Entrepreneurship Education: Attitudes Across Campus

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ABSTRACT. The authors investigated student and faculty attitudes toward entrepreneurship and entrepreneurship education. The authors collected data from 317 students and 87 faculty members at a comprehensive 4-year university to examine students' level of interest in entrepreneurial education, perceptions of motivations and barriers to start-up businesses, and occupational aspirations. Student and faculty respondents represented a variety of disciplines in and outside colleges of business. Key findings follow: (a) Student and faculty views on entrepreneurship often differ dramatically, particularly in terms of students' occupational aspirations; (b) interest among nonbusiness students suggests a significant opportunity to formally expand entrepreneurship-related education beyond the business school; and (c) in contrast to previous researchers, the authors identified no significant differences between male and female students regarding interest in entrepreneurship.

Keywords: entrepreneurial disposition, entrepreneurship education, faculty, gender

Small businesses represent 99.7% of all employer firms in North America (U.S. Small Business Administration, 2001). Therefore, it appears that universities, especially business schools, should be preparing their students for entrepreneurship. Although this field of study has become increasingly popular, most entrepreneurial education remains in the confines of business schools (Volkman, 2004) and focuses on business students in entrepreneurship courses (Shay & Terjensen, 2005). Shay and Terjensen stressed the need to look outside colleges of business and call for further investigation of the aspirations and intentions of entrepreneurship students. Therefore, we examined perceptions of entrepreneurship and entrepreneurship education among students and faculty in and outside the college of business.

We surveyed more than 400 students and faculty at a comprehensive 4-year public university to examine students' interest in entrepreneurship, faculty awareness of this interest, and institutional support. In the present article, we also address whether entrepreneurship should be part of the coursework for students outside colleges of business. We offer a brief review of the current state of entrepreneurship education and present evidence supporting the expansion of college-level entrepreneurial education beyond the walls of business schools.

Entrepreneurship

According to recent statistics presented by the U.S. Small Business Administration (2001), two thirds of college students intend to become entrepreneurs at some point in their careers. In addition, small businesses play an important role in the American economy. Data from the U.S. Census Bureau (2001); U.S. Department of Labor, Bureau of Labor Statistics (2001); and U.S. Department of Commerce, International Trade Administration (2001) indicate there are approximately 26 million small firms in the United States that (a) represent 99.7% of all employer firms; (b) employ half of all private sector employees; (c) pay 44.3% of the total U.S. private payroll; (d) generate 60%–80% of net new jobs annually; (e) create more than 50% of nonfarm, private gross domestic product; (f) employ 39% of high-tech workers (e.g., scientists, engineers, computer workers); (g) make up 97% of all identified exporters; and (h) produce 29% of the known export value (in 2001).

Entrepreneurship Education

Some institutions offer entrepreneurship classes outside business schools, including engineering (Rae-Dupree, 2001), art (Gose, 1997), geography, earth, environmental science (Maguire & Guyer, 2004), and nursing (Dickerson & Nash, 1999).

Fine and performing arts students, for example, have industry-oriented majors aimed at students interested in museums, commercial galleries, recording studios, artist management, and other business-oriented careers. In addition, Mangan (2004) identified strong efforts to introduce entrepreneurship education in history departments and music schools. According to Saboe, Kantor, and Walsh (2002), entrepreneurship has also been introduced at the middle school level with at-risk youth in an effort to increase students' interest in classes and help them to "establish their own businesses and gain financial security" (p. 80).

By extending entrepreneurship education beyond the business school, educators seek to better prepare their students for a changing labor market. Smith (2003) indicated that such student preparation has become increasingly important because "researchers anticipate a future business landscape dominated by small companies and opportunities for self-employment. . . . By including entrepreneurship in the basic business curriculum now, business educators will better prepare students for a changing environment" (p. 23). According to Rae-Dupree (2001), "Twenty-five years ago, the majority [of engineers] worked for federal or state government or big, established corporations where they were valued primarily for their technical skills. But now . . . many engineers go to work for small start up companies" (p. 36). Such organizations seek more than technical skills, expecting their employees to act as intrapreneurs who know how to promote ideas and innovations in a business setting (Rae Dupree). Mangan (2004) wrote that in nursing schools, entrepreneurship courses can prepare students for developing "nursing-related business, like weight-management and travel clinics, which offer immunization and medical information" (p. A10).

