

## **Satisfaction with Entrepreneurial Education and Entrepreneurial Intention: The Moderating Role of Internal Locus of Control**

Tung-Liang Hsiung

JinWen University of Science and Technology

New Taipei City 23154, Taiwan

E-mail: dlshong@just.edu.tw

### **ABSTRACT**

While a large amount of research to date has focused on entrepreneurial intentions, very few studies have examined the relationship between the quality of entrepreneurship education and these intentions. This study aimed to fill the existing gap in the literature by evaluating the relationship between entrepreneurship education satisfaction and entrepreneurial intentions and exploring the potential moderating effect of the internal locus of control. The findings of the research revealed that there is a statistically significant relationship between satisfaction with entrepreneurship education and entrepreneurial intention. Verifying the moderating role of internal locus of control, this study concluded that satisfaction with entrepreneurship education more directly increases the entrepreneurial intention of students with a lower internal locus of control than it does for students with higher values. In light of the findings of this research, universities should evaluate their current entrepreneurship education system and modify it such that it directly fosters students' entrepreneurial mindsets.

Keywords: Entrepreneurial education, Entrepreneurial intention, Learning satisfaction, Internal locus of control

### **INTRODUCTION**

A common question that arises in entrepreneurship literature relates to the extent to which entrepreneurship is learned or innate. The discussions presented in the literature typically adopt one of two stances: "entrepreneurs are born" or "entrepreneurs can be made." The latter of these perspectives is based on the notion that individuals can learn to become entrepreneurs if they are exposed to educational instruments that foster an entrepreneurial outlook. This view is widely supported in the existing literature on entrepreneurship research, and many scholars prescribe that there are clear and direct links between entrepreneurship education, business conception and development, and entrepreneurial performance (Pittaway and Cope, 2007).

Although researchers and educators have consistently highlighted the benefits of entrepreneurship education, very few studies have specifically examined its effects (Peterman and Kennedy, 2003). Some have concluded that educational courses or programs have a positive impact

on entrepreneurship (e.g., Souitaris, Zerbinati, and Al-Laham, 2007; Rodrigues et al., 2010), while others have produced evidence to suggest that the relationship between entrepreneurship education and entrepreneurship is negative or insignificant (e.g., von Graevenitz, Harhoff, and Weber, 2010; Chen et al. 2015). Thus, the findings in this area remain inconsistent and further studies are required.

According to Harkema and Schout (2008), entrepreneurship can be taught; however, the extent to which education of this nature is successful varies according to the teaching approach, environment, and resources. Teachers can employ a range of instructional strategies to enhance the learning outcomes and satisfaction of learners and motivate them to pursue a career as an entrepreneur. To this end, the primary aim of the current study was to explore the extent to which students' satisfaction with the entrepreneurship education they received impacted their entrepreneurial intentions.

Previous studies have found that entrepreneur's individual traits and personality directly impact their intentions to start a business (Gurel, Altinay, and Daniele, 2010; Hsiao, Lee, and Chen, 2016). For example, Rotter (1966) applied the concept of internal and external locus of control, asserting that individuals who have an internal locus of control believe that their success and failure is directly correlated with the amount of effort they invest in their pursuits and that they have direct control over their fate. In contrast, people with an external locus of control perceive success or failure to be down to luck or chance and firmly beyond their control. Tai et al. (2008) argued that people with an internal locus of control incline to strive to improve their capabilities and actively work to solve any problems they encounter; traits that are typical of entrepreneurs. To this end, the second aim of this study was to explore the moderating effect that internal locus of control has on the relationship between satisfaction with entrepreneurship education and entrepreneurial intention.

## LITERATURE REVIEW

### **Satisfaction with entrepreneurship education**

Béchanrd and Toulouse (1998) described entrepreneurship education as a series of training courses that were specifically designed to educate students on the concepts associated with business formation and development models. Chen and Sung (2011) argued that a comprehensive entrepreneurship education should be available in all schools and that it was important to teach students subjects such as market positioning, talent recruitment, product development, financing and capital management, market analysis, and business management to cultivate potential entrepreneurs and reduce the risks of business failure.

According to Raposo and Paco (2011), entrepreneurship education should deliver a core set of learning objectives through which students develop the ability to think innovatively and creatively and acquire the skills and knowledge they need to cultivate business concepts and take

them to market. In sum, entrepreneurship education can equip students with entrepreneurial skills and prepare them for an entrepreneurial career. Additionally, entrepreneurship learning experiences can nurture students to develop an innovative ability, the spirit of entrepreneurship, and practical knowledge and competence.

