THE IMPACT OF GRADE EXPECTATIONS ON ACADEMIC PERFORMANCE IN COLLEGE ECONOMICS COURSES

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Abstract

We find that student grade expectations are positively and significantly related to academic performance in college economics courses. Expectations concerning grades differed for different ethnic groups. We examined the characteristics for minority and non-minority students where differences in expectations were highly significant. Then we used regression to determine which of those factors were most important in determining expectations. Improvement in the factors that negatively affect expectations may improve students' expectations and contribute to better academic performance and increased knowledge of economics.

Key Words: Factors Impacting College Academic Performance, Expectations and Grades in College Economics Courses, Student Characteristics and Grades

JEL Classification: A2, C2

Introduction and Literature Review

Students that expect to do well in a course may be more likely to work harder since they anticipate being rewarded with a high grade for the effort. In addition, high expectations may reflect confidence in one's ability to succeed, and confidence is likely to enable students to have a calm, thoughtful approach to problem solving. A student's confidence in their ability to succeed academically may prompt the student to seek available academic resources, such as tutoring sessions, meetings with professors, and study materials, all likely to enhance the probability of academic success.

Bennett et al. (2015) found that performance in economics often differs according to student gender, ethnicity, financial stress, major, parental education, and employment status. Research in psychology (Chemers, et al., 2001) has also shown that expectations about academic performance can be a determinant of actual grades since expectations are often self-fulfilling. Limited research has been done on the correlation between the expectations of business students and academic achievement. Arquero et al. (2009) analyzed the characteristics and outcomes for students taking accounting courses. As expected, entrance exam scores were positively related to student performance. Interestingly, their study found that academic self-confidence also positively affected grades. They also measured expectations of study time, finding that females expected to study almost 18 hours a week, while males expected to study only about 13 hours. Smith and Wertlieb (2005) found that a relatively small sample of incoming pre-business students' academic expectations did not align with their first year experiences.

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Students with unrealistically high academic expectations earned lower first-year GPAs than students with average, more realistic expectations. Students with more realistic expectations exerted more effort, studied more and came to class more. Geiger and Cooper's (1995) study of students enrolled in their first college-level business course, found that the student's motivation to achieve future outcomes and the likelihood that the student's actions would lead to this outcome were the best predictors of GPA.

Other research has been done on expectations outside the college business arena. In a study of 134 mostly female psychology students, Nicholson, Putwain, Connors, and Hornby-Atkinson (2013) used regression analysis to show that student expectations explained 16% of the variance in grades at year-end. Students confident in achieving high grades would usually do so, but students' realistic expectation of undergraduate outcomes often included taking personal responsibility for learning the material. Nicholson et al. (2013) concluded that to help improve academic outcomes, realistic expectations of undergraduate study should be encouraged and academic confidence should be developed. In a similar fashion, Charlton, Barrow and Hornby-Atkinson (2006) concluded that college students who entered higher education with low expectations of independent study commitments were most likely to withdraw early. Vollmer (1986) found that after controlling for a student's perceived ability, study effort, and past grades, a college student's expectation of academic success positively affected subsequent grades for both men and women.

Building on Vollmer (1986), Gigliotti and Secrest (1988) sought to explain females' lower expectations for success relative to males in achievement contexts. In this study of almost 400 entering sociology students, male and female, the results showed that success expectancy and grades increased for all genders when students gave high ratings to course meaning (the relevance of the course, the expected stimulation and the expected communication) and familiarity (what can be expected in the class).

A study of urban, commuter college students found a positive correlation between a first semester student's expected grades on college tests and that student's high school grade average, but a negative correlation between expected and actual grades (Weissberg et al, 2003). The suggested explanation for this paradox was that unrealistically elevated high school grades (rampant grade inflation) often communicate false information to students, who may expect that the habits of high school will earn the same results in college.

