

The Effect of Entrepreneurial Education on Entrepreneurship and Entrepreneurship Intention: Focusing on University Students who took Entrepreneurship-related Courses

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Abstract

This purpose of this study was to identify the factors that influence entrepreneurship education on entrepreneurship and entrepreneurial intention. The purpose of this study was to examine the relationship between entrepreneurship education and entrepreneurship intention, entrepreneurship, and entrepreneurship intention. For this purpose, the following empirical analysis was conducted on the research hypothesis set in the research model for 223 university students who took the course on entrepreneurship and entrepreneurship. First, as a result of examining the effect of the hypothesis 1 between entrepreneurship education and entrepreneurial intention, a positive effect was shown. Hypothesis 1 was accepted. Second, hypothesis 2, entrepreneurship education showed a positive (+) influence on entrepreneurship. Therefore, hypothesis 2 was accepted. Third, as a result of testing the hypotheses on the relationship between the three hypotheses on and entrepreneurial intention, statistically significant analysis was performed. Therefore, hypothesis 3 was accepted. In other words, the results of this study showed that entrepreneurship education acted as a positive factor on the entrepreneurial intention, and entrepreneurship and entrepreneurial spirit, like the results of previous studies. Therefore, as entrepreneurship education and entrepreneurship act as major factors to improve entrepreneurial intentions, the importance of upgrading systematic and substantial entrepreneurship education and education on substantial entrepreneurship was emphasized.

Keywords: Entrepreneurship, Entrepreneurship Education, Entrepreneurship Intention, Hypothesis

1. INTRODUCTION

The recent globalized business environment is facing a crossroads for survival and sustainable growth due to the pandemic caused by COVID-19. In particular, the structural job shortage and job anxiety factors that college students face are expanding into social problems, and various efforts are being made to overcome them. According to the announcement by the Ministry of SMEs and Startups, the spread of entrepreneurial enthusiasm to overcome the COVID-19 era and create new challenging opportunities is accelerating. To this end, the budget of the government start-up support integrated announcement for revitalization of start-ups in 2021 was KRW 1.51 trillion, an increase of KRW 66.2 billion (4.6%) from the previous year (KRW 1.451.7 trillion) (Korea Policy Briefing_ www.korea.kr). Despite the government's various start-up support policies, college students face realistic problems such as lack of practical start-up-related education, lack of experience

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and capital, difficulty in paralleling learning and entrepreneurship, and insufficient establishment of entrepreneurship. On the other hand, recently, universities have been expanding business-related courses to support and revitalize businesses through various educational opportunities, information provision, and competitions so that they can choose to start a business rather than a job after [1].

In spite of the quantitative expansion of entrepreneurial education at universities, it is a correction of the reality that concrete and high-quality education that can actually be helpful to students is not implemented or not. Despite the expansion of a quantitative entrepreneurship training (entrepreneurial education) of the university, and the reality is actually correct would not be specific and high quality education that students can run to be helpful. Therefore, the courses related to entrepreneurship and entrepreneurship provided to college students are a new alternative education for competitive start-up and entrepreneurship, and a practical approach is needed to realize the scattered values of college students. In addition, it is necessary to check how much the startup education and startup support program actually contribute to the improvement of startup intention and entrepreneurship so that college students can grow into the leaders of future startups. Therefore, this study intends to empirically analyze the effect of entrepreneurship education on entrepreneurship and entrepreneurial intentions based on previous studies on entrepreneurship education for college students [2-5].

The purpose of this study is to demonstrate the analysis of the impact of entrepreneurship education on the degree of entrepreneurship and start-up based on previous studies of entrepreneurship education for college students. Also, based on the results of the empirical analysis, it is judged that it is possible to present additional theoretical grounds and practical implications on the future entrepreneurial intention by confirming their influence on the entrepreneurial intention. In addition, this study has the biggest difference from previous studies in that it empirically analyzed the relationship between entrepreneurship education and entrepreneurship and entrepreneurship intention for college students who took the course on entrepreneurship and entrepreneurship. In addition, this study has the biggest difference from previous studies in that it empirically analyzed the relationship between entrepreneurship education and entrepreneurship and entrepreneurship intention for college students who took the course on entrepreneurship and entrepreneurship. Also, based on the results of the empirical analysis, it is judged that it is possible to present additional theoretical grounds and practical implications on the future entrepreneurial intention by confirming their influence on the entrepreneurial intention. In addition, we believe that they can present additional rationale and practical implications on the future of entrepreneurship is also confirmed by the degree of their impact on the start-up based on the results of the empirical analysis.

2. THEORETICAL CONSIDERATION

2.1 Entrepreneurship Education and Entrepreneurial Intention

Entrepreneurship education refers to ‘entrepreneurship education’ and ‘small business education’, which are expressed differently in each country, but it is to improve the will and intention to start a business through systematic learning of the knowledge, skills, attitudes, and competencies necessary for starting a business [6].

Entrepreneurship education has a positive effect on realizing an enterprising and challenging life based on entrepreneurship in terms of being able to start a business through entrepreneurship education as well as for prospective entrepreneurs and founders [7]. In other words, entrepreneurship education is a convergence education that provides and acquires knowledge, skills, and information necessary for start-up to prospective entrepreneurs and entrepreneurs. In addition, based on systematic acquisition of various know-how and entrepreneurship necessary for management, it is nurtured to grow into creative and innovative entrepreneurs [8]. Entrepreneurship education is not only necessary for a new business, but it should be able to acquire methods, skills, and knowledge for efficient operation and continuous profit creation after starting a business. Entrepreneurship education seeks to improve the entrepreneurship plan, process, operation method, how to succeed without failure, and entrepreneurship [9].

On the other hand, entrepreneurial intention is the desire to start or own a new business, and is a substantial factor predicting entrepreneurship. In other words, it can be said to be the most effective indicator that leads to action in the shortest period of time. Entrepreneurship intention refers to intentional actions and planned actions through a clear plan for starting a startup, indicating the possibility that prospective entrepreneurs will

actually start a startup in the future [10]. Since the entrepreneurial intention is the basis for establishing a new organization, it acts as the most important factor in realizing the entrepreneurship process [11]. It is also the perceived self-belief of planning a new business or start-up in the future and intentionally planning and promoting the start-up at some point in the future [12].