As described above, the majority of existing research to date has focused on the content and curriculum of entrepreneurship education; i.e., the skills and knowledge entrepreneurs need to be successful. However, there is a lack of understanding of the extent to which students' perceptions of the quality of entrepreneurship education programs impact their entrepreneurial intention. The quality of entrepreneurship education can be measured on several dimensions including content of the education, learning satisfaction of the lecturer, environment, resources and materials, teaching and learning methods and processes, and results. Several scholars have concluded that the effective implementation of entrepreneurship education can increase students' perception of entrepreneurship (Peterman and Kennedy, 2003; Muller, 2011). Therefore, we propose the following hypothesis:

*Hypothesis 1:* Satisfaction with entrepreneurship education will be positively associated with entrepreneurial intention.

### **Internal locus of control**

The locus of control describes an individual's perception of his/her ability to influence life events (Rotter, 1966), and it is one of the most frequently examined psychological variables in contemporary literature. Individuals who have an internal locus of control believe that they can directly control their own lives, while those with an external locus of control believe that external forces have a far greater impact on their lives than any actions they personally take (Diaz and Rodriguez, 2003). Individuals with a higher internal locus of control tend to have a stronger achievement orientation than those with a lower internal locus of control (Brandstätter, 2011).

By examining the locus of control within the context of entrepreneurial intention, Ang and Hong (2000) found that the internal locus of control was statistically higher in students in Singapore who demonstrated a higher entrepreneurial spirit than it was in those who did not. Gürol and Atsan (2006) also reported a statistically significant relationship between these two variables and found that students in Turkey who exhibited entrepreneurial inclinations demonstrated a higher internal locus of control in comparison to those who did not have entrepreneurial inclinations. Hence, we propose the following hypothesis:

*Hypothesis 2:* The internal locus of control will moderate the relationship between satisfaction with entrepreneurship education and entrepreneurial intention.

## METHOD

### Sample

Data were collected from the participants of the “Innovation and Entrepreneurship” course of a private university in Taiwan. A total of 200 questionnaires were distributed to the students after they completed the course. Of these, 175 questionnaires were returned, representing a response rate of 87.5%. The average age of the respondents was 20.76 and 58.9% of them were male.

### Measures

*Entrepreneurship education satisfaction.* Five questions, which were modified from the scale suggested by Okudan and Rzasa (2006), were employed to elicit students’ perceived satisfaction of the class and their expectations for learning. The students were asked to respond to the questions using a five-point Likert scale that ranged from 1=Strongly Disagree to 5=Strongly Agree. The Cronbach’s Alpha value was 0.81.

*Internal locus of control.* Internal locus of control was measured using a modified version of Rotter’s (1966) I-E Scale, as utilized by Mueller and Thomas (2001). This instrument was originally designed to measure the respondent’s belief in his or her ability to control external forces using a five-point Likert scale that ranged from 1=Strongly Disagree to 5=Strongly Agree. The Cronbach’s Alpha value was 0.75.

*Entrepreneurial intention.* Three of the questions in the questionnaire focused on the participants’ entrepreneurial intentions and these were evaluated using the scale proposed by Lee et al. (2011). Students were asked how interested they were in engaging in prototypical entrepreneurial activities using a five-point Likert scale that ranged from 1=Strongly Disagree to 5=Strongly Agree. The Cronbach’s Alpha value was 0.88.

## RESULT

Table 1 presents the means, standard deviations, and correlations of the study variables. As shown in Table 1, there was strong positive correlation between satisfaction with entrepreneurship education and entrepreneurial intention ( $r = .34, p < .001$ ). In addition, a positive correlation was found between internal locus of control and entrepreneurial intention ( $r = .26, p < .01$ ).

Table 1. Means, Standard Deviations and Correlations among Variables

Variables	Mean	SD	1	2
1. Entrepreneurship education satisfaction	3.56	0.80		
2. Internal locus of control	3.32	0.21	0.05	
3. Entrepreneurial intention	3.49	0.52	0.34***	0.26**

\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$

In order to test the hypotheses, we conducted the hierarchical regression analysis after mean-centering all variables. The variables were entered into the regression in three steps. The independent variable was entered first followed by the moderating variable, then the interaction term. Table 2 summarizes the results of the regression analysis.

As shown in Table 2, the first step of hierarchical regression analyses revealed that satisfaction with entrepreneurship education directly influenced entrepreneurial intention. As such, Hypothesis 1 was accepted. The result indicated that a higher level of satisfaction with entrepreneurship education effectively improved the entrepreneurial intention of students. The second step of the analyses showed that the internal locus of control had a direct effect on entrepreneurial intention. Perceived internal locus of control was found to positively affect entrepreneurial intention of students.

