

STUDENT PERCEPTIONS OF GRADING PRACTICES: DOES “AVERAGE” CLASS PERFORMANCE EQUAL A “C” GRADE?

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Grade inflation in higher education occurs when students receive a grade that exceeds the level of work performed in the course. In the first study, 5,616 students in 7 disciplines were asked to compare their own performance using a grade label (e.g., average, superior, distinguished) to their expected grade (e.g., C, B, A). When studied in this manner, grade inflation is rampant. For instance, of those students self-reporting “average” work in the class, 52.5% expect the grade of B or A. Study 2 ($N = 326$) added student’s actual grade in comparison to student expected letter grade and self-assigned grade label. When students are asked to compare a letter grade to a letter grade (expected to actual), 61% are accurate in this prediction with only 22.4% over-inflating their expected grade. While grade inflation is evident regardless of the approach used, researchers need to be sensitive to the differential effect of research methodology in estimating the magnitude of the grade inflation present.

The ability of students to accurately self-assess course performance has been a subject of interest to academic researchers (e.g., Balch, 1992; Hudesman, Loveday, & Avramides, 1991; Prohaska, 1994). Research indicates that self-assessment is believed to be loosely associated with grade inflation, such that some students expect a higher grade than they themselves admit they deserve; this outcome is termed self-reported grade inflation (Landrum, 1999). The implications and repercussions of grade inflation have long-term effects at both private and public institutions of higher education, as well as in the employment process (Bearden, Wolfe, & Grosch, 1992; Kwon, Kendig, & Bae, 1997; Weller, 1984). There are numerous theories as to the causes and consequences of grade inflation.

Grade inflation has been defined as “a progressive rise in GPA without a concurrent rise in student ability” (Hadley & Vitale, 1985, p. 4) or “when a grade is viewed as being less rigorous than it ought to be” (Mullen, 1995, p. 2). What prompts grade inflation to occur? One explanation dates back to the 1960s and the 1970s when grading changes occurred at many institutions. Beginning in the 1960s, certain classes were offered with a pass/fail option, as well as the option to take the class but receive no credit and, therefore, no grade (Suslow, 1976). Additionally, in the early 1970s instructors increasingly made alternatives

available to students who desired a higher grade, such as completing extra-credit projects or re-working assignments (Kwon et al., 1997; Weller, 1984). Many of these grading practices (such as extra credit) continue to be in use in the classroom today and may add to the occurrence of grade inflation.

However, changes in course format and policy are not the only possible explanations for grade inflation. Millman, Slovacek, Kulik, and Mitchell (1983) suggested that the grading rubric contributes to grade inflation and other research suggests a general reluctance of instructors to fail students. Some instructors, concerned that they might hinder a student’s pursuit of higher education, may give a higher grade than deserved in order to grant the student a “better” chance at graduate school (Mitchell, 1998; Schuh, 1983; Weller, 1984). Students are seeking an edge that lifts them above the majority, and instructors are often expected to facilitate that by assigning inflated grades (Singleton, 1978; Trout, 1997). Another reason instructors may give higher grades to less-deserving students is to compensate for the unreliability and subjectivity of the imperfect college grading system (Schuh, 1983). That is, some instructors feel that if the grading system is so objective, why deprive a student of a higher grade when the instructor lacks confidence in the grading system itself?

Empirical evidence has demonstrated that students who anticipate higher grades tend to give better instructor evaluations (Gigliotti & Buchtel, 1990; Hoffman, 1983). Because student evaluations are increasingly being used by administrators to facilitate

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the decision-making process of tenure and promotion, instructors tend to view evaluations as a crucial element for improving or maintaining their professional status. For example, an instructor who attains numerous positive student evaluations may rightly anticipate a promotion, a raise in pay, or tenure (Kwon et al., 1997; Schuh, 1983; Trout, 1997; Weller, 1984). This, in turn, could unwittingly encourage instructors to assign higher grades in order to receive better evaluations from students. In addition, certain instructors may be more conscious of student evaluations. Graduate student instructors, for example, may strive for good student evaluations hoping to make a good impression on their faculty advisor. Similarly, instructors who are new to the department may try to gain popularity through higher grades and better evaluations (Mitchell, 1998; Trout, 1997).

Hadley and Vitale (1985) suggested that the 13-point grading scale (A, A-, B+, etc.) is more reliable than the 5-point scale (A, B, C, D, F) and can, therefore, counteract grade inflation to a degree. In their study, they concluded that because instructors have more grade categories to choose from, instructors may be more discriminating in assigning grades. Thus, the student's GPA may more accurately reflect relative student performance (see also Millman et al., 1983).