On the other hand, in the study on entrepreneurship education and entrepreneurial will, entrepreneurship education improved the confidence required for entrepreneurship [13]. In a study of MBA students who learned entrepreneurship during their studies, it was suggested that the higher the awareness of the entrepreneurship education process, the more positive the self-efficacy [14]. A study on the effect of college students' intrinsic and extrinsic motivation and entrepreneurship education on entrepreneurial intentions showed a positive relationship on entrepreneurial intentions [5]. In an empirical study of the effect of experiential start-up education in university on the entrepreneurial intention of university students and the mediating effect of start-up skills and entrepreneurship through structural model analysis, experiential start-up education showed a positive effect on entrepreneurship education of university students. In addition, it showed a positive effect on the entrepreneurial intention of college students through the parameters of entrepreneurship skills and entrepreneurship [3]. In a study on the role of start-up education for hotel and tourism majors, students who received start-up education had a positive effect on higher entrepreneurial will than those who did not receive start-up education. In a study on the role of start-up education for hotel and tourism majors, students who received start-up education had a positive effect on higher entrepreneurial will than those who did not receive start-up education [2].

In the study of the effect of start-up preparation education of prospective university founders, centered on college students majoring in catering, on start-up anxiety and start-up decision level, start-up preparation education showed a positive effect on the start-up decision level, which is the intention to start a business. In the study of the effect of start-up preparation education of prospective university founders, centered on college students majoring in catering, on start-up anxiety and start-up decision level, start-up preparation education showed a positive effect on the start-up decision level, which is the intention to start a business [4]. Therefore, this study established the following hypotheses based on the results of previous studies on the relationship between entrepreneurship education and entrepreneurship intention.

Hypothesis 1. Entrepreneurship education will have a positive (+) effect on entrepreneurial intentions.

2.2 Entrepreneurship Education and Entrepreneurship

Entrepreneurship education at universities is a systematic improvement in the knowledge, skills, aptitude, attitude, competency, and values necessary for starting and successful operation of a business through various non-curricular activities (startup club, employment/startup certificate, etc.) in addition to major education for current students [15]. On the other hand, successful entrepreneurship education should enable entrepreneurs to identify opportunities that others have not yet discovered, and equip them with the ability to execute them in an effective way at the right time. On the other hand, successful entrepreneurship education should enable entrepreneurs to identify opportunities that others have not yet discovered, and equip them with the ability to execute them in an effective way at the right time [16]. Entrepreneurship education should be able to increase the possibility of success of start-ups through education on roles and mentoring activities that can systematically construct and successfully realize a business plan. Entrepreneurship education should be able to increase the possibility of success of start-ups through education on roles and mentoring activities that can systematically construct and successfully realize a business plan [17]. In other words, entrepreneurship education should be given a clear educational objectives based on placing the hands on a theoretical basis as a program to prepare for the start-up founded in the step-by-step practical point of view [18].

Entrepreneurship is a process of behaviors and attitudes to take risks and implement in order to realize the differentiated values of a company. Entrepreneurship is a process of behaviors and attitudes to take risks and implement in order to realize the differentiated values of a company [19]. Entrepreneurship is the will of a company to achieve a given management goal by judging and overcoming uncertain business situations in advance for sustainable management. Entrepreneurship is the will of a company to achieve a given management goal by judging and overcoming uncertain business situations in advance for sustainable management [20]. In

other words, entrepreneurship is to seize the opportunity to discover innovative business opportunities for new development, which is required for the mausoleum continued advancement of corporate sustainability management and execution to achieve a business goal [21].

Therefore, entrepreneurship is a comprehensive management practices and activities that take the risk to the growth and development of the organization in the spirit (risk sensitivity, initiative, innovation) that are required for the differential competitive advantage, keep improving [22]. On the other hand, entrepreneurship education and entrepreneurship have a close relationship with each other. This is because the goal of entrepreneurship education is to encourage successful start-ups by enhancing entrepreneurial skills while at the same time strengthening entrepreneurship [23]. As a result of measuring the change in entrepreneurial competency before and after college students received start-up education through the technology start-up education camp, it was confirmed that entrepreneurial competency to recognize start-up opportunities improved [24]. In a study on the moderating effect of devotee disposition on the relationship between entrepreneurship education for young people and entrepreneurship and entrepreneurship intention, entrepreneurship education showed a positive effect on entrepreneurship [25-26].

In a study on the role of start-up education on entrepreneurial competency, entrepreneurial will, and employment intention of college students, hotel tourism majors who received start-up education showed higher entrepreneurship in start-up education than those who did not receive start-up education, indicating the importance of start-up education emphasized [2]. Therefore, this study established the following hypotheses based on the results of previous studies on the relationship between entrepreneurship education and entrepreneurship. Therefore, this study established the following hypotheses based on the results of previous studies on the relationship between entrepreneurship education and entrepreneurship.

Hypothesis 2. Entrepreneurship education will have a positive (+) effect on entrepreneurship.

2.3 Entrepreneurship and Entrepreneurial Intention

Entrepreneurship is a belief that enables an individual to develop his/her own career path [27], and it is an act of starting a venture rather than an abstract concept, and it is a creative attitude or action [28]. In research on strategic entrepreneurship, entrepreneurship is the ability to discover and utilize opportunities that were not used in the past but are now used [29]. In the study of the framework of the concept of entrepreneurship, it was argued that entrepreneurship is the development and initiative of a profit-oriented [30]. In other words, entrepreneurship is a comprehensive management activity that takes risks and practices for the realization of corporate values and continuous growth and development [22]. On the other hand, in order to start a business, it is necessary to have a will to establish a new company in advance, which acts as an important motive for starting a business. In other words, the will to start a business is an individual's psychological state [31], and acts as the most important factor in realizing the start-up process because it is the basis for establishing a new organization [11].

