

# The Effect of Entrepreneurship Education on Entrepreneurial Leadership of University Students\*

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## Abstract

This study aimed at ascertaining the effect of entrepreneurship education on fostering entrepreneurial leadership in the context of Korean university students. Total 224 students participated in the study from three different universities nationwide. In order to acquire clear understanding of the effect of entrepreneurship education on entrepreneurial leadership, three key variables that include proactiveness, innovativeness and risk-taking were focused on the study in line with the prior studies. The findings suggest that entrepreneurship education had positive relationships with proactiveness, innovativeness and risk-taking, all of which are known as the key elements of entrepreneurial leadership. The findings imply that entrepreneurship education should be reinforced to foster the basic competence of entrepreneurial leadership for university students. Both theoretical and practical implications were provided to give guidelines the effective entrepreneurship education down the road.

*Key word: Entrepreneurial Education, Entrepreneurial Leadership, Innovativeness, Proactiveness, Risk-Taking, University Students*

## 1. Introduction

Under increasingly turbulent business environment as of today, existence of an entrepreneurial leader is a key to the success of entrepreneurial firm(Chen, 2007). Also, the role of leadership competencies is indispensable in the entrepreneurial process from initial forming of intention, start-up and even to attaining successful performance(Sambasivan et al., 2009). Simultaneously an 'entrepreneurial mind-set' is regarded as a core part of strategic management in speedy changing and harsh competitive environment(McGrath & MacMillan, 2000). Along with this approach, entrepreneurial leadership has become an important concept in terms of research and practical aspect.

Over the past years, there has been remarkable development of entrepreneurial leadership as a salient research subject in both entrepreneurship and leadership literature(Bagheri et al., 2013). In the organizational leadership literature, most studies have focused on the role of entrepreneurial competencies that cope with highly competitive organizational environments(Fernald et al., 2005; Yang, 2008).

Meanwhile, many studies were conducted to identify distinctive competencies of individual entrepreneur which make them possible to lead an organization successfully(Shane et al., 2003;

Dvir, et al., 2010). Another field of leadership literature argued the positive effect of certain leadership styles such as supportive, participative, democratic and transformational leadership) on innovation(Oldham & Cummings, 1996; Tierney et al., 1999; Bass & Riggio, 2006; Sarros et al., 2008).

Recent research stresses entrepreneurial behaviors more importantly, as these behaviors enable ventures to raise the capability for gaining long term survival in the competitive environment(Gupta et al., 2004). However, due to lack of theoretical platform in earlier days(Renko et al., 2015), many researchers have devoted to conceptualize entrepreneurial leadership including measurements development. As a consequence, entrepreneurial leadership was conceptualized and suggested as a integrated construct made of risk-taking, pro-activeness and innovativeness(Gupta et al., 2004; Chen, 2007), while Renko et al.(2015) suggested innovativeness, creativity, passion, vision and risk-taking that are associated with the elements of entrepreneurial leadership.

European Commission(2004) emphasized the education as an important tool to nurture stronger entrepreneurial mind-set for young people. Because it allows individual to improve his or her own entrepreneurial skills and positive attitudes on entrepreneur,

\* The present research was conducted by the research fund of Dankook University in 2018.

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· 투고일: 2018-02-08 · 수정일: 2018-05-08 · 수정일: 2018-06-28 · 게재확정일: 2018-06-29.

that bring more benefits to society just beyond establishing new venture. Since entrepreneurship was also regarded as an effective solution to certain social problems such as increasing jobless rate of young people over the years, entrepreneurship education has been significantly increased in Korea(Yang, 2017). Beginning with 164 universities where offered entrepreneurship course in 2014, fuel has been added to entrepreneurship education under Government-led entrepreneurship education policy.

For example, total 40 universities have been chosen and participated in 'Leading Universities for start-up Business' program offered by KISED (Korea Institute of Startup and Entrepreneurship Development) as of 2017(KISED, 2018).

