

---

# Influence of Creativity and Social Capital on the Entrepreneurial Intention of Tourism Students

*Chien-Ching Chia<sup>1</sup> and Chaoyun Liang<sup>2</sup>*

---

## Abstract

*Regional knowledge coordination and the systematic promotion of rural culture using a combination of ecological advantages and environmental education are emerging topics in discussions on entrepreneurship. Considering that both creativity and social capital are critical factors for developing touristic activities, this study investigated their influences on the entrepreneurial intentions of tourism students in a metropolitan area, with the objective of contributing towards talent development in touristic entrepreneurship. A survey was administered at one university in Taiwan, and 213 valid subjects were analysed. The results first revealed that tourism students' creativity was divided into two dimensions, namely originality and usefulness; that social capital could be categorised as being either bridging or bonding; and that entrepreneurial intention was divided into conviction and preparation. The results indicated that tourism students with higher levels of creativity showed stronger entrepreneurial intentions. The usefulness of creativity had a stronger influence on entrepreneurial conviction than on entrepreneurial preparation. In addition, bridging-based social capital had a significant influence on the entrepreneurial conviction of tourism students. The results of this study may serve as a reference for tourism administrators in the development of strategies for human resources management, particularly in personnel selection and training.*

**Keywords:** *creativity, entrepreneurial intention, social capital, tourism students.*

---

## INTRODUCTION

Over the past three decades, climate change has changed global society and natural systems. Wilson and Morren (1990) asserted that people must seriously consider the ecological, ethical, and social concerns emerging from the use of resources in rural areas. Furthermore, Orr (1994) stated that global

---

1 Chien-Ching Chia, Research Assistant, Department of Bio-Industry Communication and Development, National Taiwan University, No. 1, Sec. 4, Roosevelt Road, Taipei, 10617, Taiwan, e-mail: d04630003@ntu.edu.tw.

2 Chaoyun Liang, Professor, Department of Bio-Industry Communication and Development, National Taiwan University, No. 1, Sec. 4, Roosevelt Road, Taipei, 10617, Taiwan. e-mail: cliang@ntu.edu.tw.

---

warming damages ecologies and biochemical cycles; however, it is rooted in the inherent awareness, prioritisation, and loyalty towards industrialisation. Because people have been involved in excessive consumption, social injustice, and ethnic conflicts worldwide, younger generations from rural areas continue to migrate to metropolises and eventually become detached and competitive (Ellyard, 2011). Therefore, the simultaneous balancing of rural development promotion and quality of life maintenance has become a topic of interest in recent years (Flora et al., 2002; Freibauer et al., 2011). Such a balance can be achieved through tourism, thereby rendering entrepreneurship for rural tourism a central topic.

Numerous studies have documented critical antecedents of entrepreneurial intention, including exposure to entrepreneurial role models (Austin & Nauta, 2016; Van Auken, Fry, & Stephens, 2006), disposure of intellectual capital (Alcaniz, Gomez-Bezares, & Roslender, 2010; Razmi & Firoozabadi, 2016), and previous entrepreneurial experience (Hockerts, 2015; Ozaralli & Rivenburgh, 2016). In addition, creative leveraging of social capital to achieve high performance has also been identified as a central strategy in the tourism business (Richards & Wilson, 2007; Zhao, Ritchie, & Echtner, 2011). That is, the creativity and social capital of entrepreneurs must be taken into account in discussing their behaviours, particularly in the tourism business.

Entrepreneurs in a knowledge-based economy must be capable of excellent creativity (Carayannis, Popescu, Sipp, & Stewart, 2006), particularly at the stages of identifying and evaluating business opportunities and launching a business (Doboli, Kamberova, Impagliazzo, Fu, & Currie, 2010). Moreover, creativity is a primary element of entrepreneurial intention (Olufunso, 2010), and people with strong creativity often demonstrate outstanding entrepreneurial intentions (Balachandran & Sakthivelan, 2013; Zampetakis, 2008). In addition, social capital has a major influence on entrepreneurial intention (Liñán & Santos, 2007), especially for young people, and social capital strongly affects the entrepreneurial intentions and career choices of younger generations (Sharma, 2014). However, integrated studies on the influence of creativity and social capital on entrepreneurial intention are scant, and the literary focus on entrepreneurs of rural tourism is even less developed.

