

ECON Math-Precursor Study Fall 2008

Introduction and Methods

Statewide there is a movement to require Intermediate-Algebra courses as a pre-requisite for Community College Economics courses in order to be qualified for transfer to the California State College system. This issue prompted the Chair of the Business Department, in collaboration with the Office of Institutional Research, to design a study to examine whether completion of an Intermediate-Algebra Math class or above increased the likelihood that students would be successful in an Introductory Economics class. The research question posed was that the Math-precursor group did not have significantly different success rates in ECON 1 and ECON 2 as compared to a non-Math precursor group.

In order to answer this question, student success records for ECON 1 and ECON 2 were pulled from the 07/08 academic year. These students were then grouped by whether or not they had successfully completed a Math course at the level of MATH 233 or above. In order to determine if other factors might be contributing to any differences found, the two groups were compared on sex, ethnicity, and age.

Results and Discussion

Comparisons using *t*-tests and *chi-squared* analyses found that the groups did not differ significantly except for age ($t = -6.255[1,806]$, $p = .000$) (See Table 1). The non-precursor-Math group was significantly older than that the precursor Math group.

Table 1: *Age comparison between groups.*

	Math Precursor Group	N	Mean	t-score	sig
Age	Non-Precursor Math	1432	22.92	1.830	.066
	Precursor Math	376	22.20		

The comparison of the two groups and their respective success rates in ECON courses, revealed significant differences between groups ($t = 1.83[1,806]$, $p = .066$), with the precursor Math group having higher levels of success (See Table 2).

Table 2: *Success comparison of students who took a Math precursor vs. those who did not.*

Math Precursor Group	N	Success Mean	t-test score	Sig
Non-Precursor Math	1432	.63	-6.029	.000
Precursor Math	376	.80		

Prior to considering these results, several limitations of this study must be acknowledged. Firstly, there are a variety of factors that make the pre-cursor Math group different than the non-precursor Math group, some of which may have affected the results. For example, it was found that the students who did not take the precursor Math course tended to be older than those who did not. So, the differences found between the two groups on ECON success may be due to age, with older students doing less well. There are likely other un-tested factors that make these two groups qualitatively different, thus affecting the results.

Acknowledging these limitations, the results seem to reveal significant differences between these two groups with Math precursor group having higher levels of success in ECON classes. While there are many factors that might be contributing to these differences, completion of an Intermediate Algebra course may provide an important preparation for success in an ECON class. Math courses may provide important skills either Mathematical or otherwise which helps students complete an Economic course. Again, these findings need to be tempered because of the potential differences in these two groups.