Entrepreneurship also involves a sort of psychological attributes which could be acquired(Gibb & Ritchie, 1982). Accordingly, entrepreneurship education based on solid learning process helps people acquire relevant knowledge, and strengthen psychological attributes related to entrepreneurship(Paço et al., 2011), including entrepreneurial self-efficacy(Yang, 2014) as well. Thus, entrepreneurship education is an essential element in fostering entrepreneurial leadership. But the most recent studies are limited to studies on entrepreneurs or entrepreneurial leaders in established ventures that are difficult to apply to students for nurturing such competencies(Wilson et al., 2007; Bagheri et al, 2013). There have been little studies with regards to the relationship between entrepreneurship education and entrepreneurial leadership of university students. Hence, the objective of this paper is to address empirically the effect of entrepreneurship education on entrepreneurial leadership in educational settings.

## II. Literature Review

### 2.1 Entrepreneurship Education

In general, entrepreneurship has been regarded as a sort of potent disciplines. Therefore, entrepreneurship education is a key element for individuals to form robust and solid entrepreneurial mind-set. Prior researches suggest that entrepreneurship can be nurtured during one's lifetime(Lee et al., 2006). Entrepreneurship education has been defined in slightly different ways on certain communalities.

Liñán(2004b) defined it as a total set of education and training activities in educational system. Jones & English(2004) described it as a process of providing individuals with ability to seize business opportunity, relevant knowledge and skill-sets including aggressive attitudes to deal with. It was also delineated as a structured transmission of entrepreneurial competencies including

knowledge, skills, and mental cognition exploited by individuals through whole entrepreneurial process(Alberti et al., 2004).

Entrepreneurship education is important in terms of promoting entrepreneurship of university students. Charney & Libecap(2000) suggested that entrepreneurship major graduates exhibited three times higher likelihood of creating venture compared to other students. In line with this view, Turker & Selcuk(2009) argued that the individuals with limited education are less probable to take entrepreneurial initiatives.

Wu & Wu(2008) suggested that entrepreneurship education is to be offered in university focusing on fostering entrepreneurial skills and inspiring the interests in entrepreneurship, regardless of academic achievement of students. Thus, most universities across the continents support significant amount of resources in order to offer entrepreneurship education for university students(Turker & Selcuk, 2009).

The mainstream of entrepreneurship education has relied upon teaching how to write a solid business plan as well as the way to start a new venture. But, the traditional pedagogy encountered criticism, as it was not enough to raise competent and successful entrepreneurs(Rae, 1997). Likewise, Cheung(2008) suggested that becoming successful entrepreneurs requires typical traits not only knowledge about business operation and skill-sets, but generic attributes, creativity, challenge and communication skills.

By the same token, Gartner & Vesper(1994) stressed the entrepreneurial skill-sets such as creative thinking, developing innovative product, negotiation skill and leadership that are all essential elements for entrepreneur to make an entry into venture business successfully.

In summary, entrepreneurship education must give substantial impacts on fostering necessary skill-sets as well as enforcing leadership of university students. Leadership in an entrepreneurial context also requires some typical competencies which can be acquired by the purposeful program of entrepreneurship education (Kempster & Cope, 2010)

### 2.2 Entrepreneurial Leadership

Entrepreneurial leadership is defined as 'leadership that creates visionary scenarios that are used to assemble and mobilize a 'supporting cast' of participants who become committed by the vision to discovery and exploitation of strategic value creation' (Gupta et al., 2004).

Entrepreneurial leadership can be exhibited in any firms, any organization as a distinctive style of leadership. The attributes, behaviors and actions that focus on recognizing and seizing new business opportunities, and exploiting them makes entrepreneurial

leadership different from other styles of leadership(Renko et al., 2015). So, entrepreneurship can build a platform for competitive advantage and technological advancement of leadership-oriented firms in the competitive global economy(Gupta et al., 2004).

Renko and his associates(2015) suggested that entrepreneurial leadership is the intersection of leadership and entrepreneurship, while Gupta et al.(2004) outlined that entrepreneurial leadership involves multiple concepts such as 'entrepreneurship'(Schumpeter, 1934), 'entrepreneurial management'(Stevenson, 1983), and entrepreneurial orientation'(Covin & Slevin, 1988). Gupta et al. (2004) conceptualized entrepreneurial leadership in terms of two main challenges encountered by entrepreneurial leaders; the first one is to create a scenario of future opportunities in order to transform current situation.

