Purpose

We rigorously looked at student participation in curricular and co-curricular entrepreneurship experiences. In an attempt to control for the diversity of opportunities available to entrepreneurship students, we selected to study students involved in a single institution entrepreneurship program that have the option of participating in two co-curricular activities with high levels of institutional support and varying levels of student engagement. This focus was selected to establish the basic relationships between student characteristics and student selected paths to entrepreneurship education, curricular, co-curricular or both.

Introduction

Many engineering programs augment their curricula by offering co-curricular entrepreneurship experiences, allowing students to put entrepreneurial skills into practice, such as competitions or mentorship. Often, these co-curricular experiences are used to offer students entrepreneurship education while addressing the concern that there is a limited availability for electives in engineering curriculum. As these new entrepreneurship programs continue to thrive and innovatively develop across engineering colleges, there is value to deconstructing the entrepreneurship education students experience to better understand the impact of such comprehensive programs, not only as a research question but also for more effective administration.

Few studies evaluate the impact of student characteristics and their participation in entrepreneurship opportunities outside of the classroom. We adapted Terenzini and Reasons’ (2005) college impact model to examine relationships between student characteristics (e.g., gender and academic performance) and entrepreneurship education programmatic choices (e.g., curricular and co-curricular) on students in a single Midwest research institution.

We define co-curricular experiences as student, self-selected, non-credit bearing entrepreneurship experiences that can be characterized by two different variables, level of institutional support and level of student engagement.

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Methods

Entrepreneurial Site & Data Collection

Data was collected from an entrepreneurship program anchored in a large, Midwest, public research university, college of engineering center for entrepreneurship (CFE). We define co-curricular experiences as student, self-organized experiences for entrepreneurship students, we selected to control for the diversity of opportunities available to entrepreneurship students, we selected to study students involved in a single institution entrepreneurship program that have the option of participating in two co-curricular activities with high levels of institutional support and varying levels of student engagement. This focus was selected to establish the basic relationships between student characteristics and student selected paths to entrepreneurship education, curricular, co-curricular or both.

Participants

1,018 undergraduate students participated in these curricular and co-curricular activities between 2007 and 2013.

Analysis

Multiple univariate analysis was used to test differences among groups. Chi-squared tests were used to tests differences in the distribution of participation. We also conducted t-tests to compare mean differences in GPA (at their first semester and the cumulative GPA in the last semester enrolled in the institution) between students enrolled in the curricular program and those who only participate in co-curricular activities.

Results

We found differences between students who enrolled in the curricular program and those who participated in the two specific co-curricular programs organized by the CFE.

- Gender seems to be a key factor in determining the type of participation. Female students represented 32% of the population enrolled in the curricular program. In contrast, female students were only 22% of the curricular population.
- The same proportion of international students participated in both types of programs (10% approx.).
- Among U.S. citizens and permanent residents, underrepresented minority students also participated at the same rate (10% approx.) in both types of programs.
- Results also suggested differences in academic performance prior to enrolling in the institution. Students who only participated in co-curricular programs had a greater GPA (3.36) than their counterparts (3.21).
- Considering the last semester registered for each student by 2013, students who only participated in co-curricular programs had a greater cumulative GPA (3.58) than their counterparts (3.24).

Discussion & Conclusion

- Given the nascent state of the field of entrepreneurship education research, there is very limited research published regarding gender and entrepreneurship education. Our finding and several societal findings suggest that a deeper evaluation of entrepreneurship education in relation to gender is worthy of further investigation.
- Our results indicate that students who only pursued co-curricular experiences for entrepreneurship had higher pre-college GPAs than those enrolled in the curricular program. This result is partially consistent with Bilén et al.’s (2005) finding that students attracted to entrepreneurship programs had higher SAT scores than the general population. However, we do not have a clear answer to the differences we found between the two paths.

Key References


