The Future of Education and Research: Teaching Entrepreneurs, or Shaping Them?

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Abstract

This paper builds upon a series of studies using student and faculty survey data obtained from thousands of respondents in seven countries. These studies suggest clear messages for entrepreneurship education programs and research: focus on intrinsic dimensions, focus on differences between women and men, and focus on understanding students better. Entrepreneurship education spends much effort showing students how to do things. We believe some effort should be re-directed to re-thinking the curriculum and program to put more emphasis on understanding, strengthening, and shaping the psychological dimensions of students. We discuss why this re-direction of effort to intrinsic, internal, and psychological dimensions is important for the future of entrepreneurship education and research.

Key words: entrepreneurship education, self-efficacy, intentions, women, men, students, faculty, curriculum

Introduction

In the last two decades, we have seen dramatic growth in entrepreneurship education (EE) in many corners of the world. Thousands of new university school programs, hundreds of entrepreneurship centers at universities, and numerous new research journals show the great interest in entrepreneurship. EE rests on the belief that we can educate, support and even help create entrepreneurs.

Early research on EE provided evidence to support two important connected ideas:

1. The strength of a person's entrepreneurial intentions to start a new venture is a good predictor of whether someone begins entrepreneurial actions (Ajzen, 1991; Davidson, 1995; Krueger and Carsrud, 1993; Robinson, Stimpson, Huefner and Hunt, 1991).
2. Entrepreneurship education and an entrepreneurial university environment can increase entrepreneurial intentions and influence how decisions are made (Fayolle 2008; Katz 2003; Solomon, Duffy and Tarabishy, 2002).

Since then, the field has done a great deal. On the applied side, there are many new curricula, organizations, programs and activities for students, and connections with other parts of the university. On the research side, there now are many journals and professional associations to study entrepreneurship, and to study the methods and results of entrepreneurship education.

This paper builds upon a series of studies using student and faculty survey data obtained from thousands of respondents in seven countries. We believe those studies provide three clear messages to improve entrepreneurship education and to conduct further research:

1. Focus on intrinsic dimensions. This is important in order to increase student self-efficacy, address intrinsic motives, and reduce intrinsic psychological barriers. This means integrating intrinsic/psychological factors more deliberately into program objectives, curriculum structure, and the ways we teach skills and concepts.
2. Focus on the differences between women and men. There is much research on women and entrepreneurship. Improve education programs and curricula to better address the frequent differences between young men and women in attitudes, values, and beliefs. Some of these may be the result of intrinsic factors and some may be the result of external factors, including existing education.
3. Focus on understanding students better. Men and women respond differently to education, and culture does have some impact on entrepreneurship. To teach entrepreneurship better, we believe it is important to have a clearer understanding of what motivates students,

what inhibits them, and how education can be improved based on those factors. Our research shows this is—we have strong evidence that faculty and students often have very different perceptions about entrepreneurship, about education, and about the students.

Research Method

We surveyed more than three thousand people in seven countries: Afghanistan, Belgium, China, India, Spain, Turkey, and the United States. There were 2,644 students (92 from Afghanistan, 417 from Belgium, 333 from China, 422 from India, 604 from Spain, 459 from Turkey, and 317 from the US) and 485 faculty (10 from Belgium, 23 from China, 72 from India, 216 from Spain, 80 from Turkey, and 84 from the US).

We also surveyed more than one hundred non-university adults (out of 300+) who participated in a multi-year series of entrepreneurship workshops.

The surveys focused on views of entrepreneurial motives and barriers, intentions, self-efficacy, and education. Students and faculty completed similar surveys. Students provided data on how they view motives and barriers, their schools' support of entrepreneurship, their entrepreneurial intentions, and their sense of entrepreneurial self-efficacy. Faculty provided data on how they view motives and barriers and school support of entrepreneurship, and on their perceptions of student entrepreneurial intentions and student self-efficacy.

Most research in entrepreneurship education focuses on business students, but we included faculty and students from diverse parts of universities to gain a broader picture because entrepreneurship education often attracts non-business students and because entrepreneurship programs often make conscious efforts to interact across campus.

Findings

Intrinsic dimensions

1. Self-efficacy drives students' entrepreneurial intentions.

We find that entrepreneurial self-efficacy is the most important predictor of entrepreneurial intentions. When self-efficacy is higher, it is more likely that a student is actively developing or carrying out an entrepreneurial plan. Cultural and social dimensions are less powerful predictors of intentions (Pruett et al., 2009).