The ability of the undergraduate student to accurately estimate his or her own grades has been the subject of numerous studies (e.g., Falchikov & Boud, 1989; Goldman, Flake & Matheson, 1990; Hudesman et al., 1991). Regarding the accuracy of student grade prediction, results show that students with a lower GPA tend to overestimate their grades more than students with a higher GPA (Balch, 1992; Gigliotti & Buchtel, 1990; Prohaska, 1994). One conclusion may be that low-GPA students are reluctant to admit to deserving lower grades or they may be unaware of their lower grade (Prohaska, 1994).

Student ability to accurately estimate grades is important because it can demonstrate understanding of the university grading scale. Balch (1992) suggested that accurate student predictions can also show how well students understand instructor expectations. In addition, the accuracy of student self-prediction can provide possible self-motivation to the student. If a student self-assesses his or her knowledge of the coursework to be at a less-than-desirable level, the student may be inclined to study more. If the link between academic ability and the ability to accurately predict grades is further established, instructors may be more likely to help students acquire better study skills. Balch (1992) concluded that teaching students how to

better self-assess comprehension of the course material might be an effective motivation for students to learn better study habits.

The current research is composed of two studies. Study 1 is a replication of an earlier experiment by Landrum (1999) performed on a larger scale. As part of this study, students were asked to assess their level of performance using the grade labels established by the university (e.g., distinguished, superior, average, etc.) and to estimate their letter grade (A, B, C, D, F). Study 2 examined the relationship between the students' predicted letter grades, the students' predicted grade labels (e.g., distinguished, superior, average, etc.), and the actual grades received.

STUDY 1

The goal of Study 1 was to replicate the earlier work of Landrum (1999) using a larger and more diverse sample. Our goal was to answer the following question: when asked about expected grade and self-reported grade label, do students overestimate their grades relative to the grade labels? Said another way, do students who self-report their own performance as "average" expect a grade better than average a C?

Method

Participants. Participants of Study 1 were mostly students enrolled in Spring 1998 (some in Fall 1997) classes in the College of Social Sciences and Public Affairs at a large Western university. Students from Anthropology, Communications, Criminal Justice, History, Political Science, Psychology, and Sociology completed the Course and Instructor Evaluation Questionnaire ($N = 5,616$). See Table 1 for a precise breakdown of participants.

Table 1
Participants in Study 1 by Department

Departments	Participants
Anthropology	414
Anthropology (Fall 1997)	310
Communications	814
Criminal Justice	86
History	1143
Political Science	446
Psychology	1228
Psychology (Fall 1997)	734
Sociology	441
Total	5616

Note. All participants Spring 1998 semester unless otherwise noted.

Materials. The Course and Instructor Evaluation Questionnaire (CIEQ) is presented in Table 2. The first 10 questions concern the evaluation of the course and of the instructor. Participants respond using a 5-point Likert-type scale. Two additional questions asked for an overall rating of the course and for an overall rating of the instructor. The two specific items of interest in Study 1 were answers to the self-assessment statements, “I expect to receive the grade of” (A, B, C, D, F) and “Compared to that of my classmates, the work I

performed in this class was” (distinguished, superior, average, below average, failure). The grade labels listed in the latter question correspond exactly to the university-designated grade labels (A = distinguished, B = superior, C = average, D = below average, F = failure).

Procedure. The CIEQ was distributed to departments prior to the end of the semester. Besides the CIEQ, students also received a scantron-type bubble sheet and were instructed to use a #2 pencil to complete the 14 closed-ended questions. Students were then

Table 2
Course and Instructor Evaluation Questionnaire

College of Social Sciences and Public Affairs Course and Instructor Evaluation Questionnaire						
Please use a #2 pencil and the GREEN bubble sheet provided. If you have no opinion on a particular question, please leave that question blank. For Questions 1-10, please use the following scale:						
Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree		
0	1	2	3	4		
Questions		Responses				
		SD	D	U	A	SA
1. The instructor's presentations increased my knowledge of the subject.		0	1	2	3	4
2. The instructor's methods of evaluation were fair.		0	1	2	3	4
3. The instructor was available during office hours.		0	1	2	3	4
4. I would recommend this instructor to another student.		0	1	2	3	4
5. I felt free to participate (e.g., ask questions) in this class.		0	1	2	3	4
6. The instructor seemed well prepared for class.		0	1	2	3	4
7. The instructor expressed ideas clearly.		0	1	2	3	4
8. The objectives of the course were met.		0	1	2	3	4
9. Assignments and exam results were returned in a timely fashion.		0	1	2	3	4
10. The assignments were of value to my learning.		0	1	2	3	4
For questions 11-14, please use the individual scale with each question.						
11. I expect to receive the grade of		F 0	D 1	C 2	B 3	A 4
12. Overall, I would rate this course as		Poor 0	Fair 1	Good 2	Excellent 3	
13. Compared to that of my classmates, the work I performed in this class was		Failure 0	Below 1	Average 2	Superior 3	Distinguished 4
14. Overall, I would rate this instructor as		Poor 0	Fair 1	Good 2	Excellent 3	

