities of goal representations indirectly.

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Table 1: Means for Three Points in Time and Probability levels for F test and for Planned Contrasts in Study 2.

	M1	M2	M3	p	C1	C2
Optimism	6.95	6.61	6.32	.126	.243	.057
Expected grade	5.90	5.55	4.90	.001	.142	.001
Meaning of making good grade	6.13	5.76	5.26	.001	.001	.001
Exact Goal for the test	6.61	6.03	5.55	.001	.004	.001
"At Least Goal" for the test	5.63	5.11	4.95	.006	.006	.096
Intended (expended) effort	7.74	7.74	7.13	.001	.812	.001
Effort extended will be adequate	7.16	6.66	6.53	.002	.066	.005
Anxiety	5.74	6.40	6.63	.011	.060	.017
Wanting the goal	8.24	8.05	8.03	.193	.086	.453
Max. effort willing to expend	8.00	7.84	7.84	.196	.400	.150
How good would feel	8.71	8.66	8.42	.169	.323	.101
How bad feel if just missed	5.58	5.50	5.97	.237	.520	.148
How bad feel if made C	7.68	7.74	7.95	.464	.585	.395
Ability for test	7.21	7.45	7.45	.139	.200	.151
Lucky on tests	3.95	4.34	4.13	.208	.076	.817
Expected test difficulty	7.16	7.40	7.18	.888	1.000	.625

Note: M1 = Mean at Time 1, M2 = Mean at Time 2, M3 = Mean at Time 3, p = Probability from multivariate F test for significance of difference among the 3 times; C1 = p for significance of planned contrast between time 1 and time 2; C2 = significance of planned contrast between time 3 and the average of the first two times.

Table 2: Correlations and Weights from Regression of Want Ratings on Factors Related to Expectancy and Value Across Three Times in Study 2.

Criterion— Wanting at:	Time 1		Time 2		Time 3	
Predictors	r	Beta	r	Beta	r	Beta
T1 How bad feel (C)	.19	-.00	.22'	.04	.23'	.04
T1 How bad feel (just miss)	.39**	.16	.39**	.17	.38**	.16
T1 How good would feel	.51***	.51***	.49***	.46**	.52***	.48**
T1 Expected Grade	.15	.23'	.12	.19	.05	.14
T2 How bad feel (C)			.26 *	-.06	.24'	.04
T2 How bad feel (just miss)			.52***	.30*	.35**	.08
T2 How good would feel			.68***	.56***	.54***	.50***
T2 Expected Grade			.19	.17	.26*	.24'
T3 How bad feel (C)					.44***	.25'
T3 How bad feel (just miss)					.42**	.10
T3 How good would feel					.39**	.29*
T3 Expected Grade					.49* * *	.39* *

Note: *** p < .001 ** p < .01 * p < .05 ' p < .10

r = zero-order correlation Beta = beta weight from regression analysis

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