Collaboration across disciplines through entrepreneurship courses has the potential to strengthen students' teamwork skills, foster innovative thinking and risk taking (Mangan, 2004), and develop a success orientation that makes students more likely to focus on becoming professionals and entering the workforce (Bell-Rose & Mariotti, 2004). For example, collaboration among engineering and master of business administration students at the Massachusetts Institute of Technology resulted in the creation of real business opportunities and heightened learning experiences (Rae Dupree, 2001). Furthermore, according to Hines (2005), social entrepreneurship is seen as a way to promote students' civic engagement and consists of creating profitable ventures "directed toward solving social problems and meeting consumer or constituent demands" (p. 5). For example, students at Santa Clara University created a company that helps homeless people find employment (Mangan). Last, business skills are also becoming increasingly important for the 1.4 million nonprofit organization managers. Competition for government and philanthropic funds requires these managers to possess strong business skills maximize efficiency and successfully pursue investors (Mangan). Research on entrepreneurship education has also given much attention to gender differences, which we discuss in the next section.

Entrepreneurship and Gender

Researchers have reported higher entrepreneurial interest among male students (Kourilsky & Walstad, 1998; Shay & Terjensen, 2005; Wilson, Marlino, & Kickul, 2004). According to Kourilsky and Walstad, in a sample of nearly 1,000 American teenagers, "females were significantly less likely than males to want to start their own business (62% versus 72%)" (p. 78). Other researchers found similar results, indicating that men expressed higher entrepreneurial interest than did women, a relation that was consistent across Hispanic, Black, and White youth (Wilson et al.). Last, results from Shay and Terjensen's five-nation study indicated that male students had significantly greater entrepreneurial aspirations and more aggressive start-up timelines and business goals. We examined male and female entrepreneurial aspirations across campus, examining the relations between students' major field of study and gender.

METHOD

Students and faculty at a comprehensive 4-year public university were surveyed. Student surveys were distributed in selected classes in the business school and various departments (art, communication, exercise science, foreign languages, history, and political science) across the university. Because class time was used toward this effort, all of the surveys distributed were completed, yielding 317 usable surveys. The faculty version of the survey was mailed to all 630 university faculty (full and part time). In all, 84 usable surveys were returned by way of campus mail, constituting a 13.3% response rate.

The survey instrument was developed at the University of Alicante, Spain, and was used with permission. It was translated into English and then back-translated into Spanish to check for consistency. The survey consisted of Likert-type scale questions and several demographic questions. Statistical analysis was completed using SPSS version 14.0 and consisted of *t* tests, analysis of variance, and general linear modeling. The Levene's test was used to test for significant differences in variance between the two groups. When found, equal variances in the subsequent *t* tests were not assumed.

Participants

Participants were 317 students (186 men [58.6%] and 131 women [41.4%]) who completed the survey. In terms of field of study, 60.4% were business majors, 38.6% were majors in other fields, and approximately 1% did not have a declared major and were included as nonbusiness majors in subsequent analysis. In addition, 13% were freshmen, 10.4% sophomores, 32% juniors, and 44.6% seniors. Of all the students, most (82.6%) were in-state, 16.4% were from other American states, and few were international students (1%).

Among the 87 faculty members who completed the survey, there were 22 (25.3%) lecturers, 22 (25.3%) assistant professors, 26 (29.8%) associate professors, and 17 (19.6%) full professors. The average age was 48.6 years (*SD* = 10.9 years), ranging from 27 to 77 years. In terms of academic affiliation, 20 (23%) were in the college of business, and the remaining 67 (77%) were from a wide range of disciplines.