Analyzing the impact that student expectations have on college retention, Braxton, Vesper, and Hossler (1995) surveyed almost 300 students when they were in high school and again in their freshmen year at a four-year college. The survey included questions on the expectations students had for meaningful learning, small classes, getting into good graduate schools, and other academic concerns, while also considering their expectations for a collegiate atmosphere and career development. They found a significant relationship between the fulfillment of students' expectations and student retention.

Methodology and Results

The College of Commerce and Business Administration (CCBA) is one of six colleges at Jacksonville State University, a public regional university in northeast Alabama with approximately 9000 students. For fall 2012, the CCBA had 906 students enrolled, of which 86 were graduate students. The average ACT score of first time freshmen was 21. Sixty-three percent entered unconditionally with an ACT score of 20 or higher, while 37% were required to take at least one remedial course. Slightly more than half of CCBA students transfer in after

their freshmen year, mostly from local community colleges. The retention rate from first-to-third semester was 69%, while the retention rate from first-to-fifth semester was 44%. The ethnic breakdown was 37% African American; fifty-three percent, Caucasian; and 10% Other. Almost 95% of JSU freshmen apply for financial aid. The average award per semester during this time was $4315, while in-state tuition was $4245 per semester.

The sample for this study consisted of 187 students in principles of microeconomics and principles of macroeconomics, sophomore level courses in the CCBA, during the fall and spring semesters of the 2012-2013 academic year. At the beginning of the semester, students answered a survey that included questions about the grade expected in the course, how many hours they planned to study, how many hours they planned to work at outside employment, whether their parents attended college, their level of financial stress - measured as having difficulty paying tuition and not purchasing required class materials because of financial constraints - and whether financial stress had affected their academic performance during their college career. Additional information on students' gender, ethnicity, GPA in JSU courses, and ACT scores were obtained from University student records. Academic performance was measured by the student's final grade in the course.

Table 1 summarizes the characteristics of the 187 students in the study sample. Almost 53% of the students were women, while approximately 47% were men. Almost 35% were minority students, which included primarily African American students and a very small number of Asian and Hispanic students. The average grade received in the course was 75.1, while the expected grade of 86.4 was more than 10 points higher than the actual. The difference was highly significant with a p-value of 1.62E-34. The average GPA was 2.85, and the average ACT score was 21.24. Students expected to study 4.44 hours per week on average for this course. Slightly more than 26% of the students were first-generation college students, with neither parent having attended college. Almost 60% of the students were employed and worked an average of 23.8 hours per week. Almost 57%, were business majors. Finally, 42.6% of the students felt that financial stress, which is defined as having difficulty paying tuition and not having funds to purchase the textbook and other course materials, had affected their academic performance during their college career.

The literature reports that expectations are often self-fulfilling, and therefore, are important predictors of academic performance This was the case in our sample in which the correlation coefficient between the actual and expected grade was 0.687, highly significant with a p-value of 1.52E-8. In Tables 2-6, we compare actual and expected grades according to different student characteristics. Actual and expected grades for women were slightly higher than actual and expected grades for men, but the differences between the two groups were not significant. There were slight, but not statistically significant, differences between actual and expected grades for first-generation college students compared to students with at least one parent who had attended college. The differences in actual and expected grades were small and insignificant for business majors compared to non-business majors.

Significant differences in both actual and expected grades did occur for different ethnic groups as well as for students who were financially stressed versus those who were not financially stressed. The average grade for non-minority students (79.15) was more than 11 points higher than the average grade for minority students (67.7). Non-minority students' expected grade averaged 88.74, while minority students expected grade averaged 82.10. The differences for both were highly significant with p-values of 4.1E-09 and 1.2E-09, respectively. For students that were financially stressed, the average grade was 71.45 versus 77.84 for students

that reported no financial stress. Financially stressed students had lower expectations, with an average expected grade of 84.78 compared to 87.6 for non-stressed students. These differences were significant, having p-values of 0.0014 and 0.01, respectively.