Because of the global trend towards lifestyles of health and sustainability, regional knowledge coordination and the systematic promotion of rural cultures with a combination of ecological advantages and environmental education have emerged as topics in entrepreneurship. To reduce the shortage of professional manpower in the service industry, universities and vocational senior high schools have established related departments over the

past two decades to provide talent resources for the tourism industry. The tourism industry is highly labour intensive, and the shortage of manpower in rural areas is a major obstacle to the promotion of local tourism. Therefore, the current study investigated (1) the influence of creativity and social capital on the entrepreneurial intention of tourism students in metropolitan areas and (2) the influence of tourism students' creativity and social capital on the intention to establish an enterprise in a rural area

---

## LITERATURE REVIEW

### Entrepreneurial intention

Thompson (2009) defined entrepreneurial intention as the conviction, preparation, and commitment to continual planning for the establishment of a new enterprise or the creation of additional value. Among the diverse approaches to entrepreneurial intentions, the entrepreneurial event theory (Shapero & Sokol, 1982) and the theory of planned behavior (Ajzen, 1991) are the most popular models. Shapero and Sokol (1982) indicated that entrepreneurial intention is influenced by perceptions of desirability and feasibility. Ajzen (1991) suggested that the antecedents of entrepreneurial intention should include three aspects, namely the attitude towards entrepreneurship, the subjective norms, and the perceived control over the entrepreneurial behaviour.

However, numerous scholars have referred to difficulties related to differences in the measures used, because there are no standard measurement instruments for entrepreneurial intention and its antecedents (Armitage & Conner, 2001; Liñán & Chen, 2009). For example, Cooper and Dunkelberg (1986) asserted that entrepreneurs are different from enterprisers who are employed and gradually promoted by enterprises. Certain enterprisers inherit or acquire enterprises and demonstrate relatively different motives and attitudes towards the operation of their enterprises. Pittaway and Cope (2007) emphasised that the entrepreneurial intention of small and medium-sized enterprises and non-profit organisations differs from that of general profit-seeking enterprises; hence, the viewpoints, arguments, practices, and measurements must also differ.

According to these differences, Lans, Gulikers, and Batterink (2010) divided entrepreneurial intention into three categories: classical (entrepreneurs), alternative (enterprisers through inheritance or acquisition), and intrapreneurial (enterprisers through internal promotion). These three types of entrepreneurial intention have different learning objectives and professional requirements. Entrepreneurial intention plays a crucial

mediating role in the stimulation of entrepreneurial behaviour (Fayolle, Gailly, & Lassas-Clerc, 2006). Therefore, Wang, Peng, and Liang (2014) summarised the results obtained by Liñán and Chen (2009) and Lans et al. (2010) and developed a reliable and valid scale of entrepreneurial intention, in which they proposed that entrepreneurial intention should take two dimensions of 'conviction' and 'preparation' into account. Accordingly, this study adopted this scale for use in a survey instrument.

### **Creativity and entrepreneurial intention**

'Creativity' can be defined in two ways (Barron & Harrington, 1981): (1) creativity means a novel product accepted by society—also known as the product view—(Baer, Kaufman, & Gentile, 2004; Hennessey & Amabile, 2010), and (2) creativity is the capability of performing a certain task—also known as the capability view—(Fryer, 2006; Silvia, 2008). In the product view, creativity comprises two major concepts: originality and usefulness (Mayer, 1999; Runco & Jaeger, 2012). Many scholars have considered originality to be the expression of novelty, uncommonness, and surprise (Barron, 1955; Sternberg, 1999), and usefulness to be that of appropriateness, effectiveness, utility, adaptation, value, and flexibility (Barron, 1988; Hutchinson, 1931; Stein, 1953).