The second one is to convince the stakeholders that the goal of the scenario must be accomplished by recruiting employees and appropriate resources in order to implement the transformation. So, entrepreneurial leadership can be argued as a typical form mixed with certain attributes of leadership and entrepreneurship. The attributes here include vision, influencing and motivating others, seizing opportunities, creativity and innovation, and risk-taking. Meanwhile, Renko et al.(2015) conceptualized entrepreneurial leadership based on the attributes, behaviors and actions of entrepreneurial leaders. They argued entrepreneurial leadership is made up of leader attributes and behaviors which contain the ingredients such as vision, creativity, innovativeness, passion and risk-taking. Chen(2007) suggested that entrepreneurial leadership as an integrated construct made of risk-taking, pro-activeness and innovativeness. Risk-taking means willingness to bear uncertainty; pro-activeness indicates encouraging entrepreneurial initiative; and innovativeness refers to promoting creativity and innovation of team members. Based on the aforementioned discussions, this study adopts proactiveness, innovativeness and risk-taking as entrepreneurial leadership.

### 2.2.1 Proactiveness

Proactiveness is regarded as a typical quality of entrepreneurial leaders(Bagheri et al., 2013). It refers to being active posture of leader in creating and leading the future of the entrepreneurial venture instead of waiting for unprepared opportunities. The nature of the entrepreneurial firms also have burning desire to compete and outperform other competitors with proactive manner (Tarabishy et al., 2005). Zampetakis(2008) depicted proactiveness improves ones' creativity and perseverance to achieve their entrepreneurial vision, and enhance desire and entrepreneurial intention to begin entrepreneurial activities.

Likewise et al.(2009) delineated that proactiveness makes

entrepreneurs possible to manage venture businesses successfully and envision into a successful future as well. Lumpkin & Dess(1996) noted two main attributes of proactiveness; 1) aggressive and competitive behavior against rival firms, 2) the collective pursuit of lucrative business opportunities.

### 2.2.2 Innovativeness

Surie & Ashley(2008) argued that entrepreneurial leaders are the creative innovators who are committed to taking action and value creation. Innovativeness has been defined as propensity and capability of entrepreneurial leaders who think up creatively and create novel and useful ideas in opportunity recognition, problem solving and resource utilization(Chen, 2007; Mattare, 2008). Tarabishy et al.(2005) defined it as frequency and extensiveness of product innovation and technological leadership for obtaining a competitive advantage of a firm.

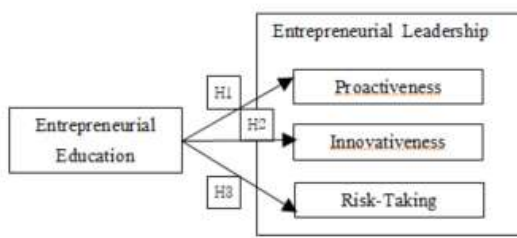
### 2.2.3 Risk-Taking

Tarabishy et al.(2005) defined risk-taking as the extend to which top managers are prone to take risks in making decisions on investment and strategic actions under uncertainty. Zhao et al.,(2005) outlined that risk-taking is entrepreneurs' desire to accept uncertainty and assume the responsibility for the result of the business. Entrepreneurial strategic posture(ESP) refers to a 'strategic posture' that entrepreneurial leaders accept to execute a strategy to compete in dynamic markets. Lumpkin & Dess(1996) depicted ESP as risk behavioral characteristics such as making commitment to large resource for seizing new opportunities and incurring heavy debt as well. Likewise, Chen(2007) suggested entrepreneurial leaders are mostly characterized by their tendency and capability to take calculated risks.

## III. Methodology

### 3.1 Research Design

The design of this study aimed at an exploratory investigation by attesting the relationship between entrepreneurship education and entrepreneurial leadership, using data and measurements of entrepreneurial leadership based on the literature. The construct of entrepreneurial leadership was operationalized by three key elements underlying their respective attributes. The hypotheses of this research ascertain direct relationship between entrepreneurship education and entrepreneurial leadership of university students. <Figure 1> exhibits the research model of this study.