On the back of this page, please feel free to respond to the following questions:

15. What did you find most useful or liked most about the way this course was taught?

16. What did you find least useful or disliked most about the way this course was taught?

Your comments are appreciated.

encouraged to answer the two open-ended questions on the back of the survey form. On average, students completed the CIEQ in 10-15 min. A student volunteer in each class collected the evaluations, placed them in a sealed envelope, and gave them directly to the respective department secretary. All scanning was conducted by the university data center. After the departmental analysis was complete, surveys were re-coded and re-scanned for this study.

Results

Chi-square analyses were conducted on the bulk of the data collected for this study. Due to the categorical nature of grades (A, B, C, D, F) as well as the categorical nature of the labels assigned to grades (distinguished, superior, average, below average, failure), the chi-square analysis makes possible the comparison of two discrete, categorical dependent variables.

A chi-square analysis was conducted examining the association between answers to the self-assessment statements, "I expect to receive the grade of . . ." and "Compared to that of my classmates, the work I performed in this class was . . ." The results of that chi-square were statistically significant, $\chi^2(16, N = 4,624) = 2099.46, p < .001$ (see Table 3 for the frequency distribution).

Table 3
Evidence of College-Wide Grade Inflation by
Frequency of Occurrence

		I expect to receive the grade of				
		F	D	C	B	A
Compared to that of my classmates, the work I performed in this class was	Failure	7	3	2	1	0
	Below average	6	41	102	26	9
	Average	19	64	753	1120	305
	Superior	21	26	67	763	925
	Distinguished	11	1	5	38	309

Student expectations of grade inflation are not localized to one department. When an entire college is examined through student evaluations, students reporting average work overinflate their expected letter grade. To be confident of this effect, we also evaluated each department individually and examined the correspondence between the questions with separate chi-square analyses. We found expectations of grade inflation in every department to a statistically significant level: Anthropology, $\chi^2(12, N = 385) = 168.44, p < .001$, Anthropology (Fall 1997), $\chi^2(16, N = 293) =$

181.03, $p < .001$; Communications, $\chi^2(12, N = 649) = 240.47, p < .001$; Criminal Justice, $\chi^2(9, N = 80) = 36.08, p < .001$; History, $\chi^2(16, N = 962) = 567.63, p < .001$; Political Science, $\chi^2(16, N = 367) = 168.44, p < .001$; Psychology, $\chi^2(16, N = 841) = 397.56, p < .001$; Psychology (Fall 1997), $\chi^2(16, N = 616) = 404.82, p < .001$; and Sociology, $\chi^2(16, N = 423) = 143.86, p < .001$. This effect appears to be robust and not localized to anyone particular discipline.

What are the implications of students having grade expectations that do not match their own self-assessed grade label? How accurate are students regarding their expected grades compared with the actual grades they received? These questions were addressed in Study 2.

STUDY 2

After the semester was completed and grades were submitted, student data on the CIEQ was matched with the actual grades for students enrolled in the class of the first author.

Method

Participants. The CIEQ includes the two key self-assessment statements used to examine student expectations of grade inflation. After the end of the semester when grades were submitted, the evaluation/grade inflation data were "connected" with the actual course grades by matching the last four digits of the students' Social Security Number (SSN). The available data yielded 326 complete archival records containing the expected letter grades, the self-assigned grade labels, and the actual letter grades students received in a lower division General Psychology course. We only accepted results for matching sets of archival data. In the occasional situation in which more than one student shared the last four digits of a SSN, the data were discarded.

Materials and Procedure. The materials were the answers to the key questions on the CIEQ (as described in Study 1 and presented in Table 2) and the actual letter grade (A, B, C, D, F) for each student. The CIEQ was administered as described in Study 1.

Results

The three key variables for examination are the student's expected letter grade (A, B, C, D, F), the student's *self-assessed grade label* (distinguished, superior, average, below average, failure), and the student's *actual grade* (A, B, C, D, F).