2. Internal barriers and motives influence students more than external ones.

We explored the influences of barriers and motives that are intrinsic or subjective (like fear of failure and desire for independence) and those that

are extrinsic or objective (for example, lack of financing and the chance to earn money).

Regarding motives for entrepreneurship, intrinsic motives are consistently either very important or the most important motives in all the countries we studied. These include independence and the opportunity to create something.

Regarding barriers to entrepreneurship, intrinsic barriers are consistently either very important or the most important barriers in all the countries we studied. These include lack of self-confidence, risk-aversion, and the fear of failure.

We conclude that intrinsic barriers and motives have powerful influence on young would-be entrepreneurs. For example, in Turkey we observed relatively high levels of risk-aversion and lack of self-confidence. So, addressing those intrinsic barriers may be an especially important step for EE in Turkey (Şeşen and Pruett, 2014b).

3. Self-efficacy combined with education supports entrepreneurship.

There is diverse research in the EE field about the relationship between entrepreneurship education and entrepreneurial behavior and activity.

A study of entrepreneurship education for adults above college age extends research on how to improve outcomes (Pruett, 2012). That study assesses the impact of a specialized entrepreneurship education program on the entrepreneurial intentions of the participants.

In that study, we conclude that entrepreneurship education does influence entrepreneurial intentions. Almost half the respondents reported that the special EE workshop program changed the direction of their ventures. EE helps prevent projects that have low probabilities of success. And, when combined with positive self-efficacy, EE positively influences intentions to pursue new business projects.

The differences between women and men

4. Women generally have lower levels of entrepreneurial self-efficacy and intentions.

A four-country comparison (Belgium, China, Turkey and the United States) is the first to focus on differences between female and male students in a full model of how culture and perceptions of motives and barriers influence entrepreneurial intentions (Şeşen and Pruett, 2014a).

In the study, we find substantial differences between men and women. Women have lower levels of entrepreneurial intentions, men appear more influenced by motives, and women appear more influenced by barriers. The sex of a student and his/her perceptions of motives and barriers appear more important than culture when predicting entrepreneurial intentions.

Women have significantly lower entrepreneurial self-efficacy and lower entrepreneurial intentions than men except in China, where there is no difference.

Perceptions of entrepreneurship motives generally have a positive influence on intentions for men but do not have a clear influence on the entrepreneurial intentions of women.

Men are more influenced by their perceptions of extrinsic, practical barriers like economic conditions and lack of competence.

Women are influenced more by their perception of intrinsic, psychological barriers like lack of self-confidence, risk-aversion, and fear of failure. And, women generally see barriers as more important than men do except in China, where there is no difference.

However, in a separate study of adult participants in an EE program (Pruett, 2012), women did not score lower on entrepreneurial dimensions. About two-thirds of the respondents were women, and they had similar self-efficacy and intentions compared to men. It seems likely that the lack of differences may be due to self-selection—the program participants were not pursuing a college degree but joined the program because of a specific interest in entrepreneurship. It also is possible that the differences that we see between young college-age men and women become less significant as men and women get older

5. In Afghanistan, female students have lower entrepreneurial self-efficacy and intentions.

In the first-ever study of Afghan students and entrepreneurship, we look at disposition, intentions, and perception of motives and barriers. The two sexes have relatively similar views on entrepreneurship motives and barriers, and on university education and support for entrepreneurship. However, men and women appear to feel different about themselves and their plans (Pruett, Şeşen et al., 2018).

Afghanistan is relatively different compared to the other countries studied. It is unstable and poor. A college education is rare in the country, and the survey students came from a small segment of the country's population—well-educated, more cosmopolitan, and relatively rich compared to their fellow citizens. Compared to students in other countries, these Afghan students may have a relatively big impact on their country's future.

As in other countries, Afghan women have lower entrepreneurial self-efficacy and lower entrepreneurial intentions than men.

Afghan male and female students both believe that their business school encourages entrepreneurship and that entrepreneurial skills are a substantial part of the curriculum.

They also have similar views about motives for entrepreneurship. The most important motives are the possibility of creating new jobs, becoming

financially independent, creating something they can call their own, and improving quality of life.

Regarding barriers, Afghan women are much more concerned than men about the potential for problems with employees. Since management and decision-making in Afghanistan are traditionally dominated by men, this result shows that women in the country may be concerned about their ability to oversee men at work. This is an issue in many countries with varied mixtures of economic development and cultural conservatism (for example, Cvetić et al., 2017; Dechant and Al-Lamky, 2005; Khan and Sharpe, 2017).

Understanding students better

6. Faculty and student views often are very different.

Our research shows that faculty often do not accurately understand their students' interest in and perceptions about entrepreneurship (Pruett and Şeşen, 2017).