<Figure 1> Research Model

### 3.2 Hypotheses Development

#### Entrepreneurship Education and Entrepreneurial Leadership

Charney & Libecap(2000) noted that entrepreneurship education is vital in fostering entrepreneurship of university students. Also, entrepreneurship can be promoted during individual's lifetime(Lee, et al., 2006), as entrepreneurship is a kind of potent disciplines. So, entrepreneurship education is a critical element for young people to forge an enhanced and robust entrepreneurial mind-set. Because of this reason, Wu & Wu(2008) suggested that university should provide students with entrepreneurship education to inspire interests in entrepreneurship and nurture entrepreneurial skills, regardless of academic goals. Entrepreneurship is instrumental even in building a platform for competitive advantage of entrepreneurial firms in the competitive environment(Gupta et al., 2004).

Meanwhile, entrepreneurial leadership is a distinctive style of leadership. Renko et al.(2015) noted that the attributes, behaviors and actions towards recognition and grasp of new opportunities, and ruthless pursuit are the typical distinctions of entrepreneurial leadership. Lumpkin & Dess(1996) suggested that 'entrepreneurial strategic posture(ESP)' or 'strategic posture' of entrepreneurial leader is made of innovativeness, risk-taking, and proactiveness that play as direct antecedents of the performance of a firm run by entrepreneurial leader. In line with this view, Chen(2007) argued that entrepreneurial leadership is an integrated construct involving risk-taking, pro-activeness and innovativeness; risk-taking implies the willingness to endure uncertainty, proactiveness refers to encourage entrepreneurial initiatives, and innovativeness means promoting creativity and innovation. Based on the discussion aforementioned, hypothesis1, 2 and 3 are proposed as followings:

**H1. Entrepreneurship education will have a positive relationship with proactiveness of university students.**

**H2. Entrepreneurship education will have a positive relationship with innovativeness of university students.**

**H3. Entrepreneurship education will have a positive relationship with risk-taking propensity of university students.**

### 3.3 Sampling

The sample data were collected from 232 students at three universities across the country. All participants were enrolled in either entrepreneurship courses or leadership classes. The surveys were administered in a classroom setting during 2 months from Nov. 15 to Dec. 15, 2017. Right before initiating the survey, the purpose of the study was explained in details as well as the importance of response with free willingness of the participants by the professor of each class. Out of total 232 surveys, 224 included complete data for all the entrepreneurial leadership items that met the purpose of this study. The demographic categories are based on gender, university, year, age, major and parents job in terms of employer or employee. Each of these categories is summarized in <Table 1>.

<Table 1> Sample Characteristics(n = 224)

		Frequency	Weight(%)
Gender	Male	149	66.5
	Female	75	33.5
Univers.	Soongsil	44	19.6
	Wonkwang	73	32.6
	Dankook	107	47.8
Year	Freshmen	38	17.0
	Sophomore	103	46.0
	Junior	42	18.8
Age	Senior	41	18.3
	19-20	66	29.5
	21-22	55	24.6
	23-24	45	20.1
Major	Older than 25	58	25.9
	Social Science	174	77.7
	Engineering	36	16.1
Parent	Art & Physical Edu	14	6.3
	Employer	116	51.8
	Employee	108	48.2

Overall, a large percentage of the participants were male at 66.5%. The participants of Dankook were 47.8% followed by Wonkwang, 32.6% and Soongsil, 19.6% respectively. Sophomore occupied the largest part, 46%, while the size of junior, senior and freshmen were relatively low and similar between 18.8% ~ 17%. The age ranged in 19 ~ 22 displayed 54.1% out of total sample. Social science was the highest percentage 77.7% among the three majors. 51.8% of the participants responded their parent is employer currently.

### 3.4 Instrument and Measurement

This study was designed to explore the relationships between the variables on the basis of descriptive and quantitative research method. The measuring instrument was developed primarily by adopting and modifying the items identified in prior researches so as to fit into the purpose of the study. The survey was made of two segments; the first one was asking for demographic information of the participants, and the second one was about questionnaires measuring each variable by employing five-point Likert scale; 1) Absolutely disagree to 5) Absolutely agree.

#### *Entrepreneurship education*

This study adopted the definition of entrepreneurship education by Alberti et al.(2004) who depicted it as structured transmission of entrepreneurial competencies such as knowledge, skills, and mental cognition exploited through whole entrepreneurial process. The measuring items were developed by modifying the study of Wu & Wu(2008) and Turker & Selcuk(2009) that include; 'the education helps me develop my entrepreneurial competencies', 'the education makes me renew the image of entrepreneur', 'the education enhances my entrepreneurial willingness', etc.

