Errors in Performance Estimations: Lower Performers Consistently Overestimate Their Exam Scores

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Background:

Prior research (Kruger & Dunning, 1999; Ehrlinger et al., 2008; Dunning et al., 2003), found that when low and average performers estimated their task performance relative to their peers, they estimated that they performed better than they actually did. Higher performers tended to underestimate their relative performance. Kruger and Dunning (1999) found that after feedback on peer performance, higher performers recalibrated their performance estimations in line with their actual performance, whereas lower performers did not.

Research has yet to explore whether the patterns of performance misestimation continue across course exams.
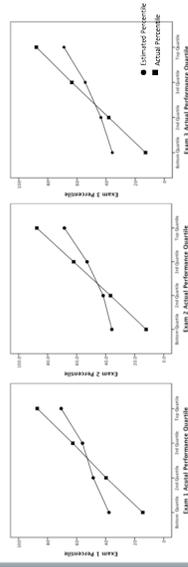
Predictions:

We predict that, consistent with prior research,

➢ low and average performers on each of the course exams will estimate that they performed better, relative to their peers, than they actually did

➢ the lower the actual performance, the greater the disparity between estimated and actual percentile rank

➢ relative to their lower performing peers, the highest performing students will underestimate their percentile rank

In addition,

➢ we predict that after performance feedback, on subsequent exams, consistent high performers will make appropriate performance estimations, and consistent low performers will continue to overestimate their relative performance.

Method:

Participants:

Participants were undergraduate volunteers enrolled in two lower-division university courses: 191 students in chemistry for engineers and 307 students in a nursing course on reproductive biology.

Procedure:

Immediately after finishing each exam, and prior to receiving performance feedback, students answered two questions about their estimation regarding their own and other students' performance on the exam. (These estimates were made before students had any direct knowledge of scores on the exam – their own or those of other students.) The wording of the questions was:

1. Your exam had a total of 100 possible points. How many points do you think that you will receive on this exam? _____ points.
2. How well do you think you performed on this exam compared to other students in the course? I think I performed better than _____ percent of students in the class

Results and Discussion:

➢ As predicted, lower and average performing students in both courses overestimated their relative exam performance, with the greater disparity among those falling in the bottom quartile.

➢ As predicted high performing students in all courses underestimated their relative exam performance.

➢ Contrary to predictions, consistent high performers failed to make corrective assessments on their estimated relative performance across course exams despite exam feedback.

Our study extends prior research on performance misestimation. We have shown that consistently low and high performers do not make systematic changes in their performance estimates across course exams.

Let's discuss the implications of this study for educational practice.

Chemistry:

	Consistent Low Performers "Difference" Scores		Consistent High Performers "Difference" Scores	
Exam	M	SD	M	SD
1	19.98	25.52	-14.49	10.7
2	22.17	18.17	-16.09	14.78
3	20.21	22.99	-11.30	12.22

Nursing:
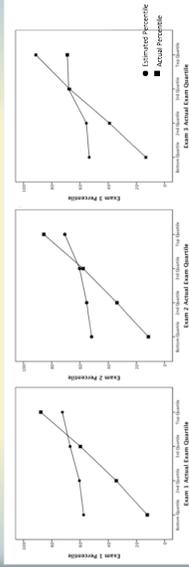
	Consistent Low Performers "Difference" Scores		Consistent High Performers "Difference" Scores	
Exam	M	SD	M	SD
1	46.2	18.48	-17.51	20.92
2	46.08	12.79	-13.58	16.68
3	39.72	22.54	-19.17	21.39

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