Students express higher entrepreneurial self-efficacy than the faculty perceive. And, in most of the countries, students are more interested in entrepreneurship than their faculty recognize.

Faculty and students often have different views about school support for entrepreneurship and the presence of skills in the curriculum. Faculty tend to rate them higher than the students do.

Regarding motives and barriers, students feel the intrinsic motives more strongly, while faculty focus on extrinsic motives. Faculty recognize the importance of extrinsic barriers more than students do. And, although faculty focus on extrinsic barriers, students feel the intrinsic barriers more strongly.

7. Culture affects views of motives and barriers, but does not dominate students' aspirations.

A five-country comparison of students in Belgium, China, India, Spain, and the United States (Giacomin et al., 2011), we find that culture influences how students view the path forward in entrepreneurship. However, culture does not dominate students' entrepreneurial aspirations (desire to be entrepreneurs). Thus, the practical aspect of entrepreneurship education should be adapted to reflect local circumstances in terms of what motivates students and what barriers must be addressed.

Research can uncover interesting special concerns. For example, in two instances we find the potential for family conflict. In China, many students have strong entrepreneurial aspirations (desire) or entrepreneurial intentions (activity), but they believe their families are indifferent or strongly opposed. It is not clear how they will resolve this family conflict (Pruett et al., 2009). In the United States, our study of entrepreneurship education for adults above college age finds that roughly 85% of the survey sample does not expect family to be strongly supportive of their new ventures. They do

not have the strong degree of family opposition reported by the Chinese students mentioned above, but they do not expect very strong support. This creates the possibility for family tension when projects go forward (Pruett, 2012).

8. Interest in entrepreneurship education is broad and can change a campus.

Our initial study (Shinnar, Pruett and Toney, 2009) provided the first statistical evidence that faculty (both non-business and business) underestimate student interest in entrepreneurship. It also demonstrated that non-business students are a substantial opportunity to expand entrepreneurship education.

The study had a dramatic practical impact on the university where it took place. It created political support for a new academic center. It helped get money to hire more faculty, pay for activites and events, and pay for research and other programs. It created attention and helped get approval for a minor degree in entrepreneurship, which then gained many non-business students from other departments across the university. The student entrepreneurship club became the largest club on campus. The study and the resulting activities helped create strong operational relationships with faculty and students across campus.

Conclusion

As noted at the beginning of this paper, we believe there are three clear messages from this set of research studies.

Focus on intrinsic dimensions

Students often lack entrepreneurial self-efficacy. This may be one reason that intrinsic motives and barriers are especially important to them. Intrinsic/psychological factors should be integrated into program objectives, curriculum structure, and the ways we teach skills and concepts. Entrepreneurship education puts great effort into teaching skills and concepts. We believe it should also place explicit focus on developing students' psychological strengths.

Other scholars support this idea that education needs to focus more on psychological dimensions of students (Dinis et al., 2013; Edwards and Muir, 2012; Marques, Ferreira, Gomes, and Rodrigues, 2012; van Gelderen, 2010). We have clear evidence that students' entrepreneurial intentions are influenced by intrinsic, psychological factors like self-efficacy, fear of failure, and risk-aversion. Still, education is largely focused on skills and knowledge. It seems to be rare for education to focus explicitly on psychological factors, but they are important (Taatila, 2010). We agree with van Gelderen (2010)

that a core part of entrepreneurship education should be the development of self-confidence.

Entrepreneurial self-efficacy, self-confidence and risk-aversion/fear of failure deserve primary attention when designing entrepreneurship programs. Otherwise it is more likely that programs will simply help students who already are highly confident and may even discourage students who are less certain of their abilities, rather than making them psychologically stronger.

Focus on the differences between women and men

As many other scholars have noted (e.g., Dawson and Henley, 2015), men and women often have different confidence and risk attitudes. Our research confirms this. Women and men are different, especially at the college student level. We find frequent differences between young men and women in attitudes, values, and beliefs. Some of these may be the result of intrinsic factors and some may be the result of external factors, including existing education.

We find that women generally are less likely to perceive university support and relevant curriculum for entrepreneurship, and we conclude that men and women respond differently to entrepreneurship education. So, education programs, activities, and the curriculum of an entrepreneurship degree need to take these differences into consideration.

For example, intrinsic motives matter more to women, but these motives are not linked to the entrepreneurial intentions of women. Young men seem to care more about extrinsic rewards than intrinsic rewards. Is this instinctive, or have they been taught to think this way? What are the benefits and disadvantages of the "male" and the "female" ways of thinking?