#### *Proactiveness*

Proactiveness has been regarded as an unique quality for entrepreneurial leaders who are taking active posture in creating and leading the entrepreneurial venture rather than waiting for opportunities(Bagheri et al., 2013). It makes entrepreneurs possible to envision the future of their business and lead their venture successfully(Hannah et al., 2008). Likewise, proactiveness helps entrepreneur improve the creativity and persistence in a way of realizing an entrepreneurial vision, desire, and entrepreneurial intention(Zampetakis, 2008). In this study, we define proactiveness as an entrepreneur's attitude to take aggressive action toward identifying new business opportunities and creating new value by seizing the venture opportunities. The instrument was employed by using modified the items of the studies of Chen(2007) and Renko et al.(2015) that include; 'I tend to act predicting future events, change and social problems', 'I prefer to plan in advance for the projects need to implement in the future', 'I take an initiative before anyone else gets involved in', etc.

#### *Innovativeness*

In general, entrepreneurial leaders are known as the innovators committed to taking action and creating value(Surie & Ashley, 2008). Innovativeness is defined as propensity and capability of

entrepreneurs who find new opportunities well, think creatively and develop unique, novel and useful ideas in problem solving and resource utilization(Chen, 2007; Okudan & Rzasa, 2006). Innovativeness is defined, in this study, as the capability of entrepreneurial leader who accept changes willingly and work as innovative problem solver in the face of challenging tasks. We developed the items after proper modification of the studies of Chen(2007) and Renko et al.(2015). Some of the items are 'I'm ready to accept change', 'I'm a innovative problem solver', 'R&D investment protect firms in the face of recession,' etc.

#### *Risk-Taking*

Risk-taking refers to the willingness of entrepreneurs to take uncertainties when pursuing a goal hard to achieve(Chen, 2007). Lumpkin & Dess(1996) depicted it as the extend to which entrepreneurial leaders are willing to take uncertain business risks when they make decisions for investments and strategic actions.

Tarabishy et al.,(2005) delineated that risk behaviors are closely related to incurring huge debt and making strong commitments to capturing new business opportunities. Risk-taking is also outlined as entrepreneurs' desire that absorb uncertainty and take formidable responsibility that might be caused by the business in the future(Mueller & Thomas, 2001; Zhao et al, 2005). Based on the mainstream discussion in literature, we define risk-taking as the willingness of entrepreneurs who desire to take uncertainties by means of investing money and time on lucrative business opportunities. The items were abstracted from the prior studies(Zhao et al, 2005; Chen, 2007; Renko et al, 2015) and then adjusted properly. Some sample items are; 'I'm prone to take risks on the unknown', 'I'm willing to invest money and time for the high profitable business opportunities', 'I tend to act boldly even in the face of risky situation', etc.

#### *Control variable*

In this study, we used control variables that include; school year, age, gender, major, parents job, and entrepreneurship education, as these demographic factors are regarded commonly as key factors in entrepreneurship research(Louw, et al., 2003; Van Gelderen, et al., 2008). Gender, parents job and entrepreneurship education were rated as a dichotomous variable (coding 0=male and 1=female, in case of gender).

## IV. Result

### 4.1 Data Analysis

In determining the dimensions and evaluate the content and construct validity of all variables, principal components analysis was employed with varimax rotation based on the simultaneous multi-group exploratory factor analysis(EFA) using SPSS version PASW Statistic 18 version.

Allen & Yen(1979) suggested that factorial validity is a form of construct validity. By the same token, Covin & Slevin(1989) used factor analysis to appraise 'factorial validity' or the scale's dimensionality. They argued that high loadings on a single factor indicate suggest that they are empirically related and constitute a uni-dimensional strategic dimension. Entrepreneurial leadership was measured with three sub-factors using a five-item scale on pro-activeness( $\alpha=.69$ ) and innovativeness( $\alpha=.76$ ), risk-taking( $\alpha=.77$ ), referring to the study of Chen(2007). Entrepreneurship education( $\alpha=.79$ ) was also measured with a five-item scale, too. As displayed on <table 2>, the five items of risk-taking and entrepreneurship education loaded ranged from .52 to .84 on a single factor. However, we found that one item of innovativeness was cross- loaded on risk-taking, and one item of pro-activeness was loaded less than .50, all of which were deleted from the data. As a consequence of second run, all the rest 18 items loaded above .5 on four different single factors. Thus, it is appropriate to aggregate these items into a single scale(Covin & Slevin, 1989) respectively, because they constitute a distinct, uni-dimensional factor.