RESULTS

Students' Entrepreneurial Disposition

On a 7-point Likert-type scale ranging from 1 (*not entrepreneurial at all*) to 7 (*very entrepreneurial*), students ranked themselves on average as 4.26 (SD = 1.53). A comparison between business and nonbusiness majors yielded significant results, $t(228.1) = -5.07$, $p < .001$. Business majors rated themselves as significantly more entrepreneurial (M = 4.61, SD = 1.36) than did nonbusiness majors (M = 3.72, SD = 1.62). In addition, a comparison between students' self-assessment of entrepreneurial disposition (M = 4.26, SD = 1.53) and faculty perceptions of their students' entrepreneurial disposition identified significant differences, $t(147.8) = 6.36$, $p < .001$. Faculty mean ranking of students' entrepreneurial disposition was only 3.24 (SD = 1.19) on the same scale. In fact, 50.6% of students rated themselves as a 5 or higher on entrepreneurial disposition, whereas only 15.4% of faculty did. In addition, when comparing faculty ranking, business faculty ranked students higher on entrepreneurial disposition (M = 3.45, SD = 1.01), compared with nonbusiness faculty (M = 3.1, SD = 1.26). However, this difference was not statistically significant, $t(72) = 1.18$, $p = .24$.

Curriculum Content and University Stimulation

Students' (business and nonbusiness) perceptions as to the degree to which their major offered information on starting a business and that to which the university stimulated students to start their own business were assessed and compared with faculty's (business and nonbusiness) perceptions. Both questions were measured on a 4-point Likert-type scale ranging from 1 (*a lot* or *greatly*) to 4 (*none* or *none at all*). Students felt that entrepreneurial skills were part of their curriculum to some extent (M = 2.39, SD = 1.91). However, business majors (M = 2.7, SD = 0.8) felt that entrepreneurial skills were significantly more present in their curriculum, $t(313) = -8.08$, $p < .001$, compared with nonbusiness majors (M = 1.92, SD = 0.87). Faculty felt that entrepreneurial skills were a less important part of the curriculum, when compared with how students felt (M = 2.2, SD = 0.99), but this difference was not statistically significant. When comparing faculty's perceptions, business faculty felt that entrepreneurial skills were a significantly more important part of the curriculum (M = 2.68, SD = 0.99) than did non business faculty (M = 1.98, SD = 0.91), $t(75) = 2.96$, $p < .005$.

In terms of university stimulation, students' (M = 2.39, SD = 0.68) and faculty's (M = 2.29, SD = 0.64) perceptions regarding the degree to which the university stimulated students to start their own business were not significantly different. However, when perceptions of business and nonbusiness majors were compared, a statistically significant difference was found, $t(313) = -2.46$, $p < .05$. Namely, business majors felt there was more university stimulation (M = 2.46, SD = 0.65) than did nonbusiness majors (M = 2.27, SD = 0.7). Significantly different views regarding the degree of university stimulation were also expressed between business and nonbusiness faculty, $t(65) = 2.86$, $p < .05$, in that business faculty perceived university stimulation to be stronger (M = 2.62, SD = 0.67) than did nonbusiness faculty (M = 2.15, SD = 0.6).

Occupational Aspirations

Students' occupational aspirations and faculty's perceptions thereof were examined and compared (see Tables 1 and 2). Because only 3 students (0.9%) selected *working in my family's business*, this category was excluded from final analysis. First, faculty's perceptions of student aspirations appear quite different from the students' self-reported aspirations. However, those differences were significant, $F(1, 393) = 3.13$, only at the level of $p = .078$. Second, when comparing business and nonbusiness majors, significantly different occupational aspirations were identified, $F(1, 313) = 51.64$, $p < .000$ (see Table 2). That is, although there was some interest in entrepreneurial careers among nonbusiness majors (16.9%), business majors were more likely to want to start their own business (35.4%). Last, when the relation between entrepreneurial disposition and occupational aspirations was tested, significant differences were found in that students ranking higher on entrepreneurial disposition were more likely to aspire to start their own business, $F(6, 379) = 23.26$, $p < .000$.