As with motives, barriers are perceived differently by women and men. Do men underestimate barriers? Perhaps underestimating barriers leads to a lower success rate but more attempts. Do women overestimate them? Perhaps overestimating barriers leads to fewer attempts but a higher success rate.

Our Afghanistan study poses questions particularly relevant to women. Should entrepreneurship education help prepare women to address cultural norms that may hinder them? And, can we actively engage entrepreneurship students to help other potential entrepreneurs outside the business school, or even outside the university? This seems particularly important in places which have low female participation in entrepreneurial business.

Focus on understanding students better

Our research shows that faculty and students often have very different perceptions about entrepreneurship, about education, and about students. We need a clearer understanding of what motivates students, what inhibits

them, and how education can be improved based on those factors. Schools will benefit from learning more about how their students view themselves and entrepreneurship. Understanding the frequent differences in perceptions will help to make education more effective.

The benefit may be especially strong if schools can address students' concerns about intrinsic barriers like self-confidence and fear of failure. In our research, self-confidence has the biggest influence on how entrepreneurial a student feels, but faculty do not necessarily perceive this correlation.

It is important to understand students better. For example, if a school underestimates student interest in entrepreneurship, then it may miss an opportunity. On the other hand, if it overestimates student interest, then resources may be misdirected and students may get an unsatisfying education.

Universities must not be driven by beliefs or preferences of students. On the contrary, we believe universities have a responsibility to take the lead, to guide students in their educational choices. Knowing more about students' beliefs and perceptions will help.

As another example, the culture a student comes from certainly matters. We believe EE should help men and women understand how culture influences their own thought patterns, and how it influences their path to entrepreneurship. For example, China's collectivist culture can create distinct psychological concerns and practical problems for a new entrepreneur. And, a woman in a highly masculine culture faces distinct difficulties. These concerns are in entrepreneurship research; they should be considered in the curriculum as well.

In summary, shape students.

Perhaps entrepreneurship education should do more—much more—to ***develop*** the aspirations and confidence of students. This will mean making psychological development a more important part of entrepreneurship education.

For instance, the authors of this paper have begun studying study military education programs. Of course, an EE program is not a program to develop young military officers. However, there may be much to learn from the way that some military colleges emphasize psychology.

For example, consider West Point, the military college for young future US Army officers. West Point designs its four-year college education using four specific, detailed programs or "pillars": character, academic, military, and physical. We can explore the parallels between that design and the typical entrepreneurship education experience.

Academic: Entrepreneurship education and the military school both are organized around a traditional academic curriculum of courses in general education and a specialty.

Military: To supplement the academic curriculum, a typical entrepreneurship program includes specialized activities, events, and experiences—company visits, workshops, speakers, internships, applied projects, and so on. These "real-world" applications and enrichments are similar in general concept to West Point's "military" pillar, which gives students training and practical application of concepts and skills.

Physical: Entrepreneurship education typically does not have a "physical" pillar. Some universities (but not many) have a modest physical activity curriculum requirement for all students, and entrepreneurship students may participate in school sports. But, physical activity and team sports are not known to be part of entrepreneurship education. On the military school side, however, the purpose of physical athletic activity is not just physiological fitness. Regular involvement in athletic sport is required, and is in large part intended to influence and build confidence, teamwork, persistence, and other psychological dimensions. These goals seem highly relevant for entrepreneurship education.

Character: This may be the most interesting pillar to consider in relation to entrepreneurship education. "Character" occupies a place of prominence in West Point's curriculum—it is the very first pillar the school discusses. The school specifically enumerates five elements of leadership character which it deliberately seeks to build or shape in students:

- Moral …the knowledge, integrity, and awareness to assess the moral-ethical aspects of every situation and the personal courage to take appropriate action regardless of consequences.
- Civic…demonstrating empathy, loyalty, respect, and humility that enable an individual to treat others with dignity and to display selflessness.
- Social…behaving with proper decorum in all professional, social, and online environments.
- Performance…sense of duty, resilience, and grit…
- Leadership…establishes a safe, positive…climate where everyone thrives while achieving results.

It is interesting that the military school identifies character as the primary pillar, and then describes in detail what it means. As with the physical pillar, the psychological purposes of the character pillar are remarkably relevant to entrepreneurship education.

Of course, entrepreneurship students are not military students, but we do wonder:

How can young men and women benefit from incorporating character and physical pillars into entrepreneurship education, and how might we do it?

How can we do more to instill students with positive entrepreneurial attributes and character?

And, in a world of trade-offs, what might we give up if we re-orient entrepreneurship education from teaching students to shaping students?

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