<Table 2> Result of Factor analysis

Item	F1	F2	F3	F4	Accumulated variance(%)	Eigen Value	Cronba's $\alpha$
RT3	<b>.825</b>	.036	.034	.141	17.994	3.419	.770
RT1	<b>.783</b>	.200	.050	.078			
RT4	<b>.683</b>	.153	-.048	.028			
RT2	<b>.624</b>	.140	.203	.053			
RT5	<b>.524</b>	.162	.428	.244			
EE3	.071	<b>.781</b>	.047	.037	32.549	2.765	.793
EE2	.093	<b>.770</b>	-.032	.013			
EE4	.136	<b>.762</b>	.149	.075			
EE5	.231	<b>.662</b>	.293	.146			
EE1	.100	<b>.575</b>	.012	.095			
IN2	-.011	.084	<b>.849</b>	.062	46.724	2.693	.766
IN4	.052	.143	<b>.792</b>	.125			
IN1	.122	.066	<b>.703</b>	.029			
IN3	.267	-.014	<b>.610</b>	.170			
PR4	.079	.039	.186	<b>.782</b>			
PR1	-.013	.026	.016	<b>.738</b>	57.547	2.065	.695
PR2	.316	.175	.097	<b>.634</b>			
PR3	.385	.187	.171	<b>.532</b>			

RT: Risk-taking, EE: Entrepreneurship Education, IN: Innovativeness, PR: Pro-activeness.

<Table 4> exhibits inter-correlations among all the variables including the descriptive statistics for means, standard deviations of each variable. An average level of each variable reported by the participants indicated each EE=3.583, PR=3.302, IN=3.135,

and RT=3.091 all of which were measured by the five-point Likert scale. All four variables were inter-correlated properly within the significant level( $p<.01$ ); EE was correlated with PR( $r=.289$ ), IN( $r=.265$ ) and RT( $r=.337$ ) significantly. PR was correlated with IN( $r=.323$ ) and RT( $r=.380$ ). Lastly, IN was also correlated with RT( $r=.240$ ). Since all the coefficients were ranged below .80, it became clear that the data has no multicollinearity problem(Hair, et al., 2010).

<Table 3> Descriptive statistics and correlations

Variable	Mean	SD	EE	PR	IN	RT
EE	3.583	.666	1			
PR	3.302	.618	.289***	1		
IN	3.135	.849	.265***	.323***	1	
RT	3.091	.746	.337***	.380***	.240***	1

\*\*\*  $p<.01$

## 4.2 Test Results

In order to examine the hypotheses, the hierarchical multiple regression was used by entering the control variables first, and then the main determinant variables second. Even though the result of inter-correlation analysis indicated the data would be free from multicollinearity problem, we have made double-check to ensure impeccability of the data by checking the tolerance and variance inflation factor(VIF). The test result showed that the tolerance values were in between .528 and .948, all much higher than 0.10(Hair et. al., 2010). The VIF values were ranged from 1.056 to 1.895, far below the cut-off value, 10(Belsley, 1991). Thus, the data is free from multicollinearity problem.

<Table 4> Hierarchical regression results on PR

Variable	Model1		Model 2		Multicol.	
	$\beta$	SE	$\beta$	SE	Toler.	VIF
Control						
School Year	.128	.054	.125	.052	.598	1.672
Age	-.013	.044	.037	.043	.528	1.895
Gender	-.066	.095	-.043	.091	.821	1.218
Major	.070	.073	.060	.070	.948	1.055
Parents	-.117	.083	-.079	.080	.946	1.057
Independent						
EE			.294***	.060	.949	1.054
$R^2$	.064		.146			
$\Delta R^2$			.082			
F value	2.090		4.559			

\* $p<.1$ ,\*\*\* $p<.01$

H1 proposed that entrepreneurship education would have a positive relationship with pro-activeness of Korean University students. To examine H1, five control variables were entered first followed by independent variable, EE. We found that no

control variables affected PR significantly, but EE presented positive and significant relationship with PR( $\beta=.294, p<.01$ ), as shown in model 2 of <Table 4>. This finding support strongly that EE could work as the positive antecedents of PR.  $R^2$  value also increased significantly high from .64 in model 1 to .146( $\Delta R^2=.082$ ), as EE added in the model 2. Thus, H1 is supported.