Entrepreneurship intention is an action plan that intends to act with a strong will to start a business no matter what risks [32], the attitude of the pre-entrepreneurs to focus in order to operate after conception and realization of business projects [33]. In addition, entrepreneurial intention is a deliberate action and a planned action through a clear plan, indicating the possibility that a potential entrepreneur will actually start a business in the future [10]. On the other hand, if you look at the studies examining the relationship between entrepreneurship and entrepreneurial intentions, many studies show that entrepreneurship has a positive effect on entrepreneurial intentions [34]. As a result of empirically analyzing the effect of entrepreneurship on the will to start a business for 301 college students, entrepreneurship was partially selected as a significant factor [35]. As a result of investigating the effect of entrepreneurship on entrepreneurial intentions on 373 college students from Seoul, Gyeonggi-do, and Incheon, it was found that entrepreneurship was partly a positive factor [36].

The study on the career stage, entrepreneurial self-efficacy, entrepreneurship and entrepreneurial intention of office workers partially showed a significant effect on entrepreneurial intention [37]. In a study on the effects of entrepreneurship education and entrepreneurship on entrepreneurial intentions and the moderating effect of virtuoso disposition for 231 young people, entrepreneurship (risk sensitivity, innovativeness) showed a positive effect on entrepreneurship intention [26]. Therefore, this study established the following hypotheses based on the results

of previous studies on the relationship between entrepreneurship and entrepreneurial intentions. Therefore, this study established the following hypotheses based on the results of previous studies on the relationship between entrepreneurship and entrepreneurial intentions.

Hypothesis 3. Entrepreneurship will have a positive (+) effect on entrepreneurial intention.

3. RESEARCH METHOD

3.1 Research Model

This study established a research model as shown in Figure 1 based on previous studies to examine the effect of entrepreneurship education on entrepreneurship and entrepreneurial intentions perceived by college students who took a course on entrepreneurship.

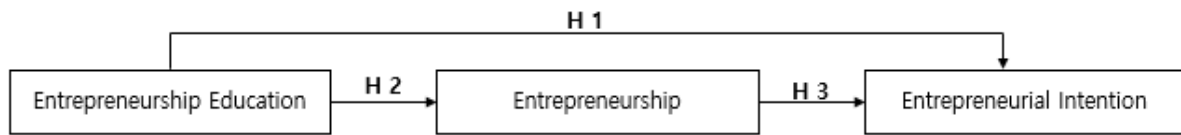


Figure 1. Research model

3.2 Operational Definition of Variables

In this study, to verify the relationship between entrepreneurship education's influence on entrepreneurship and entrepreneurship intention, to establish a research model and to test hypotheses, based on the results of previous studies, operant definitions of variables were defined as shown in Table 1.

Table 1. Organizational definitions of variables

Variable Name	Variable Definition	Prior Research	note
Entrepreneurship Education	Comprehensive education that establishes sustainable management through the improvement of knowledge, information, technology, and competency necessary for start-up and business operation:(Creativity, problem-solving ability, communication, decision-making, business plan).	McMullan and Long (1987), Jiyoung Kim et al. (2017), Kim Jong-myung (2020)	15 questions Likert 5-point
Entrepreneurship	A comprehensive management activity that overcomes the risks required to realize corporate value and secures differentiated competitiveness through the advancement of the sustainability management system. (Risk Sensitivity, Innovation, initiative	Sooah Lee (2019), Moon jun Kim (2020), Kim Jong-myung (2020)	9 questions Likert 5-point scale
Entrepreneurship intention	A positive attitude toward entrepreneurship and innovative desire to start a new business. (Startup efficacy, entrepreneurial will, entrepreneurial motivation, entrepreneurial intention	Ajzen (1991), Chanyoung Jung (2020), Kyungae Yang (2021), Shin Hyang-sook (2021)	12 questions Likert 5-point scale
General characteristics	Gender, Grade, Undergraduate		3 questions

In this study, to verify the relationship between entrepreneurship education's influence on entrepreneurship and entrepreneurship intention, to establish a research model and to test hypotheses, based on the results of previous studies, operant definitions of variables were defined as shown in Table 1.

First, the definition of entrepreneurship education is to be defined in this study as a complex education that establishes sustainable management through the improvement of knowledge, information, technology, and competency necessary for entrepreneurship and business operation, based on the results of previous studies. On the other hand, the sub-components of entrepreneurship education were set as five sub-factors of creativity, problem-solving ability, communication, decision-making, and business plan writing applicable to university

education based on the results applied in previous research [1, 38, 39], and a total of 15 questions were applied.

Second, the definition of entrepreneurship is based on the results of previous studies, and this study intends to define it as a comprehensive management activity that overcomes the risks required to realize corporate value by upgrading the sustainability management system and implements differentiated competitiveness. In addition, the sub-variables of entrepreneurship were measured with 9 items in 3 sub-factors of risk tolerance, innovation, and initiative based on the factors verified in previous studies [1, 22, 25, 40].

Third, in this study, entrepreneurial intentions are defined as the positive attitude toward entrepreneurship and innovative desire to start a new business, which one has prior to entrepreneurial behavior, based on the results of previous studies. Meanwhile, as for the sub-components of entrepreneurial intention, 12 items were applied to the four sub-factors of entrepreneurial efficacy, entrepreneurial will, entrepreneurial intention, and entrepreneurial intention verified in previous studies [11, 41-43].

3.3 Data Collection and Analysis Method

This study is to confirm the factors that entrepreneurship education perceived by college students who have taken the entrepreneurship and entrepreneurship course on entrepreneurship and entrepreneurship intention. To this end, the survey period was conducted using a random sampling method from November 26 to December 4, 2020 for learners in the second semester of 2020 and from May 20 to 28, 2021 for the first semester of 2021. The questionnaire responses were on a 5-point Likert scale (1-'not at all' to 5-'strongly agree'), and 223 copies were used as final analysis data, excluding 7 copies that were not statistically applicable from 230 copies. On the other hand, hypotheses were verified through descriptive statistical analysis, exploratory and confirmatory factor analysis, reliability analysis, correlation, and multiple regression analysis using the statistical programs SPSS 21.0 and AMOS21.0 for Windows to check the established research hypothesis.