Table 1: Student Characteristics

Gender	
Female	52.9%
Male	47.1%
Ethnicity	
African American	30.5%
Asian	3.2%
Hispanic	1.6%
Caucasian	64.7%
Average Grade	75.1 (13.7)
Average Expected Grade	86.4 (7.53)
Average GPA	2.85 (0.65)
Average ACT	21.24 (4.16)
Average Expected Hours Studied	4.44 (3.01)
Parental Education	
Neither parent attended college	26.2%
Father only attended college	10.7%
Mother only attended college	26.2%
Both parents attended college	36.9%
Student Work Hours	
Not employed	39.6%
< 20 hours per week	20.9%
>20 hours per week	39.6%
Average hours worked	23.8 (11.33) n=113
Major	
Business	56.7%
Non-business	43.3%
Financially stressed	42.6%

Values in parentheses are standard deviations. n=187

Table 2: Average Grades and Expected Grades by Gender

	Men n=88	Women n= 99	Significance
Grade	74.87 (15.29)	75.32 (12.23)	p = 0.41
Expected Grade	86.11 (8.21)	86.64 (6.91)	p = 0.336

Values in parentheses are standard deviations.

Table 3: Average Grades and Expected Grades by Parental Education

	Neither Parent Attended College n=49	At Least One Parent Attended College n=138	Significance
Grade	77.41 (12.73)	74.26 (14.0)	p = .15
Expected Grade	86.14 (8.47)	86.48 (7.21)	p = .81

Values in parentheses are standard deviations.

Table 4: Average Grades and Expected Grades by Major

	Business Major n = 106	Non-Business Major n = 81	Significance
Grade	75.81 (13.29)	74.19 (14.29)	p = .429
Expected Grade	86.57 (7.29)	86.16 (7.89)	p = .719

Values in parentheses are standard deviations.

Table 5: Average Grades and Expected Grades by Ethnicity

	Non-Minority n=121	Minority n=66	Significance
Grade	79.15 (13.03)	67.70 (11.78)	p = 4.1E-09
Expected Grade	88.74 (6.90)	82.10 (6.74)	p = 1.2E-09

Values in parentheses are standard deviations.

Table 6: Average Grades and Expected Grades by Level of Financial Stress

	Stressed n=80	Not Stressed n=107	Significance
Grade	71.45 (13.55)	77.84 (13.21)	p = .0014
Expected Grade	84.78 (7.28)	87.6 (7.48)	p = .01

Values in parentheses are standard deviations.

Since the largest and most significant differences occurred between minority and non-minority students, we compared the characteristics of those groups in Table 7. For non-minority students, average ACT and GPA were both significantly higher, while the number of hours worked and time planned for study were both significantly lower. A significantly higher

percentage of minority students felt that financial stress had affected their academic performance.

Table 7: Characteristics of Minority versus Non-Minority Students

	Minority	Non-Minority	Significance
GPA	2.46 (0.52)	3.07 (0.62)	p = 8.22E-12
ACT	18.35 (2.45)	22.82 (4.07)	p = 1.33E-17
Work Hours/Week	26.43 (9.46)	22.57 (11.96)	p = .067
Study Hours/Week	5.68 (3.87)	3.77 (2.15)	p = .0004
Financially Stressed	53.0%	37.2%	p = .036

Values in parentheses are standard deviations.

In order to determine the impact of these factors on expected grades, we regressed gender, ethnicity, GPA, ACT, major, expected hours working at outside employment, planned study hours, parental education, and financial stress on expected grades as the independent variable. See Table 8.

