

# Research & Analysis

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## HILLSBOROUGH COMMUNITY COLLEGE STUDENT ABSENCE STUDY

In spring 2008, the office of Institutional Research & Grants collaborated with the Student Success Committee to collect data to investigate the relationship between first-day class attendance and success in courses. An email was sent to full-time and adjunct faculty members by the Director of Associate in Arts requesting volunteers to participate in the study. A total of 48 faculty members submitted data for 201 sections. The grade distributions by first-day attendance for these sections are displayed in Table 1:

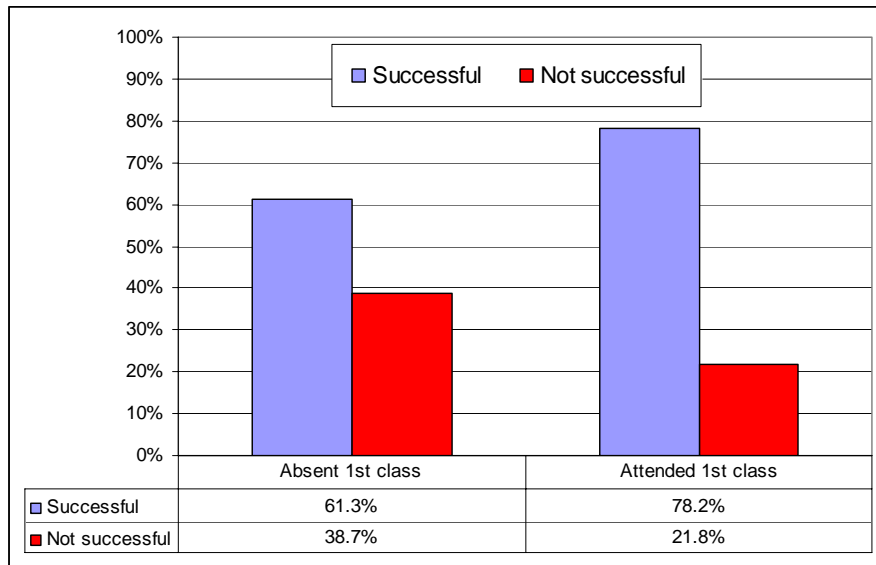
Table 1

	Absent 1 <sup>st</sup> class		Attended 1 <sup>st</sup> class	
A	116	11.1%	1,030	24.7%
B	204	19.6%	1,010	24.3%
C	220	21.1%	876	21.1%
D	72	6.9%	231	5.6%
F	94	9.0%	285	6.8%
FX	147	14.1%	241	5.8%
N	28	2.7%	63	1.5%
S	2	0.2%	25	0.6%
U	1	0.1%	0	0.0%
W	159	15.2%	401	9.6%
	1,043	100.0%	4,162	100.0%

Grades of *A*, *B*, *C*, and *S* (satisfactory) were classified as “successful,” while grades of *D*, *F*, *FX* (instructor assigned failing grade for non-attendance), *N* (“no credit” grade assigned only in College Prep courses; students must re-enroll), and *U* (unsatisfactory) were categorized as “unsuccessful.” Fifteen *I* (incomplete) grades had been assigned at the end of spring 2008. An incomplete must be removed by the end of the eighth week of the following term, excluding summer, or it is changed to a grade of *F*. The students’ academic records were searched to determine the updated grades; in ten cases, the grade was changed to *F*, two were changed to *A*, one became a *B*, and two were withdrawn. The grade changes were incorporated in Table 1. Students who withdrew from the course (i.e. received a grade of *W*) were not included in subsequent analyses.

The percentages of students who were successful versus not successful were compared based on their attendance at the first class session. The percentages are shown in Figure 1. Of students who attended the first class, 78.2% were successful. In contrast, only 61.3% of the students who were absent from the first session were successful.

Figure 1  
Course Success by Attendance at First Class Session – Spring 2008



A chi-square analysis was then conducted to determine if these differences were statistically significant. The analysis revealed a statistically significant difference ( $X^2 = 108.79, p < .0001$ ): that is, students who attended the first class were more likely to be successful in the course. Since statistical significance can be attained when the sample size is large, a post hoc analysis to determine the effect size (a measure of the strength of the association) was conducted. The most appropriate statistic for this 2 x 2 table is the phi coefficient. Based on commonly accepted interpretation of phi, this effect size was small (phi = .153). However, it must be noted that large effect sizes are uncommon in social science and educational research.

Letter grades were next converted to a numerical scale in order to test the relationship between the number of absences and course grades. Using HCC's grading scale for calculating GPA (*HCC Catalog 2008-2009*, p. 66), an A was converted to 4.0, B = 3.0, C = 2.0, D = 1.0, F and FX = 0.0. The strength of the relationship between attendance and course grades was computed using a Pearson correlation coefficient and was statistically significant ( $r = -.28, p < .0001$ ). The negative coefficient indicates that as absences increased, grades declined.