4. EMPIRICAL ANALYSIS

4.1 Demographic General Characteristics

The general characteristics of 223 people who were conducted to examine the relationship between entrepreneurship education perceived by college students who have taken entrepreneurship and entrepreneurship on entrepreneurship and entrepreneurship intention are as follows.

The general characteristics of 223 people who were conducted to examine the relationship between entrepreneurship education perceived by college students who have taken entrepreneurship and entrepreneurship on entrepreneurship and entrepreneurship intention are as follows. By gender, 115 people (51.6%) were male and 108 people (48.4%) were female. The grade distribution was in the order of 78 people (34.9%) in the third grade, 64 people (28.6%) in the second year, 54 people (24.2%) in the fourth grade, and 27 people (12.3%) in the first year. The grade distribution was in the order of 78 students (34.9%) in the third grade, 64 students (28.6%) in the second year, 54 students (24.2%) in the fourth grade, and 27 students (12.3%) in the first year. As for the undergraduate department, 87 people (39.0%) were in the business department, 52 people in the humanities and social sciences (23.3%), 25 people in the natural sciences (11.2%), 23 people in the education department (10.3%), 19 people in the engineering department (8.5%), 17 people (7.7%) in the arts, physical education and other categories.

4.2 Exploratory Factor Analysis and Reliability Analysis

In order to verify the research hypothesis established to achieve the purpose of this study, the reliability analysis of the measured variables was confirmed with Cronbach's α . In addition, the orthogonal rotation method was used as a factor rotation method through exploratory factor analysis for feasibility analysis. In addition, the criterion for factor extraction was set to an initial eigenvalue of 1.0 or more, and is shown in Table 2.

Table 2. Factor Analysis Results for Entrepreneurship Education, Entrepreneurship, and Entrepreneurship intention

Latent and Measured Variables		Question	Factor loading	Eigen values	Descriptive variance (%)	Cumulative variance (%)	Cronbach α
Entrepreneurship Education	Creativity	Creativity 1	.854	7.341	19.837	19.837	.751
		Creativity 2	.841				
		Creativity 3	.812				
	problem-solving ability	problem-solving ability1	.819	4.518	12.211	32.048	.855
		problem-solving ability 2	.759				
		problem-solving ability 3	.747				
	communication	communication 1	.703	3.803	10.279	42.327	.776
		communication 2	.671				
		communication 3	.667				
	decision-making	decision-making 1	.631	2.921	7.890	50.217	.728
		decision-making 2	.533				
		decision-making 3	.525				
	business plan	business plan 1	.713	2.678	7.236	57.453	.753
		business plan 2	.707				
		business plan 3	.693				
KMO = .903, $\chi^2 = 2438.703$, $df = 166$, Sig = .000, T : 57.453							
Entrepreneurship	Risk Sensitivity	Risk Sensitivity 1	.801	2.891	24.151	24.151	.801
		Risk Sensitivity 2	.797				
		Risk Sensitivity 3	.757				
	Innovation	Innovation 1	.823	2.867	23.708	47.859	.845
		Innovation 2	.807				
		Innovation 3	.778				
	initiative	initiative 1	.901	2.575	21.431	69.290	.898
		Initiative2	.894				
		Initiative3	.866				
KMO = .835, $\chi^2 = 2239.617$, $df = 64$, Sig = .000, T : 69.290							
Entrepreneurial intention	entrepreneurial efficacy	entrepreneurial efficacy 1	.899	3.303	20.641	20.641	.825
		entrepreneurial efficacy 2	.886				
		entrepreneurial efficacy 3	.877				
	entrepreneurial will	entrepreneurial will 1	.875	2.583	16.134	36.775	.769
		entrepreneurial will2	.864				
		entrepreneurial will 3	.689				
	entrepreneurial motivation	entrepreneurial motivation 1	.761	2.387	14.901	51.676	.741
		entrepreneurial motivation 2	.691				
		entrepreneurial motivation 3	.675				
	entrepreneurial intention	entrepreneurial intention 1	.761	2.121	13.251	64.927	.809
		entrepreneurial intention 2	.729				
		entrepreneurial intention 3	.701				
KMO = .813, $\chi^2 = 2374.095$, $df = 121$, Sig = .000, T : 64.927							

First, as a result of factor analysis on entrepreneurship education, 5 factors (creativity, problem solving, communication, decision making, business plan) out of a total of 15 questions were extracted. Factor loading was analyzed from .525 (decision 3) to .854 (creativity 1) to secure validity. Also, Cronbach's α value of reliability secured reliability of .728 or higher, and total variance explanatory power was analyzed as 57.453%.

Second, as a result of factor analysis on entrepreneurship, the validity was indicated by expressing the factor

load from .757 (risk tolerance 3) to .901 (progressiveness 1) with 3 factors (risk sensitivity, innovation, and initiative) in a total of 9 questions. Cronbach's α coefficient of reliability was higher than .801, indicating high reliability, and the total variance explanatory power was analyzed as 69.290%.

Third, as a result of factor analysis on entrepreneurial intention, the factor load was .675 (startup motivation 3) to .899 (entrepreneurial efficacy 1) with a total of 12 questions and 4 factors (entrepreneurial efficacy, entrepreneurial will, entrepreneurial motivation, entrepreneurial intention). In addition, the Cronbach's α value of entrepreneurial intention was .741~.825, indicating a reliable level, and the total variance explanatory power was analyzed as 64.927%.

4.3 Confirmatory Factor Analysis and Correlation Analysis

Table 3 shows the results of confirmatory factor analysis to derive a measurement model for each variable for the measured items verified through exploratory factor analysis and reliability analysis to verify this research model.