Runco and Jaeger (2012) concluded that the definitions of creativity proposed by Barron (1955) and Stein (1953) would continue to be referred to in future studies, because those two studies mentioned the core of creativity: originality and usefulness. Lin, Hsu, and Liang (2014) summarised various theories and concluded that the originality of creativity implies the ability to produce a novel or uncommon idea, behaviour, or work, and that the usefulness of creativity implies the ability to produce an appropriate, effective, or valuable idea, behaviour, or work. Both must be accepted in the specific societal context. In *Transferable Criteria of Creativity*, Copley (2015) proposed that creativity must contain 'elegance' and 'genesis'. Accordingly, the current study developed a survey tool by adopting the discourses of Lin et al. (2014) and Copley (2015).

Colleges and universities are considered the source of new knowledge and technological innovation benefitting the establishment of enterprises. These entrepreneurial activities emerge from the transfer of research from research and development teams to student 'garage ventures' (Shane, 2004). In recent years, schools, industries, and policymakers have emphasised and recognised the importance of campus ventures in the development of national economies because of the advent of innovative ideas and technologies and the increase in economic value and job opportunities (Prodan & Drnovsek,

2010). The climate for innovation on campus can increase the entrepreneurial intentions of teachers and students through job satisfaction and self-efficacy, which improve the relationship between job satisfaction and entrepreneurial intentions (Lee, Wong, Foo, & Leung, 2011). In addition, student imagination has a considerable influence on ventures and rural service (Chang, Yao, Chen, King, & Liang, 2016; Yao, Peng, Lee, & Liang, 2016).

### **Social capital and entrepreneurial intention**

Social capital refers to the scale of an available social network and the aggregate quality of resources owned by all members in the social network (Bourdieu, 1986). Social capital can be briefly divided into individuals and organisations. This study focused on individual social capital. The position in a group can be decided by the social capital owned by individuals, which affects not only the quality and quantity of social resources available for individuals but also the opportunities to obtain and use such resources (Lin, 2002). Nahapiet and Ghoshal (1998) analysed social capital in three dimensions: structural (including networking, network configuration, and schedulable organisation), relational (including trust, recognition, standards, obligations, and expectations), and cognitive (including shared codes, languages, and discourses). Moreover, scholars have analysed social capital through composition: amount of contact time (interaction), emotional intensity and closeness (emotion), and reciprocity (activity) (Astone, Nathanson, Schoen, & Kim, 1999). Williams (2006) divided the concept of social capital into two types of cognitive networks—namely, bridging and bonding—and developed a scale of social capital containing 20 questions.

Social capital is beneficial for entrepreneurial activities, particularly in the acquisition of knowledge, identification of business opportunities, networking, establishment of reputation, and improvement in performance (Honig, 1998; Lechner & Dowling, 2003; Moller, Partanen, Westerlund, Rajala, & Rajala, 2005; Shaw, Lam, & Carter, 2008). Accordingly, social capital and entrepreneurship are positively related. Residents in cities apply social capital more flexibly than those in the countryside do and are more determined in perceiving opportunities (Arenius & Clercq, 2005). In addition, social capital has a strong effect on career choices and can promote the entrepreneurial intention of younger generations (Liñán & Santos, 2007; Sharma, 2014; Walker, Kogut & Shan, 1997).

Social capital is not only a critical capacity for improving poor communities (Middleton, Murie, & Groves, 2005) but also an essential factor in strengthening quality of life and sustainable development (Kay, 2006; Newman & Dale, 2005). According to Mel and Jenny (2007), when

community development is threatened, social capital is fundamental in establishing interpersonal connections, promoting communication, and bonding, thereby enabling the protection of sustainable cultures. The recent emergence of the Internet has also contributed to the establishment of a new pattern of communication. Internet users often form groups on the basis of common benefits or interests. Therefore, an exchange of experience in, and information on, social capital can strengthen social connections and expand external relations (Joinson, 2003).