### FALL 2008

In fall 2008, the Student Success Committee requested that the office of Institutional Research & Grants conduct the study of the impact of first class attendance on student success for an additional term. Thirty (30) faculty members volunteered to participate. In the spring term, faculty members had recorded absences on paper forms that required manual data entry by Institutional Research staff. In the fall term, a password-protected Excel workbook was set up for each faculty member on a shared drive, with the names of registered students in a separate spreadsheet for each section. Of the 30 faculty who volunteered to track student absences, 23 input data for one or more of their course sections. Although the instructions that faculty received indicated that sections were labeled on the tabs at the bottom of the workbook, several faculty input data only on the first spreadsheet.

The data shown in Table 2 included 3,486 students who were enrolled in 128 sections. The table displays all grades awarded in the sections for which attendance data were available.

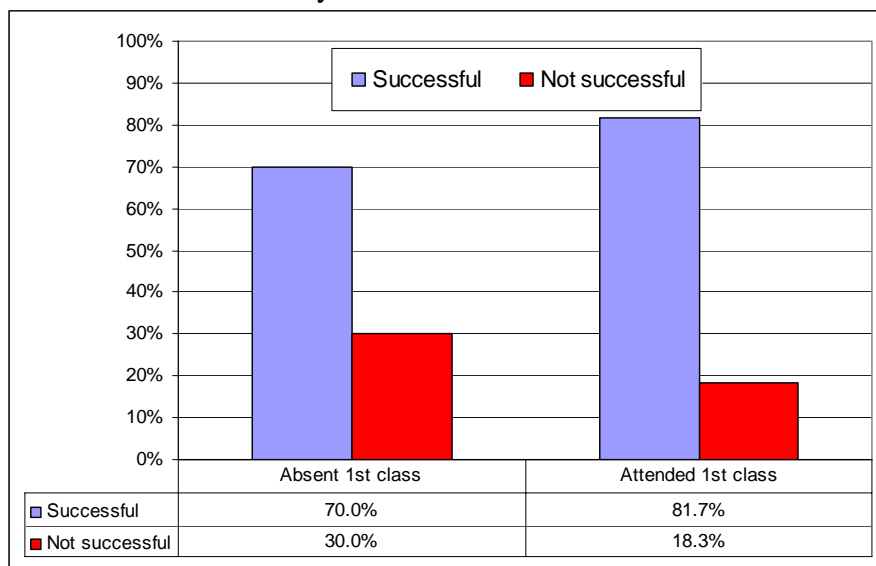
Table 2

	Absent 1 <sup>st</sup> class		Attended 1 <sup>st</sup> class	
A	54	14.1%	800	25.8%
B	79	20.6%	787	25.4%
C	71	18.5%	610	19.7%
D	18	4.7%	189	6.1%
F	36	9.4%	157	5.1%
FX	36	9.4%	158	5.1%
N	1	0.3%	12	0.4%
S	6	1.6%	71	2.3%
U	0	0.0%	4	0.1%
W	82	21.4%	315	10.2%
	383	100.0%	3,103	100.0%

Using the same method as in the previous term, grades of *A*, *B*, *C*, and *S* were classified as “successful” while grades of *D*, *F*, *FX*, *N*, and *U* were categorized as “unsuccessful.” Four *I* (incomplete) grades had been assigned at the end of fall 2008. A search of the students’ academic records revealed that one grade had been changed to an *A*, one became a *B*, one was a *C*, and one was changed to an *F*. The grade changes were incorporated in Table 2.

Students who withdrew from the course (i.e. received a grade of *W*) were not included in subsequent analyses. Two students who had audited and one who had no grade assigned were eliminated from analyses.

Figure 2  
Course Success by Attendance at First Class– Fall 2008



The percentages of students who were successful were larger for both groups of students in fall when compared to the spring results. A chi-square analysis found that the fall differences also were statistically significant ( $X^2 = 23.67, p < .0001$ ), but the effect size was very small ( $\phi = .088$ ).

Letter grades were converted to a numerical scale using the same methodology previously described to determine the relationship between absences and course grades. Although the faculty tracked absences for six class sessions, only the first four were used in this analysis, for

comparability to the previous term. The correlation was similar to that found for the spring data ( $r = -.25, p < .0001$ ) and also was statistically significant. Not surprisingly, when all six sessions were included in the analysis, the relationship was slightly stronger ( $r = -.28, p < .0001$ ). The amount of variance in final grades accounted for by the number of absences can be determined by squaring the correlation coefficient. For example, in the last analysis,  $r = -.28, r^2 = .078$ , and is interpreted as follows: approximately 7.8% of the variability in student grades can be accounted for by student absences.

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