Table 3. Results of confirmatory factor analysis

Division	χ^2	GFI	NFI	CFI	RMSEA
Entrepreneurship Education	586.548	.908	.911	.908	.042
Entrepreneurship	411.521	.910	.914	.915	.053
Entrepreneurial intention	325.551	.915	.920	.917	.048

That is, the χ^2 value, which is the fitness evaluation criterion for confirmatory factor analysis, and the fitness index, GFI ($\geq .90$), NFI ($\geq .90$), CFI ($\geq .90$), and RMSEA ($\leq .08$) were applied. As a result of calculating the correlations among the variables of entrepreneurship education, entrepreneurship, and entrepreneurship intention through multiple regression analysis to verify this research model, the correlation between the variables showed a significant correlation from .105 to .761. In addition, the values of all correlation coefficients were .85 or less, so discriminant validity was secured according to the criterion of correlation discriminant polymorphism [44]. On the other hand, it was lower than the standard value of .80 for multi-collinearity between independent variables, indicating that all variables had no problem with multi-collinearity [45].

4.4 Hypothesis Verification

4.4.1 The Relationship between Entrepreneurship Education and Entrepreneurship Intention (Hypothesis 1)

Table 4. Multiple Regression Analysis of the Effect of Entrepreneurship Education on Entrepreneurship Intention (Hypothesis 1)

variable	entrepreneurial efficacy		entrepreneurial will		entrepreneurial motivation		entrepreneurial intention	
	β	t	β	t	β	t	β	t
creativity	.161	2.113*	.106	1.392*	.084	1.103	.339	4.449***
problem-solving ability	.178	2.337**	.323	4.301***	.060	.087	.167	2.192**
communication	.055	.722	.161	2.113**	.241	3.164***	.231	3.032***
decision-making	.237	3.111***	.174	2.285**	.139	1.824*	.174	2.285**
business plan	.195	2.601**	.112	1.471*	.247	3.242***	.121	1.589*
explanatory rate	$R^2 = .241$		$R^2 = .261$		$R^2 = .250$		$R^2 = .319$	

* $P < .05$, ** $P < .01$, *** $P < .001$

Table 4 shows the results of multiple regression analysis for the effect of hypothesis 1 entrepreneurship education on entrepreneurial efficacy, entrepreneurial will, entrepreneurial motivation, entrepreneurial intention, which are sub-variables of startup intention.

First, entrepreneurship education explains entrepreneurial efficacy by 24.1% ($R^2 = .241$) among the sub-variables of entrepreneurship intention, and decision-making ($\beta = .327$) among the variables of entrepreneurship education at the level of .1%, while the business plan ($\beta = .195$) and problem solving ability ($\beta = .178$) at the 1% level and creativity ($\beta = .161$) at the 5% level showed statistically significant effects on entrepreneurship.

Second, entrepreneurship education explains 26.1% ($R^2 = .261$) of entrepreneurial will, which is a sub-variable of entrepreneurial intention, and among the variables of entrepreneurship education, problem solving ability ($\beta = .323$) is at the .1% level, and decision-making ($\beta = .174$) and communication ($\beta = .161$) showed a significant effect on the will to start a business at the 1% level, and business plan ($\beta = .112$) and creativity ($\beta = .106$) at the 5% level.

Third, entrepreneurship education explains 25.0% ($R^2 = .250$) of entrepreneurial motivation, which is a sub-variable of entrepreneurial intention, and among the variables of entrepreneurship education, communication ($\beta = .241$) and business plan ($\beta = .247$) at the .1% level, decision making ($\beta = .139$) showed a statistically significant effect on entrepreneurial will at the 5% level.

Fourth, entrepreneurship education explains 31.9% ($R^2 = .319$) of entrepreneurial intention, which is a sub-variable of entrepreneurial intention, and among the variables of entrepreneurship education, creativity ($\beta = .339$) and communication ($\beta = .231$) at the .1% level, decision-making ($\beta = .174$) and problem-solving ability ($\beta = .167$) were statistically significant at the 1% level, and the business plan ($\beta = .121$) was statistically significant at the 5% level.

These results supported the contents of the previous study results [2-5, 13, 14]. In other words, the importance of entrepreneurship education was emphasized as qualitative entrepreneurship education was shown to improve entrepreneurship intention for learners. In particular, as the factors for business plan preparation and decision-making in the start-up education tax act as factors that further improve the entrepreneurial intention, the importance of concentration and quality improvement of education has emerged.

4.4.2 The Relationship between Entrepreneurship Education and Entrepreneurship (Hypothesis 2)

Table 5 shows the results of multiple regression analysis for the effect of hypothesis 2 entrepreneurship education on risk sensitivity, innovation, and initiative, which are sub-variables of entrepreneurship.

Table 5. Multiple Regression Analysis of the Effects of Entrepreneurship Education on Entrepreneurship (Hypothesis 2)

variable	risk Sensitivity		innovation		initiative	
	β	t	β	T	β	t
creativity	.055	.939	.216	3.028**	.166	2.172**
problem-solving ability	.287	3.967***	.327	4.571***	.241	3.375***
communication	.310	4.346***	.261	3.654**	.215	3.042**
decision-making	.123	1.391*	.187	2.493**	.135	1.776*
business plan	.131	1.578*	.154	2.041**	.147	1.973*
explanatory rate	$R^2 = .323$		$R^2 = .341$		$R^2 = .279$	

* $P < .05$, ** $P < .01$, *** $P < .001$

First, entrepreneurship education explains risk sensitivity by 32.3% ($R^2 = .323$) among the sub-variables of entrepreneurship, and among the variables of entrepreneurship education, communication ($\beta = .310$) and problem solving ($\beta = .287$) are .1 at the % level, the business plan ($\beta = .131$) and decision-making ($\beta = .123$) showed statistically significant risk t sensitivity at the 5% level.

Second, entrepreneurship education explains 34.1% ($R^2 = .341$) of innovativeness, which is a sub-variable

of entrepreneurship. (.261), creativity ($\beta = .216$), decision making ($\beta = .187$), and business plan ($\beta = .154$) were significantly analyzed for innovativeness at the 5% level.