TABLE 1. Students' Occupational Aspirations and Faculty's Perceptions

	Student aspirations		Faculty perceptions	
Workplace	Frequency	%	Frequency	%
My own business	89	28.2	4	5.1
An organization	183	57.9	72	91.1
Public administration	44	13.9	3	3.8
Total	316	100.0	79	100.0

TABLE 2. Students' Occupational Aspirations by Business Versus Nonbusiness Students

	Business student		Nonbusiness student	
Workplace	Frequency	%	Frequency	%
My own business	68	35.4	21	16.9
An organization	120	62.5	63	50.8
Public administration	4	2.1	40	32.3
Total	192	100.0	124	100.0

Students' Motivations for Business Start-Up

The motivations for business ownership among students were assessed and compared with faculty responses. Although faculty and students generally agreed on the relative significance of business start-up motivations, some significant differences were identified. Faculty and students were in agreement regarding the rank and importance of the top two motives: *the chance to implement my own ideas* and *personal independence*. However, although the two groups provided fairly consistent rank orders for the fifth through seventh motives, faculty attached significantly less importance to each item. In addition, money—although important—was not crucial. Both groups included only one financial motive in their top five: *the opportunity to be financially independent*. Likewise, *wanting to make more money than by working for wages* received a low rank and importance. For the remaining lower ranked motives, faculty consistently attached significantly less importance to each, with the exception of *following a family tradition*, which was perceived to be significantly more important by faculty, $t(392) = 2.13$, $p < .05$. Last, faculty ranked the appeal of managing people as far lower than did students, $t(131.3) = 6.99$, $p < .001$ (see Table 3).

Perceived Barriers to Business Start-Up

We also assessed perceptions regarding the relative importance of specific barriers to business ownership, comparing differences between faculty and student rankings. The top five barriers as ranked by students referred to risk, lack of capital, current economic situation, competence, and knowledge (see Table 4). Faculty agreed with the importance of risk, competence, and capital as barriers to starting businesses. However, students and faculty differed substantially in terms of assessing the current economic environment. Students saw the economy as a bigger barrier than did faculty, $t(106.7) = 3.37$, $p < .001$, possibly because of students' limited economic experience. In addition, faculty saw entrepreneurial competence as a significantly more important barrier, $t(132.5) = -3.021$, $p < .05$. Faculty also differed significantly from students in the importance they gave to *fear of failure*, $t(392) = -2.56$, $p < .05$. However, students perceived problems with employees and contracted personnel to be a more important barrier than did faculty, $t(390) = 2.04$, $p < .05$. Last, both groups ranked procedural and operational issues as relatively unimportant.

Behavioral Intentions

Students' behavioral intentions regarding business ownership and their intent to pursue entrepreneurship education were assessed. Few students (7.9%) had a definite plan to start a business, but some had seriously considered the idea (24.6%). Most of the students who thought about business ownership did so only vaguely (48.6%), and several (19.2%) would never consider it. Between-group comparisons (see Table 5) showed that business majors were significantly more likely to have seriously thought about starting their own business, $F(1, 314) = 16.962$, $p < .000$. In addition, behavioral intentions were significantly related to entrepreneurial disposition, $F(6, 305) =$

TABLE 3. Motivations for Business Ownership

Motivation	Student ranking	Faculty ranking	Students		Faculty			
			M	*SD*	*M*	*SD*	*t*	*df*
The chance to implement my own ideas	1	2	4.55	0.793	4.38	1.011	1.42	104.9
Personal independence	2	1	4.43	0.845	4.43	1.024	–0.03	396.0
Creating something of my own	3	4	4.35	0.891	3.98	1.113	3.22**	394.0
The opportunity to be financially independent	4	3	4.27	0.956	3.99	1.038	2.29*	392.0
Improving my quality of life	5	6	4.21	0.942	3.68	1.150	3.75**	105.5
Being at the head of an organization	6	5	4.06	1.030	3.70	1.095	2.73*	395.0
Building personal wealth	7	7	3.97	0.996	3.67	1.009	2.37*	394.0
Managing people	8	13	3.72	1.052	2.87	0.939	6.99**	131.3
Making more money than by working for wages	9	8	3.71	1.055	3.59	1.122	0.89	395.0
Receiving fair compensation	10	11	3.65	0.974	3.10	0.982	4.50**	394.0
Creating jobs	11	14	3.63	1.079	2.66	0.980	7.30**	395.0
Having more free time	12	15	3.62	1.196	2.62	1.223	6.62**	393.0
Dissatisfaction in a professional occupation	13	12	3.54	1.021	3.09	1.112	3.46**	393.0
The difficulty of finding the right job	14	10	3.39	1.016	3.13	0.933	2.13*	392.0
Following a family tradition	15	9	2.97	1.108	3.31	1.109	–2.44*	395.0
Gaining high social status	16	16	2.92	1.125	2.62	0.978	2.16*	394.0

*$p < .05$. **$p < .001$.