On the basis of the aforementioned studies, four hypotheses were proposed as follows:

**H1:** Creativity positively influences entrepreneurial intention;

**H2:** Social capital positively influences entrepreneurial intention;

**H3:** Creativity positively influences entrepreneurial intention in rural areas;

**H4:** Social capital positively influences entrepreneurial intention in rural areas.

---

## METHOD

This study administered a questionnaire to tourism students from one university in Taipei, Taiwan. The questionnaire comprised a total of 33 questions, and was divided into four parts. The first part (12 questions) divided creativity into originality and usefulness according to the studies of Lin (2014) and Cropley (2015), the second part (10 questions with higher factor loadings) divided social capital into bridging and bonding according to the scale developed by Williams (2006), and the third part (10 questions) divided entrepreneurial intention into conviction and preparation according to the scale developed by Wang et al. (2014). Finally, one question was designed about entrepreneurial intention in rural areas specifically for this study.

The respondents answered on a 6-point Likert-type scale ranging from 1 (*strongly disagree*) to 6 (*strongly agree*). Unanswered questions were set as missing values. Because the scales were adopted from renowned international journal papers, the questionnaire has high reliability and validity. The questionnaire was distributed during a weekly meeting of the department in April 2016. A total of 257 questionnaires were retrieved and 44 incomplete questionnaires were excluded. The number of valid questionnaires was 213; a valid response rate of 83%.

Among the respondents with valid questionnaires, 97.65% were Taiwanese; 18.8% were male and 81.2% were female, which corresponds with the national statistics of tourism student enrolment (Ministry of Education, 2015). Moreover, respondents with parents engaged in the service industry

constituted the highest proportion of the participants (36.2%), followed by those with parents in business (26.8%), industry (15.5%), public sectors, education, and the police (12.7%), and agriculture (2.3%). In addition, respondents residing in New Taipei constituted the highest proportion of the participants (31.9%), Taipei (21.6%), Taoyuan (11.7%), and Keelung (4.7%).

To investigate the influence of creativity and social capital on entrepreneurial intention, this study first adopted factor analysis with varimax rotation to select and factor structure (eigenvalues greater than 1), and then performed multiple regression analysis to determine the possible causal relationship.

## ANALYSIS AND DISCUSSION

Regarding creativity, the Kaiser–Meyer–Olkin (KMO) value was 0.92. Bartlett’s sphericity test reached a level of significance ( $\chi^2 = 2202.61$ ,  $df = 66$ ,  $p < .001$ ) that was suitable for factor analysis. Two factors were screened for: originality and usefulness. The total variance explained reached 68.778%, indicating adequate validity. According to Table 1, cross factor loading was observed in questions 11 and 12; nevertheless, considering the numerical comparison, these two questions belonged to the ‘usefulness’ factor. On the basis of the discourses of Lin et al. (2014) and Cropley (2015), the current study developed a survey tool and verified that the creativity of tourism students comprised two major factors: originality and usefulness.

**Table 1.** Factor analysis, mean, and standard deviation of creativity ( $N = 213$ )

Question No.	Originality	Usefulness	M	SD
I can plan innovative leisure activities.	.777		3.84	.737
I can plan leisure activities with my own characteristics.	.670		4.02	.771
I can plan inspiring leisure activities.	.912		3.74	.723
Leisure activities that I plan are ingenious.	.853		3.87	.806
Leisure activities that I plan are unique.	.897		3.70	.891
Leisure activities that I plan guide the market.	.554		3.51	.856
I understand customers’ needs.		.872	3.89	.828
I adapt practises flexibly to the changes.		.750	4.03	.662
I consider preferences in the consumer market.		.964	3.96	.735
Leisure activities that I plan meet customers’ goals.		.659	3.78	.735
Leisure activities that I plan can be adapted to different situations.	.333	.543	3.86	.724
Leisure activities that I plan are recognised in the consumer market.	.444	.455	3.67	.781

Note: A blank represents a factor loading of less than .3.

Regarding social capital, the KMO value was 0.875. Bartlett’s sphericity test reached a level of significance ( $\chi^2 = 1743.82, df = 45, p < .001$ ) that was suitable for factor analysis. Two factors were screened for: bridging and bonding. The total variance explained reached 68.435%, indicating adequate validity. According to Table 2, cross factor loading was observed in questions 1 and 2; nevertheless, considering the numerical comparison, these two questions belonged to the ‘bonding’ factor. On the basis of the scale proposed by Williams (2006), the current study adopted questions with higher factor loadings and verified that the social capital of tourism students involved two major factors: bridging and bonding.