Table 8: Regression Results for All Variables on Expected Grades

	Entire Sample	Non-Minority	Minority
Gender 0=female; 1=male	-0.7570 (0.397)	0.511 (0.625)	-3.632 (0.032)
Ethnicity 0=non-minority 1=minority	-1.9290 (0.080)		
GPA	4.6448 (0.000)	5.924 (0.000)	2.136 (0.228)
ACT	0.4753 (0.000)	0.3689 (0.011)	0.8696 (0.014)
Major 0=non-business 1=business	0.2823 (0.750)	-0.391 (0.708)	1.672 (0.307)
Hours worked	-0.0627 (0.043)	-0.0292 (0.426)	-0.1187 (0.046)
Hours studied	0.0631 (0.687)	0.3312 (0.191)	-0.0713 (0.738)
Parents' college 0=at least one attended 1=neither attended	-0.1772 (0.857)	-0.509 (0.676)	0.616 (0.716)
Financial stress level 0=not stressed 1=stressed	0.7928 (0.401)	-0.348 (0.761)	2.580 (0.123)
Number observations	187	121	66
R^2	0.438	0.411	0.283

P-values are in parentheses.

For the entire sample of 187 students, GPA and ACT had significant positive effects, while the dummy variable for minority students and the number of hours worked had significant negative effects. When the sample was divided into minority and non-minority students, the

only significant variables for the non-minority students were ACT and GPA. For the minority students[1], GPA was not significant, but there were significant negative effects for number of hours worked and for male students.

Numerous stepwise regressions with various combinations of independent variables regressed on the expected grade as the dependent variable were performed to determine the final regression results in Table 9. For the entire sample, ACT and GPA had significant positive effects on expected grades, while being a minority student and number of hours worked had significant negative effects. For the sample of non-minority students, only ACT and GPA were significant. For the minority students, ACT had a significant positive impact, while being male and hours worked had a significant negative impact.

Table 9: Final Regression

	Entire Sample	Non-Minority	Minority
Gender 0=female; 1=male	-0.8194 (0.347)	0.537 (0.600)	-3.553 (0.032)
Ethnicity 0=non-minority 1=minority	-1.804 (0.089)		
GPA	4.4182 (0.000)	5.8943 (0.000)	2.283 (0.171)
ACT	0.4759 (0.000)	0.3684 (0.009)	0.867 (0.013)
Major 0=non-business 1=business			1.684 (0.295)
Hours worked	-0.0550 (0.061)	-0.0348 (0.319)	-0.1215 (0.032)
Hours studied		0.3021 (0.217)	
Financial stress level 0=not stressed 1=stressed			2.609 (0.107)
Number observations	187	121	66
R^2	0.435	0.409	0.279

Values in parentheses are p-values.

Summary and Conclusions

Our results indicate that expectations are positively and significantly correlated with academic performance in economics principles classes. Students that expected higher grades usually had higher ending averages than those whose initial expectations were lower. We found that actual and expected grades of minority students were significantly lower than those of non-minority students. Minority students had significantly lower GPAs and ACT scores than non-minority students, worked significantly more hours per week, and a significantly higher percentage of minority students felt that financial stress had negatively affected their academic performance.

[1] Athough research has shown differences in ACT and high school GPA for Asian and African-American students, both groups are included in minority students. A Chow test to determine if it was appropriate to combine the two groups showed no difference in those students in our sample.

Addressing the factors that negatively influence expectations may result in higher expectations, and since expectations are often self-fulfilling, may lead to improved academic performance and increased knowledge of economics. Since hours worked and financial stress both had significant negative impacts on expectations, guidance in forming a financial strategy to reduce the number of student work hours by developing a reasonable budget and taking advantage of available scholarships and co-op programs may be helpful. In addition, college counselors could mentor students to develop specific academic and work plans designed to help them formulate and achieve their long-term goals. Effective study tips, including college academic support systems, and methods to enhance the student's expectations and confidence could be introduced.

For further research, we suggest studying the effectiveness of the various retention strategies in use. For example, some community colleges in Alabama have embraced the concept of "advisors on steroids," where the advisor serves as a mentor, counselor, and motivator on-call 24 hours a day. While extreme, this innovative method has shown success.

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