38.377, $p < .000$, showing that students with high entrepreneurial dispositions were more likely to start a business than were those who reported lower entrepreneurial disposition.

In terms of entrepreneurship education, a large majority of the students (71.2%) expressed an interest in taking a course on business start-up and analysis as part of the curriculum. Business majors were significantly more likely to say that they were interested in taking such a course, $t(209) = -6.18$, $p < .001$. However, more than half of the nonbusiness majors also expressed such an interest.

TABLE 4. Barriers to Business Ownership

Barrier	Student ranking	Faculty ranking	Students		Faculty			
			M	*SD*	*M*	*SD*	*t*	*df*
Excessively risky	1	3	4.25	0.843	4.14	0.957	1.05	393.0
Lack of initial capital	2	1	4.18	1.442	4.45	0.967	–1.58	393.0
Current economic situation	3	9	4.18	0.881	3.74	1.088	3.37**	106.7
Lack of a high level of entrepreneurial competence	4	2	3.86	1.008	4.21	0.910	–3.021*	132.5
Lack of knowledge	5	5	3.84	1.010	3.95	1.066	–0.860	391.0
Lack of experience in management and accounting	6	8	3.76	0.998	3.76	1.100	–0.024	389.0
Lack of knowledge of the business world and the market	7	4	3.70	1.089	4.11	5.004	–0.726	80.9
Lack of ideas regarding what business to start	8	15	3.68	2.723	3.34	1.340	1.09	391.0
Irregular income	9	6	3.65	0.971	3.84	0.999	–1.55	393.0
Fiscal charges (taxes, legal fees, etc.)	10	14	3.54	0.989	3.35	1.080	1.54	392.0
Lack of available assistance in assessing business viability	11	13	3.52	0.912	3.39	1.108	0.98	107.8
Lack of formal help to start a business	12	16	3.52	1.005	3.27	0.996	1.98*	391.0
Lack of organizations to assist entrepreneurs	13	20	3.47	2.660	3.01	1.038	1.49	391.0
Lack of support from people around me (family, friends, etc.)	14	12	3.46	1.270	3.49	1.073	–0.21	392.0
Fear of failure	15	7	3.44	1.209	3.83	1.178	–2.56*	392.0
Lack of legal assistance or counseling	16	18	3.42	0.981	3.20	0.992	1.79	393.0
Having to work too many hours	17	10	3.41	1.141	3.60	1.208	–1.33	394.0
Doubts about personal abilities	18	11	3.37	1.220	3.58	0.925	–1.69	156.5
Problems with employees and contracted personnel	19	19	3.27	0.950	3.03	0.933	2.04*	390.0
Start up paperwork and bureaucracy	20	17	3.18	1.053	3.24	1.172	–0.39	392.0

Note. Barriers are ranked in order of importance by students.
*$p < .05$. **$p < .001$.

TABLE 5. Interest and Behavioral Intentions of Business and Nonbusiness Students

Variable	Business students		Nonbusiness students		All students	
	Frequency	%	Frequency	%	Frequency	%
Ever thought about starting a business?						
No, never	27	14.1	34	27.2	61	19.2
Yes, vaguely	87	45.5	65	52.0	152	48.3
Yes, seriously	57	29.8	21	16.8	78	24.6
Yes, I have a definite plan	20	10.5	5	4.0	25	7.9
Total	191	100.0	125	100.0	316	100.0
Interested in a business start-up course?						
Yes	160	84.2	65	52.0	225	71.2
No	31	15.8	60	48.0	91	28.8
Total	191	100.0	125	100.0	316	100.0