<Table 5> Hierarchical regression results on IN

Variable	Model1		Model 2		Multicol.	
	$\beta$	SE	$\beta$	SE	Toler.	VIF
<u>Control</u>						
School Year	.089	.075	.086	.072	.598	1.672
Age	-.170	.061	-.128	.059	.528	1.895
Gender	-.009	.131	.010	.127	.821	1.218
Major	.187	.100	.179**	.097	.948	1.055
Parents	-.058	.114	-.027	.112	.946	1.057
<u>Independent</u>						
EE			.245***	.084	.949	1.054
$R^2$	.062				.119	
$\Delta R^2$					.057	
F value	2.027				3.604	

\* $p<.1$ , \*\* $p<.05$ , \*\*\* $p<.01$

H2 suggested that entrepreneurship education would have a positive relationship with innovativeness of university students. A meaningful finding in model 2 was, major of students only had a significant relationship with innovativeness out of all the control variables( $\beta=.179, p<.05$ ). This finding means that major can influence innovativeness of students, which may need to further investigate. The regression of main effect model for EE( $\beta=.245, p<.01$ ) yielded a significant regression on IN. In model 2, we could see significant increase of  $R^2$  value on EI from model 1 ( $\Delta R^2=.057$ ), as presented on <Table 5>. The results suggest that EE could serve as a positive antecedents of IN. Therefore, H2 is accepted.

<Table 6> Hierarchical regression results on RT

Variable	Model1		Model 2		Multicol.	
	$\beta$	SE	$\beta$	SE	Toler.	VIF
<u>Control</u>						
School Year	-.088	.064	-.091	.061	.598	1.672
Age	-.045	.052	.010	.050	.528	1.895
Gender	-.142	.113	-.117*	.107	.821	1.218
Major	.239	.086	.228**	.082	.948	1.055
Parents	.041	.099	.083	.094	.946	1.057
<u>Independent</u>						
EE			.323***	.071	.949	1.054
$R^2$	.086				.185	
$\Delta R^2$					.099	
F value	2.885				6.079	

\* $p<.1$ ,\*\*\* $p<.01$

H3 was to examine whether entrepreneurship education might be associated with risk-taking. Interestingly, model 2 displayed that both gender and major have significant relationships with risk-taking. Interestingly enough, gender had negative relationship

with risk-taking( $\beta=-.117, p<.1$ ), whereas major had positive relationship( $\beta=.228, p<.05$ ). This result implies that gender could be a factor that works negatively against the risk-taking, but major still presents an important factor working positively for it. The main effect of EE( $\beta=.323, p<.01$ ) resulted in a significant regression on RT. There was a meaningful increase of  $R^2$ ( $\Delta R^2=.099$ ), when EE was entered in model 2. Therefore, H3 is accepted, too.

## V. Discussion and Conclusion

This study aimed at exploring the effect of entrepreneurship education on fostering entrepreneurial leadership in the context of Korean universities. Total 224 students participated in the study from three different universities nationwide. In order to acquire clear understanding of the effect of entrepreneurship education on entrepreneurial leadership of students, we focused on three key variables; proactiveness, innovativeness and risk-taking all of which were identified as major variables made of entrepreneurial leadership(Zampetakis, 2008; Hannah et al, 2008; Surie & Ashle, 2008; Tarabishy et al, 2005; Chen, 2007; Okudan & Rzasa, 2006; Lumpkin & Dess, 1996; Mueller & Thomas, 2001; Bagheri et al, 2013).