Third, entrepreneurship education explains initiative, which is a sub-variable of entrepreneurship, by 27.9% ($R^2 = .279$), and problem solving ($\beta = .241$) among the variables of entrepreneurship education at the level of .1%, communication ($\beta = .215$) and creativity ($\beta = .166$) were positive at the 1% level, and business plans ($\beta = .147$) and decision-making ($\beta = .135$) were positively expressed in the 5% level.

These results supported the contents of the previous study results [2, 23-26]. In other words, it was shown that the more the entrepreneurship education improved, the more the learner's entrepreneurial spirit was strengthened. Accordingly, in order to inspire entrepreneurship among university students, the importance of continuous and systematic implementation of entrepreneurship education and advancement of implementation was emphasized.

4.4.3 The Relationship between Entrepreneurship and Entrepreneurial Intention (Hypothesis 3)

Table 6 shows the results of multiple regression analysis for the effect of hypothetical three-person entrepreneurship on the sub-variables of entrepreneurial intention, such as entrepreneurial efficacy, entrepreneurial will, entrepreneurial motivation, and entrepreneurial intention.

Table 6. Multiple Regression Analysis of the Influence of Entrepreneurship on Entrepreneurship Intention (Hypothesis 3)

variable	entrepreneurial efficacy		entrepreneurial will		entrepreneurial motivation		entrepreneurial intention	
	β	t	β	t	β	t	β	t
risk Sensitivity	.136	2.111*	.165	2.937**	.135	2.106*	.361	6.549***
innovation	.241	3.887***	.369	6.342***	.243	3.907***	.239	4.486***
initiative	.117	1.901*	.141	2.527**	.115	1.849*	.155	2.933***
explanatory rate	$R^2 = .221$		$R^2 = .319$		$R^2 = .261$		$R^2 = .390$	

* $P < .05$, ** $P < .01$, *** $P < .001$

First, entrepreneurship explains entrepreneurship efficacy by 22.1% ($R^2 = .221$) among the sub-variables of entrepreneurial intention, while innovation ($\beta = .241$) among entrepreneurship variables at the level of .1%, risk Sensitivity ($\beta = .136$) and initiative ($\beta = .123$) were analyzed as positive for entrepreneurial efficacy at the 5% level.

Second, entrepreneurship explains 31.9% ($R^2 = .319$) of entrepreneurial will, which is a sub-variable of entrepreneurial intention, and innovation ($\beta = .369$) at the level of .1% and risk Sensitivity ($\beta = .165$). and initiative ($\beta = .141$) showed a statistically significant effect on entrepreneurial will at the 1% level.

Third, entrepreneurship explains 26.1% ($R^2 = .261$) of entrepreneurial motivation, which is a sub-variable of entrepreneurial intention, while innovation ($\beta = .243$) is at .1% and risk Sensitivity ($\beta = .135$). initiative ($\beta = .115$) significantly indicated entrepreneurial intention at the 5% level.

Fourth, entrepreneurship explains 39.0% ($R^2 = .390$) of entrepreneurial intention, which is a sub-variable of entrepreneurial intention. In addition, risk Sensitivity ($\beta = .361$), innovation ($\beta = .239$), and initiative ($\beta = .155$) were statistically significantly analyzed for entrepreneurial intention at the level of .1%.

These results supported the contents of the previous study results [26, 34-37]. In other words, the importance of entrepreneurship was emphasized as entrepreneurship intention improved as entrepreneurship improved. Therefore, the importance of various case studies and practice was emphasized so that learners could demonstrate the theory of entrepreneurship along with the theory of entrepreneurship in order to further activate their entrepreneurial intentions through learning, which supported the results of previous studies.

5. CONCLUSION

The purpose of this study is to investigate the effects of entrepreneurship education on entrepreneurship and entrepreneurial intentions perceived by college students who have taken entrepreneurship and entrepreneurship

and the factors that entrepreneurship has on entrepreneurial intentions. For this purpose, the following empirical analysis was conducted on the hypotheses established according to the research model for 223 university students.

First, hypothesis 1 on the effect of entrepreneurship education on entrepreneurship intentions was accepted. In other words, the higher the level of entrepreneurship education, the better the entrepreneurial intention. Second, as a result of the analysis of the relationship between start-up education and entrepreneurship, which is hypothesis 2, entrepreneurship education showed a positive influence on entrepreneurship. Third, as a result of testing Hypothesis 3 on the relationship between entrepreneurship and the positive (+) effect on entrepreneurship intention, it was shown that entrepreneurship intention and entrepreneurship improved as the results of previous studies.

The main theoretical and practical implications expressed through the results of this study are as follows.

First, the theory of the causal relationship between entrepreneurship education, entrepreneurship, and entrepreneurship intention was added to college students who took the course on entrepreneurship and entrepreneurship. Second, the aspect that the sub-components of the variables of entrepreneurship education, entrepreneurship, and entrepreneurship intention were applied and analyzed in detail provided theoretical and practical implications at the same time. Third, in order to improve the practical start-up intentions of college students, the practical implications of improving the quality of start-up education should be derived. Fourth, in the aspect that entrepreneurship education is a key factor in improving entrepreneurship and entrepreneurial intentions, the importance of lecture quality management was emphasized so that instructors could provide more substantial entrepreneurship education.

On the other hand, despite the theoretical and practical implications of this study, it is difficult to generalize and apply the results of the study to a limited number of subjects. Therefore, if further research is conducted in the future, it is considered that it is necessary to conduct research on entrepreneurship education, entrepreneurship, and support systems that affect entrepreneurial intentions based on various comparative studies.