Table 2. Results of Hierarchical Regressions Analyses

Variables	Step 1	Step 2	Step3
Entrepreneurship education satisfaction (EES)	0.34***	0.33***	0.24**
Internal locus of control (ILC)		0.24**	0.26***
EES x ILC			-0.17*
$R^2$	0.12	0.18	0.20
$\Delta R^2$		0.06**	0.02*

\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$

Interaction between entrepreneurship education satisfaction and internal locus of control was entered in the third step of the analyses. The standardized coefficient was statistically significant, supporting Hypothesis 2. The result revealed that internal locus of control plays a moderating role in the relationship between satisfaction with entrepreneurship education and entrepreneurial intention. It is also worth noting that the standardized coefficients of the interaction term were negative.

Figure 1 presents further insights into the moderating role in the relationship between satisfaction with entrepreneurship education and entrepreneurial intention. As shown in Figure 1, high and low internal locus of control groups were calculated as one standard deviation above and below the mean respectively (Aiken and West, 1991). When satisfaction with entrepreneurship education was low, the difference in entrepreneurial intention between the high internal locus of control group and the low internal locus of control group was prominent. As the level of satisfaction with entrepreneurship education increased, the difference in entrepreneurial intention between the high internal locus of control group and the low internal locus of control group dramatically reduced.

In other words, the slope of the low internal locus of control line was steeper than that of the high internal locus of control line.

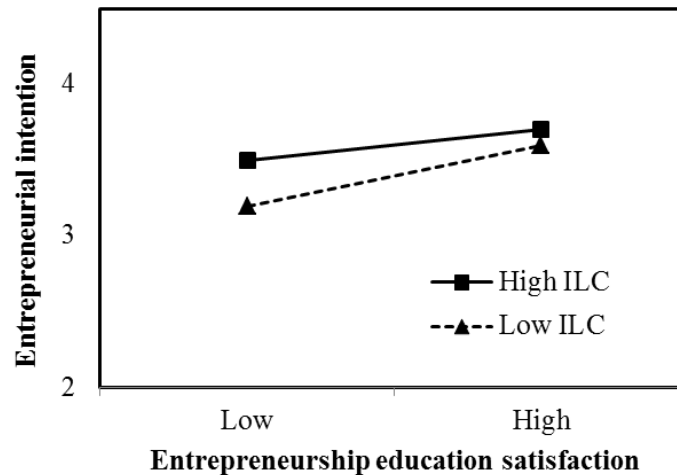


Figure 1. Moderating Role of Internal Locus of Control

## DISCUSSION

While a significant number of studies have focused on entrepreneurial intentions, very little research has explored the effect that the quality of entrepreneurship education has on such intentions. Hence, the primary aims of this study were to investigate the extent to which students' satisfaction with entrepreneurship education affects their entrepreneurial intentions and if internal locus of control has a moderating effect on this relationship.

Our hierarchical regression analysis revealed that there is a statistically significant relationship between satisfaction with entrepreneurship education and entrepreneurial intentions. This study also found that satisfaction with entrepreneurship education has a more direct impact on the level of entrepreneurial intention in students who have a lower internal locus of control than it does for students with a higher internal locus of control.

Based on the findings of this research, policymakers may wish to review the current entrepreneurship educational system and implement educational programs that focus on delivering high-quality entrepreneurship education. Such educational initiatives should be evaluated on a number of dimensions including content of the education, learning satisfaction of the lecturer, environment, resources and materials, teaching and learning methods and processes, and results. If the results of such evaluations are disappointing, the curriculum, policy, and programs should be modified on an ongoing basis until satisfactory results are achieved.

The characteristics of students that participate in educational courses are also of significance during the process of designing educational programs. Practitioners should understand the audience

of educational programs because this represents a critical dimension of the management of entrepreneurial education. Once the needs of the audience have been determined, specific pedagogical tools and programs for each segment should be developed and implemented.

This study had several limitations. First, we used a cross-sectional approach to data collection that was limited to a single university. In addition, the students were only asked about their intentions, their actual behavior was not observed. Longitudinal data from a larger sample would have provided more valid evidence to support the findings of the current study. Another important limitation concerned the number of variables that were investigated. Hundreds of personal traits can potentially influence entrepreneurial intentions. These include propensity to take risks, self-efficacy, tolerance of ambiguity, and desire for success. None of these were taken into consideration in the current study. Therefore, future research should incorporate additional personality variables that may be correlated with entrepreneurial intentions.