**Table 2.** Factor analysis, mean, and standard deviation of social capital (N = 213)

Question No.	Bridging	Bonding	M	SD
There are several people online/offline I trust to help solve my problems.	.410	.462	4.57	.907
There is someone online/offline I can turn to for advice about making very important decisions.	.439	.482	4.58	.879
If I needed an emergency loan of \$500, I know someone online/offline I can turn to.		.774	3.73	1.028
The people I interact with online/offline would put their reputation on the line for me.		.987	4.03	1.041
The people I interact with online/offline would help me fight an injustice.		.719	4.38	.886
Interacting with people online/offline makes me interested in things that happen outside of my town.	.885		4.51	.799
Interacting with people online/offline makes me want to try new things.	.915		4.56	.784
Talking with people online/offline makes me curious about other places in the world.	.896		4.63	.823
Interacting with people online/offline makes me feel like I am part of a larger community.	.669		4.37	.910
Interacting with people online/offline makes me feel connected to the bigger picture.	.926		4.54	.815

**Note:** A blank represents a factor loading of less than .3.

For entrepreneurial intention, the KMO value was 0.898. Bartlett’s sphericity test reached a level of significance ( $\chi^2 = 1899.99, df = 45, p < .001$ ) that was suitable for factor analysis. Two factors were screened for: conviction and preparation. The total variance explained reached 69.459%, indicating adequate validity. According to Table 3, cross factor loading was observed in questions 4, 5, and 6; nevertheless, considering the numerical comparison, questions 4 and 5 belonged to the ‘conviction’ factor and

question 6 belonged to the 'preparation' factor. On the basis of the scale proposed by Wang et al. (2014), the current study adjusted the questions and verified that the social capital of tourism students involved two major factors: conviction and preparation.

**Table 3.** Factor analysis, mean, and standard deviation of entrepreneurial intention ( $N = 213$ )

Question No.	Conviction	Preparation	M	SD
My professional goal is to become an entrepreneur.	.844		4.57	.907
I am going to do anything to become an entrepreneur.	.977		4.58	.879
I have seriously considered starting a business.	.852		3.73	1.028
I intend to start my own business within 5 years.	.596	.311	4.03	1.041
I will make every effort to establish and operate my own business.	.478	.383	4.38	.886
I am determined to develop my business into a high-growth enterprise.	.424	.505	4.51	.799
I am determined to become a profession business manager.		.632	4.56	.784
I am going to inherit my family's business in the future.		.621	4.63	.823
I am going to establish a company that promotes environmental protection.		.927	4.37	.910
I am going to establish a company that provides assistance for disadvantaged groups.		.906	4.54	.815

Note: A blank represents a factor loading of less than .3.

This study conducted a multiple regression analysis to assess the influence of creativity and social capital on entrepreneurial intention. According to Table 4, the standardised regression coefficient of 'usefulness' to 'conviction' reached .367 ( $p < .01$ ), with a coefficient of multiple determination ( $R^2$ ) of 13.47%, and the standardised regression coefficient of 'usefulness' to 'preparation' reached .248 ( $p < .05$ ), with an  $R^2$  of 6.1%, whereas those of 'originality' to both 'conviction' and 'preparation' did not reach significance levels. Therefore, H1 was partially supported. Moreover, the standardised regression coefficient of 'bridging' to 'conviction' reached .181 ( $p < .05$ ), with an  $R^2$  of 3.28%, whereas that of 'bridging' to 'preparation' and those of 'bonding' to both 'conviction' and 'preparation' did not reach significance levels. Therefore, H2 was also partially supported. In the overall model, the  $R^2$  of the independent variable to 'conviction' and 'preparation' reached 20.4% and 19.8%, respectively. The result of an F test revealed a level of significance ( $p < .001$ ), which indicated that the regression model was appropriate.