REFERENCES

- [1] Jong Myung Kim (2020), "A Study on the Influence of Start-up Education, Government Support, and Entrepreneurship on Start-up Performance", Department of International Trade Graduate School Dankook University.
- [2] Kim, Nam hyun (2021), "The role of tourism entrepreneurial education on university students' entrepreneurial competency, intention to start a business and intention to get a job," *Journal of Hospitality and Tourism Studies*, 23(1), 181-197. DOI: 10.31667/jhts.2021.2.86.181
- [3] Kim Young-tae (2021), "A Study on the effect of Experiential Entrepreneurship Education on Undergraduate Students Entrepreneurship Intention: Focusing on entrepreneurship skills and entrepreneurship mediating effect," *Journal of Korea Jinro Entrepreneurship Management Association*, 5(1), 51-75
- [4] Woo Cheol Lee (2021), "The Effects of Entrepreneurship Preparation Education for Prospective Entrepreneurs on Entrepreneurial Anxiety and Entrepreneurial Decision among College Students: Focused on the College Students with Catering and Cooking Major," *Culinary Science & Hospitality Research*, 27(1), 183-193. DOI : 10.20878/cshr.2021.27.1.016
- [5] Chanyoung Chung and SoYoung Lee (2021), "The Effects of Autonomous and Controlled Motivation on Entrepreneurship Intention: Focusing on the Comparison between University Students and Seniors," *Journal of Distribution and Management Research*, 24(2), 33-48. DOI: 10.17961/jdmr.24.02.202104.33.
- [6] Ronstadt (1985), "The Educated Entrepreneurs: A New Era of Entrepreneurial Education is Beginning," *American Journal of Small Business*, 10(1), 7-23. <https://doi.org/10.1177/104225878501000102>
- [7] Testa and Frasccheri (2015), "Learning by failing: What we can learn from un-successful entrepreneurship education," *The International Journal of Management Education*, 13(1). DOI:10.1016/j.ijme.2014.11.001

- [8] Kim, Sung Woo (2017), "An Empirical Study on the Effect of Entrepreneurship Education and Job Search Education for Entrepreneurial Intention and Job Search Intention," Department of Technology Management Graduate School of Konkuk University
- [9] Na, S. G.(2016), "A Study on the Structural Causality Relationship among the Service Quality, Satisfaction, Reliability and Recommendation Intention of Education for Start-ups of Small Enterprises," *Business Education Review*, 31(5),. 123-143
- [10] Ajzen (1991), "The theory of planned behavior," *Organizational Behavior and Human Decision Processes*, 50(2), 179–211. [https://doi.org/10.1016/0749-5978\(91\)90020-T](https://doi.org/10.1016/0749-5978(91)90020-T)
- [11] José Ma Veciana, Marinés Aponte and David Urbano (2005), "University Students' Attitudes Towards Entrepreneurship: A Two Countries Comparison," *International Entrepreneurship and Management Journal*, 1(2), 165-182. DOI:10.1007/s11365-005-1127-5
- [12] Daniela Maresch, Rainer Harms, and Norbert Kailer, Birgit Wimmer-Wurm (2016), "The impact of entrepreneurship education on the entrepreneurial intention of students in science and engineering versus business studies university programs," *Technological forecasting and social change*, 104, 172-179. <https://doi.org/10.1016/j.techfore.2015.11.006>
- [13] Gibb (1993), "Enterprise Culture and Education: Understanding Enterprise Education and Its Links with Small Business, Entrepreneurship and Wider Educational Goals," *International Small Business Journal* 11(3), 11-34. DOI:10.1177/026624269301100301
- [14] Hao Zhao, Scott Seiber and Gerald Hills (2005), "The Mediating Role of Self-Efficacy in the Development of Entrepreneurial Intentions," *Journal of Applied Psychology*, 90(6), 1265-72. DOI:10.1037/0021-9010.90.6.1265
- [15] Jeong Tea-hwa, (1996), "The Promotion of Linkage between Technical/Vocational Education and the World of Work," *Career education research*, 7, 217-235. <http://www.careeredu.net>
- [16] Dev K. Dutta and Stewart Thornhill (2008), "The evolution of growth intentions: Toward a cognition-based model," *Journal of Business Venturing* 23(3), 307-332. DOI:10.1016/j.jbusvent.2007.02.003
- [17] Park, J. H., An, S. K., and Yoon, I. C. (2011). The influence of home environment, career orientation and entrepreneurship education on entrepreneurial intentions," *Journal of Industrial Economics and Business*, 24(4), 2499-2520.
- [18] Jeong, D. Y., & Kim, J. Y. (2016). The effect of perceived threat for entrepreneurial failure on the entrepreneurial intention mediated by fear on business," *Journal of the Korean Entrepreneurship Society*, 31(4), 571-590.
- [19] Moon Jun Kim(2018), "A Study of the Entrepreneurship and Social Capital in Organizational Performance," *International Journal of Advanced Culture Technology(IJACT)*, 6(4), 1-11 DOI: <https://doi.org/10.17703/IJACT2018.6.4.1>
- [20] Daniel A. Lerner and Richard A Hunt (2018), "Entrepreneurial Action as Human Action: Sometimes Judgment-driven, Sometimes Not," *Journal of Business Venturing*, 33(1), 52-69. <https://doi.org/10.1016/j.jbusvent.2017.10.002>
- [21] Rogene A. Buchholz and Sandra B. Rosenthal (2005), "The Spirit of Entrepreneurship and the Qualities of Moral Decision Making: Toward A Unifying Framework," *Journal of Business Ethics* volume 60, pages307–315. <https://doi.org/10.1007/s10551-005-0137-0>
- [22] Kim, Moon Jun (2020), "The Impact of Entrepreneurship and Management Strategies on Organizational Performance Perceived by Members: Focused on SMEs," *The International journal of advanced culture technology*, 8(1), 26 – 37. <https://doi.org/10.17703/IJACT.2020.8.1.26>
- [23] Garavan, T. N., and O’Cinneide, B. (1994), "Entrepreneurship Education and Training Programmes: A Review and Evaluation Part 1," *Journal of European Industrial Training*, 18, 3-12. <http://dx.doi.org/10.1108/03090599410068024>
- [24] Jeon Ju hyun and Lim, Kyoung-Su (2017), "A Study on the Change in Start-up Competence of College Students Participating in Technology Start-up Education Camp," *Journal of Engineering Education Research*, 20(4), 67-72, DOI : 10.18108/jeer.2017.20.4.67
- [25] JEONG, YEONG-KEUN (2021), "The Relationship among Entrepreneurship Education for young people,