Impact of Entrepreneurs in Families and Work Experience

The significance of having an entrepreneur in one's immediate family was examined (see Table 6). Research from Feldman, Koberg, and Dean (1991) suggests that "entrepreneurs often . . . come from families in which a parent owns a business" (p. 16) because these individuals can serve as role models. Among respondents in this study, 38.2% knew someone in their immediate circle who had started a business in the last 3 years, and more than half (50.8%) had an entrepreneur in their immediate family. A comparison between those who had an entrepreneur in their immediate family and those who did not identified significant differences, $F(1, 315) = 5.177$, $p = .02$. Of the students who had entrepreneurs in their immediate families, 18.3% seriously considered or definitely planned to start a business. Remarkably, the percentage of similarly inclined students who did not have entrepreneurs in their immediate families was not significantly lower (14.2%). In addition to the impact of exposure to entrepreneurship in one's family, we examined whether prior work experience shaped behavioral intentions or employment aspirations among students, but results were insignificant, $F(1, 315) = 0.131$, $p = .718$ and $F(1, 314) = 0.152$, $p = .697$, respectively.

Impact of Gender and Year in School on Attitudes and Perceptions

We examined the impact of gender and year in school on entrepreneurial attitudes and perceptions regarding entrepreneurship, in general, and entrepreneurship education, in particular. Gender at the university is slightly more than half female. However, among survey respondents, more respondents were men (59%) than were women (41%). Regarding year in school, 12.7% were freshmen, 10% sophomores, 32.2% juniors, and 45% seniors. Using a multivariate general linear model (see Table 7), we explored whether students' responses on a number of dimensions varied significantly depending on their gender and year in school. Specifically, we assessed whether gender and year in school would affect perceptions regarding behavioral intentions, curricula, employment aspirations, entrepreneurial disposition, interest in entrepreneurship courses, and university stimulation. We also controlled for whether the students were business or nonbusiness majors.

Findings indicate that gender had no significant effect on the dependent variables when we controlled for a student's major and year in school, Wilks's $\Lambda = .976$; $F(6, 286) = 1.18$, $p = .317$. Therefore, no differences existed between male and female students in terms of entrepreneurial disposition and behavioral intentions to start a business. These results challenge past research findings (Kourilsky & Walstad, 1998; Shay & Terjensen, 2005; Wilson, Marlino, & Kickul, 2004) that ranked female students lower on these dimensions compared with their male peers. The students' major, however, had highly significant effects on all the dependent variables, when we controlled for year in school, Wilks's $\Lambda = .860$; $F(6, 286) = 7.77$, $p < .000$. When major was controlled for, a student's year in school had a significant effect on only two variables—perceptions of whether (a) the curriculum provides entrepreneurship knowledge and (b) the university stimulates entrepreneurship, Wilks's $\Lambda = .902$; $F(18, 809) = 1.67$, $p = .039$—possibly because students' time spent at the university affected familiarity and perceptions. It is interesting that a student's year in school had no significant effect on personal dimensions. Being a freshman, sophomore, junior, or senior had no significant impact on a student's behavioral intentions, employment aspirations, entrepreneurial disposition, or interest in entrepreneurship courses.

Limitations

The data for this study were collected through a survey instrument. Respondents provided data about entrepreneurial disposition, occupational aspirations, and perceived barriers and motivations. All the observed relations were reported by the same group of respondents. Therefore, any observed relations may be, in part, a result of common-method effect (Fiske, 1982). However, this limitation is consistent with the limitations of prior empirical studies in this area and of most survey research. The other notable limitation is that the sample came from one university. Faculty and education programs at other schools should assess the applicability of our results to their specific institutions.

DISCUSSION

This study produced three key findings: the (a) substantial differences in faculty and student perceptions, (b) interest in entrepreneurship among

TABLE 6. Behavioral Intention and Existence of an Entrepreneur in the Family

	No entrepreneur in family		Entrepreneur in family		Total	
Thought about starting a business?	Frequency	%	Frequency	%	Frequency	%
No, never	36	11.4	25	7.9	61	19.2
Yes, vaguely	75	23.7	78	24.6	153	48.3
Yes, seriously	38	12.0	40	12.6	78	24.6
Yes, definite plan	7	2.2	18	5.7	25	7.9
Total	156	49.2	161	50.8	317	100.0

TABLE 7. Impact of Demographic Variables on Attitudes and Perceptions Tests of Between-Subjects Effects