The study results revealed that tourism students with higher creativity demonstrated stronger entrepreneurial intentions; this result is consistent

with those of previous studies (Balachandran & Sakthivelan, 2013; Carayannis et al., 2006; Olufunso, 2010; Zampetakis, 2008). In addition, this study determined that the usefulness of creativity had a significant effect on both aspects of entrepreneurial intention; in particular, usefulness had a stronger influence on entrepreneurial conviction than on entrepreneurial preparation. However, the originality of creativity had no significant effect on entrepreneurial intention, which is a new observation in academia.

The results also indicated that tourism students with higher levels of social capital demonstrated stronger entrepreneurial intentions, which is consistent with the results of previous studies (Liñán & Santos, 2007; Moller et al., 2005; Sharma, 2014; Shaw et al., 2008). Furthermore, this study determined that bridging-based social capital had a significant effect on entrepreneurial conviction, although it had no significant influence on entrepreneurial preparation. In addition, bonding-based social capital had no significant influence on either type of entrepreneurial intention. According to Williams (2006), bridging-based social capital can expand the social extent and worldview, and benefit the acquisition of new knowledge and resources. The results of the current study revealed that bridging-based social capital equipped with heterogeneity inclusion consolidated the entrepreneurial conviction of the tourism students. Furthermore, bonding-based social capital with high homogeneity had no significant influence on entrepreneurial intention, which proposed a new perspective for academia.

**Table 4.** Regression analysis of the influence of creativity and social capital on entrepreneurial intention (N = 213)

Variables	Conviction			Preparation			
	Beta	t	p	Beta	t	p	
(Constant)		1.672	.096		1.975	.050	
Independent variable	Originality	.011	.103	.918	.184	1.731	.085
	Usefulness	.367	3.370	.001**	.248	2.268	.024*
	Bonding	-.053	-.673	.502	-.004	-.053	.958
	Bridging	.181	2.233	.027*	.083	1.014	.312
Model summary	R <sup>2</sup>	.204		.198			
	F	13.295		12.857			
	p	.000***		.000***			

Note: \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ .

This study also conducted a multiple regression analysis to assess the influence of creativity and social capital on entrepreneurial intention in rural areas. According to Table 5, the standardised regression coefficient of

'originality' to entrepreneurial intention in rural areas reached .293 ( $p < .05$ ), with an  $R^2$  of 8.59%, whereas those of 'usefulness,' 'bonding,' and 'bridging' to entrepreneurial intention in rural areas did not reach significance levels. Therefore, H3 was partially supported, and H4 was not supported. The  $R^2$  of the independent variable to entrepreneurial intention in rural areas reached 4.6%. The result of an F test presented a level of significance ( $p < .05$ ), indicating that the regression model was appropriate.

According to the results, entrepreneurial intention in rural areas was not influenced by usefulness or social capital, whereas it was significantly influenced by originality. This implies that the originality of tourism students benefits the engagement in rural service and ventures, and promotes environmental sustainability, echoing the contemporary literature (Chang et al., 2016; Yao et al., 2016). As such, to enhance student intention towards rural entrepreneurship and stimulate entrepreneurial intention in rural areas, tourism educators need to embed originality-promotion activities into curriculum and placement planning, and foster creative cognition and culture among students and educational institutions.

**Table 5.** Regression analysis of the influence of creativity and social capital on entrepreneurial intention in rural areas ( $N = 213$ )

Variables	Entrepreneurial intention in rural areas		
	Beta	t	p
	(constant)	5.223	.000
Independent variable	Originality	.293	.012*
	Usefulness	-.126	.291
	Bonding	-.089	.301
	Bridging	-.033	.709
		$R^2$	.046
Model summary	F	2.523	
	$p$	.042*	

Note: \*  $p < .05$ , \*  $p < .01$ , \*\*\*  $p < .001$ .