#### REFERENCES

- Aiken, L. S., & West, S. G. (1991). *Multiple Regression: Testing and Interpreting Interactions*. Newbury Park, Calif: Sage Publications.
- Ang, S. H., & Hong, D. G. P. (2000). Entrepreneurial spirit among East Asian Chinese. *Thunderbird International Business Review*, 42(3), 285–309.
- Béchar, J. P., & Toulouse, J. M. (1998). Validation of a didactic model for the analysis of training objectives in entrepreneurship. *Journal of Business Venturing*, 13, 317–332.
- Brandstätter, H. (2011). Personality aspects of entrepreneurship: A look at five meta-analyses. *Personality and Individual Differences*, 51(3), 222-230.
- Chen, S. C., Hsiao, H. C., Chang, J. C., Chou, C. M., Chen, C. P., & Shen C. H. (2015). Can the entrepreneurship course improve the entrepreneurial intentions of students? *International Entrepreneurship and Management Journal*, 11(3), 557–569.
- Chen, S. C., & Sung, M. H. (2011). The entrepreneurial intention for university students. *Leisure Industry Research*, 9(1), 47–60.
- Diaz, F., & Rodriguez, A. (2003). Locus of control and values of community entrepreneurs. *Social Behavior and Personality*, 31(8), 739–748.
- Gurel, E., Altinay, L., & Daniele, R. (2010). Tourism students' entrepreneurial intentions. *Annals of Tourism Research*, 37(3), 646–669.
- Gürol, Y., & Atsan, N. (2006). Entrepreneurial characteristics amongst university students: Some insights for entrepreneurship education and training in Turkey. *Education and Training*, 48(1), 25–38.
- Harkema, S. J. M., & Schout, H. (2008). Incorporating student-centred learning in innovation and entrepreneurship education. *European Journal of Education*, 43(4), 513–526.

- Hsiao, C., Lee, Y. H., & Chen, H. H. (2016). The effects of internal locus of control on entrepreneurship: The mediating mechanisms of social capital and human capital. *The International Journal of Human Resource Management*, 27(11), 1158-1172.
- Lee, L., Wong, P. K., Foo, M. D., & Leung, A. (2011). Entrepreneurial intentions: The influence of organizational and individual factors. *Journal of Business Venturing*, 26, 124–136.
- Mueller, S. (2011). Increasing entrepreneurial intention: Effective entrepreneurship course characteristics. *International Journal of Entrepreneurship and Small Business*, 13(13), 55-74.
- Mueller, S. L., & Thomas, A. S. (2001). Culture and entrepreneurial potential: A nine country study of locus of control and innovativeness. *Journal of Business Venturing*, 16, 51–55.
- Okudan, G. E., & Rzasa, S. E. (2006). A project-based approach to entrepreneurial leadership education. *Technovation*, 26, 195–210.
- Peterman, N. E., & Kennedy, J. (2003). Enterprise education influencing students' perceptions of entrepreneurship. *Entrepreneurship Theory and Practice*, 28(2), 129-144.
- Pittaway, L., & Cope, J. (2007). Entrepreneurship education: A systematic review of the evidence. *International Small Business Journal*, 25(5), 479–510.
- Raposo, M., & Paco, A. (2011). Entrepreneurship education: Relationship between education and entrepreneurial activity. *Psicothema*, 23(3), 453–457.
- Rodrigues, R., Raposo, M., Ferreira, J., & Paco, A. (2010). Entrepreneurship education and the propensity for business creation: Testing a structural model. *International Journal of Entrepreneurship and Small Business*, 9(1), 58-73.
- Rotter, J. B. (1966). Generalized expectations for internal versus external control of reinforcement. *Psychological Monographs: General and Applied*, 80(1), 1–28.
- Souitaris, V., Zerbinati, S., & Al-Laham, A. (2007). Do entrepreneurship programmes raise entrepreneurial intention of science and engineering students? The effect of learning, inspiration and resources. *Journal of Business Venturing*, 22, 566–591.
- Tsai, H. C., Lu, C. T., Lin, L. H., & Ni, F. Y. (2008). The effect of locus of control on the relationships among product innovation, management accounting systems, and organizational performance. *Journal of Humanities and Social Sciences*, 4, 61–70.
- von Graevenitz, G., Harhoff, D., & Weber, R. (2010). The effects of entrepreneurship education. *Journal of Economic Behavior and Organization*, 76(1), 90-112.