Effect	Variable	*df*	*F*	M^2	*p*
Gender	Skills included in curriculum	1	0.45	0.30	.501
	University stimulation	1	1.71	0.71	.192
	Aspirations	1	1.96	2.68	.163
	Entrepreneurial disposition	1	3.12	6.29	.078
	Entrepreneurial behavioral intentions	1	1.00	0.63	.317
	Interest in entrepreneurship courses	1	0.36	0.06	.547
Year in school	Skills included in curriculum	3	4.77	3.15	.003
	University stimulation	3	5.09	2.13	.002
	Aspirations	3	1.62	2.21	.186
	Entrepreneurial disposition	3	1.37	2.77	.251
	Entrepreneurial behavioral intentions	3	0.40	0.26	.750
	Interest in entrepreneurship courses	3	0.50	0.09	.683
Business vs. nonbusiness major	Skills included in curriculum	1	32.44	21.43	.000
	University stimulation	1	4.92	2.06	.027
	Aspirations	1	21.61	29.54	.000
	Entrepreneurial disposition	1	12.84	25.87	.000
	Entrepreneurial behavioral intentions	1	5.49	3.47	.020
	Interest in entrepreneurship courses	1	6.34	1.13	.012

Note. Interaction effects omitted from table because of insignificance. Design = Intercept + Gender + Year in school + Business vs. nonbusiness major.

nonbusiness students, and (c) absence of significant differences between male and female students. The first key finding is that faculty and students often see things quite differently. Perhaps the most glaring difference is that faculty perceived students to be significantly less entrepreneurial than the students perceived themselves to be. More than half the students surveyed rated themselves on the high end of the entrepreneurial disposition scale, whereas more than 75% of faculty rated their students on the low end of the scale. The substantial difference between students' aspirations and faculty's perceptions raises questions about existing curriculum structures and assumptions.

The significant differences in the ranking of motivators could stem from student optimism and lack of work experience. Another possible explanation is that faculty respondents are projecting onto students their values and motives that echo academic freedom. An additional echo of academia is that faculty attributed significantly less importance to the appeal of managing people. Students ranked the appeal of managing people higher and identified difficulties in managing personnel as a more important barrier than did faculty, possibly indicating a need for human resource, leadership, and organizational behavior courses in entrepreneurship programs. The importance of leadership skills was stressed by David Birch, a leading researcher in the field of entrepreneurship (Aronsson, 2004), who believes that "lead[ing] people and . . . get[ting] people to go with you to do something" (p. 290) is one of the basic skills an entrepreneur "needs to know and master" (p. 290).

In addition, although faculty and students remain generally in accord regarding which motives are least important, they weighed them differently. Considering students' lack of work and entrepreneurship experience, their added concerns with restrictions on their free time, career dissatisfaction, difficulty of finding good jobs, and social status are not surprising. Last, the barriers analysis showed that faculty viewed lack of entrepreneurial competence and fear of failure as significantly more important barriers to business ownership. It is possible that faculty members are less optimistic about students than the students are about themselves.

A second key finding is the identification of interest in entrepreneurship education outside the business school. Although students with business majors (a) rated themselves as more entrepreneurial, (b) were more likely to want to start their own business, (c) felt that entrepreneurial skills were part of their curriculum, (d) felt there was more university stimulation, and (e) were significantly more likely to say they are interested in taking an entrepreneurship course, nonbusiness students still expressed an interest in entrepreneurship. In fact, more than half of the nonbusiness majors also expressed an interest in taking an entrepreneurship course. Such interest can be especially important when academic and financial support for entrepreneurship education is sought outside colleges of business.

The final key finding is that a student's gender makes no significant difference in terms of the perceptions we examined. Although our experience is that female students are less likely to enroll in entrepreneurship classes, our findings indicate that they are as likely as male students to be interested in entrepreneurship. In fact, when we controlled for a student's major and year in school, gender had no significant effect on perceptions of whether the curriculum provides business start-up knowledge or the university stimulates entrepreneurship, occupational aspirations, entrepreneurial disposition, behavioral

intentions, or interest in entrepreneurship courses. On the university's campus, women slightly outnumber men, a trend that is evident nationwide. In accordance, we believe that this trend represents an important opportunity for expanding entrepreneurship education. Interest in entrepreneurship is best explained by a student's major and status, not gender.

NOTES

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