The findings of this empirical study are summarized as followings; at first, entrepreneurial education affects proactiveness of Korean university students positively. Secondly, entrepreneurial education also influences innovativeness significantly. Finally, entrepreneurial education has positive relationship with risk-taking. All these findings are in line with the prior studies(Wu & Wu, 2008; Turker & Selcuk, 2009; Gupta et al., 2004; Chen, 2007; Renko et al, 2015). Therefore, the findings indicate that entrepreneurial education can be essential to Korean university students in order to foster entrepreneurial leadership. This is the key contribution of this study that verified the casual relationship between entrepreneurial education and entrepreneurial leadership in terms of both theoretical and practical prospects. Our findings also provides school authorities as well as policy makers deeper insights into the role of entrepreneurial education in promoting entrepreneurial contexts. Namely, the entrepreneurship education plays a pivotal role in promoting entrepreneurial leadership of university students; proactiveness, innovativeness and risk-taking. This result enhances the argument of prior study(Alberti et al, 2004) that claimed that entrepreneurship education is a structured transmission of entrepreneurial competencies such as knowledge, skills, and mental cognition that are critical elements throughout the entrepreneurial process.

The practical implications of this study presents clearly that

entrepreneurship education must be reinforced at all levels of school for cultivating the competent entrepreneurs down the road, since all these competencies could be acquired through education. In particular, entrepreneurship educators need to provide various types of learning tools for students to foster each components of entrepreneurial leadership. For instance, the educators are capable of empowering their imaginations to students so that they can develop entrepreneurial creativity and innovativeness. Through practicing the experiential learning opportunity, students can develop their entrepreneurial competences by converting the incubated business ideas into business opportunities (Anderson & Jack, 2008). This type of pedagogy becomes more critical in the context where theoretical aspects of entrepreneurship have been focused. Because the more attention on theory, the less opportunities in exercising entrepreneurial leadership (Yu Cheng, et al., 2009)

This research has some limitations. There might be a concern that the variables employed in this study might be duplicated with existing concept of entrepreneurship. More refined approach is needed in the follow-up study as to entrepreneurial leadership based on the prior studies. This study has focused on the effect of entrepreneurship education on the entrepreneurial leadership of university students, the scope of our research has been conducted within confined area. Future study need to expand it's research boundary larger including the additional variables such as passion and vision suggested by Renko, et al.(2015) and Mokhber, et al.(2016). The discussion for building hypotheses also needs to be supplemented further for underpinning theoretical base. The sample extracted from three local universities can be another limit of this study that may make it difficult to generalize the finding of the study. The follow-up study is suggested to include various samples from broader population. Another limit is that this study was conducted during mid of semester. We suggest to use sample who finished the course completely in follow-up study. Finally, investigating how entrepreneurial leadership work in influencing entrepreneurial attitudes and activities of university students could be another point for future study.

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## 기업가정신교육이 대학생들의 기업가적 리더십에 미치는 영향에 관한 연구\*

양준환\*\*

### 국 문 요 약

창업기업가는 혁신제품의 개발과 동시에 팀을 조직하고 창업한 후 그 창업 기업을 성공적으로 이끌어 나가야 한다는 측면에서 기업가정신을 리더십의 한 부분으로 보아야 한다는 ‘기업가적 리더십’ 논의가 해외학자들을 중심으로 활발히 진행되고 있다. 국내에서는 기업가정신 및 창업요인과 관련된 연구들이 집중적으로 이루어져 오고 있지만 대학생들을 대상으로 한 기업가정신교육과 기업가적 리더십 관계에 대한 연구는 충분치 않은 실정이다. 본 연구는 국내 3개 대학 224명의 대학생들을 대상으로 선행연구를 참고하여 기업가정신교육이 기업가리더십에 미치는 영향을 살펴보는 탐색적 연구로 진행되었다. 본 연구 결과 기업가정신교육은 대학생들의 기업가적 리더십에 유의한 영향을 미치는 것으로 나타났다. 세부적으로 기업가정신교육은 대학생들의 진취성, 혁신성 그리고 위험감수성과 모두 유의한 정(+)의 관계에 있는 것을 알 수 있었다. 본 연구결과는 기업가정신교육이 미래 창업기업가육성이라는 차원에서 청년대학생들의 기업가적 기본 소양인 기업가리더십을 함양시킨다는 측면에서 더욱 강화되어 나갈 필요가 있음을 시사하고 있다. 결론으로 본 연구의 이론적 기여점과 교육당국 및 정책입안자들을 위한 실무적 시사점을 제시해 두었다.

핵심주제어: 기업가정신교육, 기업가 리더십, 대학생, 주도성, 혁신성, 위험 감수성

\* 본 연구는 2018년도 단국대학교 교내연구비 지원에 의한 연구임.

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