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Unrealistic Optimism in the Pursuit of Academic Success

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Abstract
Although the ability to evaluate one's own knowledge and performance is critical to learning, the correlation between students' self-evaluation and actual performance measures is modest at best. In this study we examine the effect of offering extra credit for students' accurate prediction (self-accuracy) of their performance on four exams in two semester-long classes on Personality. The courses emphasized the role of self-awareness. Despite these motivational interventions and performance feedback, there was minimal change in accuracy over the semester; a large proportion of students remained unrealistically optimistic about their performance in the face of evidence to the contrary. Moreover, inaccurately inflated confidence was related to poorer academic performance. A small minority of students improved in accuracy and exam performance over the each of the courses, offering a potentially useful source of comparison for addressing unrealistic optimism. We discuss the findings as reflecting the powerful influence of protecting self-esteem and suggest the need for realistic self-appraisal as a factor in academic success

Keywords
self-awareness, unrealistic optimism, extra credit, self-esteem

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Cover Page Footnote
We would like to thank Andrew Lewine for suggesting the use of extra credit for successful prediction of exam performance.
Unrealistic Optimism in the Pursuit of Academic Success

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Although the ability to evaluate one's own knowledge and performance is critical to learning, the correlation between students’ self-evaluation and actual performance measures is modest at best. In this study we examine the effect of offering extra credit for students’ accurate prediction (self-accuracy) of their performance on four exams in two semester-long classes on Personality. The courses emphasized the role of self-awareness. Despite these motivational interventions and performance feedback, there was minimal change in accuracy over the semester; a large proportion of students remained unrealistically optimistic about their performance in the face of evidence to the contrary. Moreover, inaccurately inflated confidence was related to poorer academic performance. A small minority of students improved in accuracy and exam performance over each of the courses, offering a potentially useful source of comparison for addressing unrealistic optimism. We discuss the findings as reflecting the powerful influence of protecting self-esteem and suggest the need for realistic self-appraisal as a factor in academic success.

INTRODUCTION

Students often express surprise at their failure to meet academic goals. This sometimes leads to “perseverating to failure” as reflected in taking and failing the same class multiple times, complaints about instructors who do not reward effort alone, demoralization, and increased likelihood of attrition. Viewed by Miller and Wroshch (2007) as the cost of an excessively applied cultural imperative (“quitters never win and winners never quit”), a cognitive perspective suggests that there is something about information processing, specifically in the ability to evaluate one’s own performance, that interferes with student success (Robertson, Lewine and Sommers, 2014).

Some argue that today’s college students, in contrast to those of past decades, have turned from the “self-examined life” to a consumer- and career-oriented approach to education that has undermined self-awareness in favor of pursuing practical knowledge (Delbanco, 2012). Dubbed “flawed self-assessment” by Dunning and colleagues (Dunning, Heath and Suls, 2004), there appear to be multiple obstacles to correctly reflecting on and evaluating one’s skills, behavior, and character. All of us are subject to confirmation bias, above average effects (the Lake Wobegon phenomenon- “…where all the women are strong, all the men are good looking, and all the children are above average…”), A Prairie Home Companion, 2016), excessive optimism, and other cognitive distortions that have practical consequences across a broad spectrum of life experiences, including education. As educators, we are naturally concerned with how such flawed self-assessment will affect student engagement and learning. It appears, as we briefly summarize below, that academic performance and accurate self-assessment are related.

Since at least 1975 (Sinkavich), studies have suggested that students who do well academically are significantly more accurate in predicting and evaluating their academic performance than those who do poorly. In contrast, poor academic performance seems to be associated with an overly optimistic self-evaluation (Cochran & Spears, 1980; Hacker, Bol, Horgan and Rakow, 2000; Shaughnessy, 1979). While consistently identified as an obstacle to learning, this unrealistic optimism among college students is not well understood, particularly regarding the role of motivation and affect.

We propose in this study to examine the role of motivation in unrealistic optimism by providing a strong immediate reward for accurate self-awareness: extra course credit. By offering extra credit (see below), we maximize students’ immediate performance gain in addition to the benefit to be derived over multiple exams and feedback opportunities.

Extra credit is a pervasive feature of contemporary higher education, albeit one about which many educators are ambivalent (Harrison, Meister and LeFevre, 2011; Hill, Paladino and Eison, 1993; Lei, 2013; Norcross, Horrock and Strason, 1989). Reported to be used most often by better performing students and by female students, extra credit is viewed by faculty as both a means for students to deepen their level of understanding, as well as a means for improving grades. Students report that the opportunity to improve their grades is the strongest motivator for extra credit (Lei, 2013). It stands to reason, therefore, that offering extra credit for accurate self-evaluation of academic performance should encourage students to engage in the self-awareness process.

In addition to the extra credit, we maximized the exercise of academic self-evaluation by making self-awareness a focal point of each course and by assessing students’ accuracy of prediction over four exams administered during a single semester. In short, we attempted to maximize features of the courses that should have enhanced self-awareness.