- Entrepreneurship, and Entrepreneurial Intention: Considering the Moderating Effect of Deokhu-like Behavior,” Department of Entrepreneurship and small business Graduate School of Soongsil University.
- [26] Kim, Young-Su and Jeong, Yeong-Keun (2021), “A Study on the Influence of Entrepreneurship Education and Entrepreneurship on Entrepreneurial Intention and the Moderating Effect of Deokhu-like Behavior,” *The Korea Contents Society*, 21(1), 394-406. DOI : 10.5392/JKCA.2021.21.01.394
- [27] McClelland, David C. (1961), “*The Achieving Society*,” Princeton: Van Nostrand.
- [28] William B. Gartner (1992 “Finding the Entrepreneur in Entrepreneurship,” *Entrepreneurship Theory and Practice*, 17(1), 79. <https://doi.org/10.1177/104225879201700110>
- [29] Michael A Hitt, R. Duane Ireland, Michael Camp and Donald L. Sexton (2001), “Strategic Entrepreneurship: Entrepreneurial Strategies for Wealth Creation,” *Strategic Management Journal*, 22(6-7), 479-491. DOI:10.1002/smj.196
- [30] Robert Zacca and Mumin Dayan (2017), “Entrepreneurship: an evolving conceptual framework,” *International Journal of Entrepreneurship and Innovation Management*, 21(1/2), 8-26. <http://www.inderscience.com/link.php?id=81495> (text/html)
- [31] Norris F. KruegerJR, Michael D. Reilly and Alan L. Carsrud (2000), “Competing models of entrepreneurial intentions,” *Journal of Business Venturing*, 15(5-6), 411-432. [http://www.sciencedirect.com/science/article/pii/S0883-9026\(98\)00033-0](http://www.sciencedirect.com/science/article/pii/S0883-9026(98)00033-0)
- [32] Jae-Hyoung Kim and Won Jun Kwak (2018), “The Effect of Perceived Benefits for Entrepreneurial Failure on the Entrepreneurial Intention - Focused on Mediating Effects of Entrepreneurial Self-efficacy & Moderating Effects of Experience of Startup,” *Human Resource Management Research*, 25(4), 1-17. DOI : 10.14396/jhrmr.2018.25.4.1.
- [33] Barbara Bird (1988), “Implementing Entrepreneurial Ideas: The Case for Intention,” *The Academy of Management Review*, 13(3), 442-453. <https://doi.org/10.2307/258091>.
- [34] Norman R. Smith and J. Miner (1983), “Type of entrepreneur, type of firm, and managerial motivation: Implications for organizational life cycle theory,” *Strategic Management Journal*, 4(4), 325-340. DOI:10.1002/SMJ.4250040404.
- [35] Lee, Joo-Heon and Bian, Guang Xue (2011), “A Study on the Relationship between Entrepreneurial Orientations and Entrepreneurial Intentions of College Students,” *Proceedings of Conference on Business Venturing*, 12, 37-46.
- [36] Kang, Jae-Hac and Yang, Dong-Woo (2016), “A Study on Effect of the University Student's Entrepreneurship on Entrepreneurial Self-efficacy and Entrepreneurial Intention : Focusing on Mediating Effect of Opportunity Recognition,” *Journal of the Korea Academia-Industrial cooperation Society*, 17(1), 493–507. DOI : <http://dx.doi.org/10.5762/KAIS.2016.17.1.493>
- [37] Song, Changwoon and CHOI, JUNG HWA (2021), “How Entrepreneurial Mindset of Office Workers Affects Entrepreneurial Intention: Roles of Social Capital and State-action Orientation,” *Venture Startup Research*, 15(3), 73-88, DOI : 10.16972/apjbve.15.3.202006.73.
- [38] W. Ed McMullan and Wayne A. Long (1987). “Entrepreneurship education in the nineties,” *Journal of Business Venturing*, 2(3), 261-275. [http://www.sciencedirect.com/science/article/pii/0883-9026\(87\)90013-9](http://www.sciencedirect.com/science/article/pii/0883-9026(87)90013-9)
- [39] Kim, Jiyoung, Sung, Chang Soo and Park, Joo YI (2017), “A Study on the Creative Problem-Solving Education in Entrepreneurship Education of Higher Educational Institutions : Lessons and Implications From Leading Countries’ Educational Policies and Cases,” *Venture Startup Research*, 12(2), 65-76, DOI : 10.16972/apjbve.12.2.201704.65
- [40] Lee, Soo Ah (2019), “Analysis of Entrepreneurship, Social Capital and Entrepreneurial Intentions of young pre-entrepreneurs: Focusing on Mediating Effects of Entrepreneurial Self-Efficacy and Moderating Effects of Entrepreneurship Education,” Department of Vocationology Graduate School Kyonggi University.
- [41] Chan-Young Chung (2021), “The Effect of Entrepreneurship Education for University Students and Seniors on Entrepreneurial Intention: Integrating the Theory of Planned Behavior and Self-determination Theory,” Department of Information Management, The Graduate School of Venture, Hoseo University Seoul, Korea
- [42] Kyeong-Ae Yang (2021), “A Study on the Factors Affecting Entrepreneurial Intention of Middle-aged and Older Adults: Focused on the mediating effect of business-opportunity search,” Department of Venture and

Business, The Graduate School of Venture Hoseo University Seoul, Korea.

- [43] Shin, Hyang Sook (2021), "Effects of Active Senior's Entrepreneurial Competencies on Entrepreneurial Efficacy, Entrepreneurship, and Entrepreneurial Intention," Department of Business Administration Graduate School of Sejong University.
- [44] Kline, R. B. (2005). Principles and practice of structural equation modeling (2nd ed.). Guilford Press.
- [45] Kim Gye-soo (2017), "Potential Growth Modeling and Structural Equation Model Analysis," Hannarae Academy MI.