Self-assigned grade label and expected letter grade. The chi-square indicates whether there is a significant association between the self-assigned grade labels and the expected letter grades; in this case, there was a statistically significant association, $\chi^2(12, N = 326) = 120.87, p < .001$. This frequency distribution presented in Table 4. Of the 196 students who self-reported their grade label as average, 91 expected a grade of B and 12 expected a grade of A. Hence, student expectation of grade inflation is again verified in this sample, with 52.5% of those reporting average work expecting a grade better than a C.

Table 4
Association between Self-assigned Grade Label and Expected Grade

		I expect to receive the grade of				
		F	D	C	B	A
Compared to that of my classmates, the work I performed in this class was	Failure	0	0	0	0	0
	Below average	0	2	5	1	0
	Average	1	8	84	91	12
	Superior	1	1	10	63	35
	Distinguished	1	0	0	1	10

Self-assigned grade label and actual letter grade. This analysis examines the same self-assigned grade label (distinguished, superior, average, etc.) as before, but the comparison is with the students' actual grade rather than with the expected grade. When this comparison is examined through a chi-square analysis, a statistically significant association occurs, $\chi^2(12, N = 308) = 49.96, p < .001$. This frequency distribution is presented in Table 5. The numbers represented in the diagonal from the upper left to the lower right are students who accurately estimated their grade label (39.7%). The frequencies in the upper right triangle of the table indicate that 44.8% received a grade higher than expected, while 15.5% (in the lower left triangle) received a lower grade than expected. Of the students who self-assigned a grade label of "average" ($N = 187$), 51.8% actually received a grade of B or A. Thus, while grade inflation has been demonstrated when students expect a B (or A) for "average" work, the results here indicate that student expectations are accurate: 52.5% expected grade inflation, and it occurred for 51.8% of the students.

Actual letter grade and expected letter grade. This analysis provides an additional check on the accuracy of student predictions about their grades by comparing the actual letter grades received with the students'

Table 5
Association between Self-assigned Grade Label and Actual Course Grade Received

		Actual course grade received				
		F	D	C	B	A
Compared to that of my classmates, the work I performed in this class was	Failure	0	0	0	0	0
	Below average	1	0	5	2	0
	Average	11	12	67	81	16
	Superior	2	3	16	48	34
	Distinguished	0	0	2	3	5

Note. The shaded diagonal represents those students who accurately matched their letter grade label with their actual course grade received.

expected letter grades. Chi-square analysis found a statistically significant association between actual letter grade and expected letter grade, $\chi^2(16, N = 308) = 224.11, p < .001$ (see Table 6 for the frequency distribution). Examination of the diagonal from upper left to lower right again demonstrates correct estimations by students: for example, 38 students who predicted an A and actually received an A. Students seem to be accurate in this task, with 61.0% of the students accurately estimating their final grade. In the lower left triangle, 16.5% of students received a better grade than expected, while students in the upper right triangle (22.4%) received a letter grade lower than expected.

Table 6
Association between Actual Course Grade Received and Expected Letter Grade

		I expect to receive the grade of				
		F	D	C	B	A
Actual course grade received	F	0	3	6	4	1
	D	0	4	9	2	0
	C	0	3	53	30	4
	B	3	1	27	93	10
	A	0	0	0	17	38

Note. The shaded diagonal represents those students who accurately estimated their received course grade.

DISCUSSION

Results of our two studies found that student's perception of their letter grades and their grade labels are different. When asked about their expectation of their course grade, students tend to overestimate their grade. This is especially evident in Study 2 for students who reported doing average work—52.5% of students reporting average work expect better than a C. However,

51.8% of the students who self-labeled their work as average actually received a grade better than a C. There could be many reasons for this. To many, the word average refers to those whose performance can be classified in the middle of the traditional grade distribution. According to this definition, average refers to the majority of people. Taking into account grade inflation, this definition of average could be applied to the current study because a majority of students receive an A or a B in some classes. Consequently, students may be relying on grade inflation to increase their own expected grade.

In examining the results in Table 3 (Study 1), our primary interest lies in examining the data referring to those students whose self-reported grade label is average in correspondence to their expected letter grade. If our predictions are accurate, student's self-reporting average work should also report an expected letter grade of C. In this college-wide study of seven departments, 2,261 students reported a grade label of average. Of those 2,261 students, 753 expected a C, 1,120 expected a B, and 305 expected an A. That is, of those students who admit doing average work, 63.0% expect a B or an A. This percentage reflects the student expectation of grade inflation.

Of particular interest in Study 1 was the pattern of responses of participants who reported doing average work. Based on our observations, we conclude that the results obtained from Study 1 are consistent with the findings in Landrum's earlier research (1999). As in the earlier study, a majority of students self-reported their own work as average, but expected a letter grade of a B or an A. When students are asked about their grade label (average), they tend to overestimate their expected grade compared to the grade they actually received. Hence, it is fair to say that the B and A grade category labels are less well understood by students (A = distinguished, B = superior). To answer the question asked in the title of this article, the answer is no; students who self-report their work as average tend to ask for higher grades than a C.