METHODS

Overall Design

To examine the effect of performance self-monitoring on exam grades, we asked students to predict their exam scores immediately prior to taking each exam. We calculated their accuracy of prediction and assessed the relationship between prediction accuracy and exam performance. In order to examine the role of extra credit in accuracy, we carried out the study in two different classes, one that offered extra credit for accuracy (incentivized manipulation) and one that offered no extra credit of any sort.

Courses

The one-semester courses were a mid-level undergraduate personality course (syllabus available from the first author) emphasizing the tension between the conscious and the modern unconscious (Kihlstrom, 1987) in the formation and expression of personality. This tension was modeled experientially using in class exercises and didactically by assigned readings representing a broad range of personality theories.
Subjective Experiences of Students

The vast majority of student feedback about the courses was in the form of standard student ratings. There were five uncollected, self-administered surveys for each of the four exams. On a 60-item formula we used to compile and individual feedback each student generated by comparing obtained exam grades with predicted grade, perhaps as informed by having the graded exam scores. It appears that the mere act of requiring self-evaluation, with no other discussion about how to predict grades and the meaning of accuracy/inaccuracy, modestly improve prediction. This may be limited, however, as suggested by the return to a greater level of optimism for exam 4. This could of course be a chance finding requiring further research to explore.

In our study, there were minimal differences in the accuracy of predicted exam scores, mean final grade, and distribution of accuracy scores between the class that received extra credit for accuracy of prediction and the class that did not. This raises the possibility that the prediction exercise is highly intrinsically driven for at least some of the students (as suggested by the spontaneous learning and predictions on subsequent exams (Hacker, Boi, Horgan, et al., 2004). Third, we examined the distribution of the predictor types as a function of extra credit availability (EC) and no extra credit (NCE). The distributions were very different (differences were not statistically significant, p < .05) for the two conditions. EC: 71.6% accurate, 15.4% under, and accurate predictors, respectively; NCE: 69.9%, 25.2%, and 4.9% were under, and accurate predictors, respectively.

To compare our results with those reported by Hacker et al. (2000), we divided students into four groups of academic performance level based on final cumulative exam score % (collapsed by course: Group 1 < 50% (n = 11); Group 2 = 50-59% (n = 24); Group 3 = 60-69% (n = 44); Group 4 = 70-79% (n = 76); and Group 5 = 80-100% (n = 27). We then compared each group’s mean accuracy score for each of the four exams. The results appear in Table 1. The highest achieving students (Group 5) were clearly more accurate (closer to 0) than the other four groups on Exams 1, 2, and 4, with the final accuracy for the highest performing group being 60 times more accurate than the next most accurate group. Extra credit status did not significantly change the results.

Persistence of optimistic predictions in the face of performance feedback

While modest prediction accuracy can improve over time and efforts, there is a substantial range of individual differences, with most students consistently overpredicting their success. Hacker et al. (2000) found that only the highest performing students (80% or

The one noteworthy exception is the better mean prediction accuracy of the poorest performing students when receiving extra credit (0.08) than when not (0.23). This is inconsistent with the generally optimistic self-regulatory beliefs that underpredictors, 59.4 (6.7); p < .001); accurate and underpredictors were not significantly different from one another.

To determine if the availability of extra credit influenced prediction strategy, we examined the distribution of the predictor types as a function of extra credit availability (EC) and no extra credit (NCE). The distributions were very different (differences were not statistically significant, p < .05) for the two conditions. EC: 71.6% accurate, 15.4% under, and accurate predictors, respectively; NCE: 69.9%, 25.2%, and 4.9% were under, and accurate predictors, respectively.

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the degree to which different students actually experience negative affect after failure, independent of predictions: those who are accurate or underpredict may correctly anticipate more negative affect from failure more than those who overpredict, and therefore prefer to ward off disappointment proactively.

Perhaps the unrealistic optimists are those who experience and find intolerable the negative affect created when asked to focus on themselves, thereby interfering with test performance (Geller & Shaver, 1976). In addition, it is widely accepted that education, by asking students to re-examine their beliefs, consider alternative points of view, and push themselves beyond their comfort zones, demands that some tolerance of anxiety is required for true learning (Lyons, 2010; Roediger & Finn, 2009). Or maybe the overpredictors have a more casual investment in their academic performance.

Future study incorporating measurement of affect will be required to address these issues.

On a more positive note, a small group of students systematically improved in prediction accuracy over the semester. In particular, those students who had the highest cumulative exam performance (see Table 1), unlike all other students, showed a linear improvement in accuracy unrelated to exam grades over the semester. This might suggest that grade prediction was one more academic task that the best students learned how to do.

In contrast, those students who continued to predict less accurately, largely in the overoptimistic direction, ended the semester with poorer exam scores than at the beginning. This presents a challenging paradox for instruction: some students (a small minority) seem to improve with a focus on anticipating their own performance, while a majority does worse. How accurate do the overly optimistic students believe they are being and with what confidence? How do they interpret their falling short? What changes in self-understanding causes them to become more accurate at predicting achievement/performance measures.

REFERENCES