When students were asked about their expected grades in terms of A, B, C, D, or F, the results changed slightly. About 61% of students accurately predicted their actual grade. However, 16.5% underestimated their grade, while only 22.4% overestimated their actual course grade. Thus, there is much less over-inflation and better accuracy when students are asked to estimate their grades using the A-F rating scale rather than the grade label classifications. If instructors wish for students to better understand their grade labels (distinguished, superior, etc.), instructors need to educate students about what the labels mean, and more important-

ly, how that instructor actually evaluates student performance to arrive at the grade. Taking the results of Study 2 into account, it seems that students may (a) either have a better than expected understanding of the grading system, or (b) they may not fully understand particular aspects of the grade assignment process (i.e., the translation of course performance based on the grade label into an actual letter grade).

Another reason for the inaccuracy of predictions could be a failure to understand the grading scale of that particular instructor. Certain instructors may interpret the concept of distinguished work differently, but they may also have different expectations for the various classes that they teach. Grade inflation also can exist within one course when multiple sections are offered and taught by different instructors (Mitchell, 1998). The importance of an accurate impression of course performance can be seen in students' self-motivation to study (Balch, 1992). Students need to be able to ascertain their expected grade throughout the semester because this knowledge can help the student adjust to the changing demands of the course and the semester. Given the present data, students should attune more to their expected letter grade rather than their letter grade label. Students in the present study were more accurate with the grade than the label; understanding the label could also be helpful, so instructors need to invest more effort in educating students about grade labels, such as explaining the difference between distinguished, superior, and average work.

A potential limitation of Study 1 could be that the same student could be included in the sample multiple times. However, each faculty member had an individual evaluation for each class taught and students were asked about their expected grade and course performance independent in each class. Even if some students under or overestimated their grades, the expectation would be equally distributed across classrooms and disciplines. The current research relied on data that was largely self-report. As with any self-report data, it is prudent to consider this method of data collection when drawing conclusions. Another concern is the statistical approach chosen to evaluate these grade-based differences. We chose to treat an A-F grading scale as a categorical scale, applying the appropriate nonparametric statistic (the chi-square analysis). Others may consider this scale to have more interval/ratio qualities, suggesting the use of a parametric statistic. Our rationale for the nonparametric approach is that we believe that grades are not ratio scale data, i.e., a "4" (an A) is not necessarily twice as good as a "2" (a C). Hence, if

ratios are not meaningful, a ratio scale data analysis approach seems inappropriate.

A number of important findings emerge from this set of studies. First, using the method of asking students about their expected letter grade and how it matches with their grade label is a robust method of demonstrating grade inflation. When thousands of students from multiple disciplines were tested, each discipline demonstrated significant grade inflation. This is evidenced when, for example, students reporting that their work was average expect grades better than average (C), that is, an A or a B. Second, part of the robustness of this grade inflation effect may be due to the choice of methodology. It appears that when students make the comparison between their expected letter grade and their actual grade (as opposed to self-assessed grade label and expected letter grade), students are more accurate matching a grade to a grade (A→A) than a grade label to a grade (superior→B). When grade inflation is examined in this method (actual grade→expected grade), students are accurate 61.0% of the time. Grade inflation still exists, however, with 22.4% of students expecting a letter grade higher than the actual letter grade received.

Future research may further examine student perceptions of the grade labels for the letter grades of A and B. The current research suggests there is less ambiguity for A and B grade labels, but this needs further inves-

tigation. It would also be interesting to examine whether gender differences exist in the self-estimation of grades. For example, do males overestimate grades more than females? Future research could also examine whether students are better or worse predictors when utilizing the 13-point grading system, and to what extent instructors actually understand the grade system they are asked to implement. Students have difficulty matching average performance to a C grade; what about faculty? Research such as this would further our understanding of how students perceive the grading system.

It is important that students understand what letter grades mean. The studies performed here suggest the possibility that students rely on grade inflation to raise their grade. This is a potential danger because, as awareness of grade inflation continues to increase, instructors may have to re-examine their own grading practices. It is also important that students acquire the skills to accurately self-assess class performance because this ability can help them outside the classroom as well. For instance, accurate knowledge about class performance may serve as motivation for current or future course work. This skill could benefit them not only throughout the semester, but also in the employment community. Students who can accurately assess their own strengths and weaknesses have a better chance to address and improve their own skills.

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