## CONCLUSION AND LIMITATIONS

Entrepreneurship is a major source of economic growth that creates business opportunities and reduces unemployment. Entrepreneurial intention is central to explaining entrepreneurship and conducive to influencing entrepreneurial action. Numerous entrepreneurial studies have focused on exposure to entrepreneurial role models, disposure of intellectual capital, and previous entrepreneurial experience, but have rarely looked favourably

on the integrated effects of creativity and social capital that are particularly crucial in the tourism business and for younger generations. The present study addressed this oft-neglected topic and considered both creativity and social capital as resources for fostering sustainable practices and systems. This study also sought to further our understanding of the successes or failures of potential rural entrepreneurship.

Our results revealed that tourism students with higher levels of creativity demonstrated stronger entrepreneurial intentions. The usefulness aspect of creativity had a significant effect on entrepreneurial intention; in particular, it had a stronger influence on entrepreneurial conviction than on entrepreneurial preparation. In addition, this study determined that bridging-based social capital had a significant effect on entrepreneurial conviction. Accordingly, the usefulness of creativity and bridging-based social capital can be seen as promising antecedents of entrepreneurial intention. Furthermore, the results showed that the originality of creativity had a significant effect on entrepreneurial intention in rural areas. Accordingly, tourism educators can develop instructional methods and guiding strategies that inspire entrepreneurship among tourism students; and to leverage the creativity and social capital of workforces, tourism administrators may need to reconsider their strategies of human resources management, particularly in personnel selection and training and in incentive system design.

Certain research limitations that were encountered while conducting this study should be acknowledged. First, the research tools used in this study may limit the outcomes. Other creativity scales (e.g., the Torrance Tests of Creative Thinking; Torrance, 1998) and social-capital scales (e.g., Van der Gaag & Webber, 2008) may be considered as adjusted research tools for further investigation. Second, the quantitative method adopted in this study was limited by its nature. In the future, a qualitative approach may be designed and performed for detailed inquiries and in-depth outcomes. Third, the study targeted only students from one university, and therefore the results cannot be generalised extensively. Finally, this study included only one question about entrepreneurial intention in rural areas. In the future, researchers can develop a thorough survey tool based on this study or other relevant theories.

Hill (2013) argued that the rules of innovation were made to be broken, and added that flexibility achieves more than process and structure. Young generations are typically faced with unpredictable challenges during the initiation of new ventures, particularly in resource-lacking rural areas. Creativity can help these young entrepreneurs survive and succeed, while social capital can add flexibility into this cycle and help leverage the final achievement.

## References

- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(6), 179-211.
- Alcaniz, L., Gomez-Bezares, F., & Roslender, R. (2010). Theoretical perspectives on intellectual capital: A backward look and a proposal for going forward. *Accounting Forum*, 35(2), 104-117.
- Arenius, P., & Clercq, D. D. (2005). A network-based approach on opportunity recognition. *Small Business Economics*, 24(3), 233-247.
- Armitage, C. J., & Conner, M. (2001). Efficacy of the theory of planned behavior: A meta-analytic review. *British Journal of Social Psychology*, 40, 471-499.
- Astone, N. M., Nathanson, C. A., Schoen, R., & Kim, Y. J. (1999). Family demography, social theory, and investment in social capital. *Population and Development Review*, 25(1), 1-31.
- Austin, M. J., & Nauta, M. M. (2016). Entrepreneurial role-model exposure, self-efficacy, and women's entrepreneurial intentions. *Journal of Career Development*, 43(3), 260-272.
- Baer, J., Kaufman, J. C., & Gentile, C. A. (2004). Extension of the consensual assessment technique to nonparallel creative products. *Creativity Research Journal*, 16(1), 113-117.
- Balachandran, V., & Sakthivelan, M. S. (2013). Impact of information technology on entrepreneurship (e-entrepreneurship). *Journal of Business Management & Social Sciences Research*, 2(2), 51-56.
- Barron, F. (1955). The disposition towards originality. *Journal of Abnormal and Social Psychology*, 51(3), 478-485.
- Barron, F., & Harrington, D. M. (1981). Creativity, intelligence, and personality. *Annual Review of Psychology*, 32(1), 439-476.
- Bourdieu, P. (1986). The forms of capital. In J. G. Richardson (Ed.), *Handbook of theory and research for the sociology of education* (pp. 241-258). New York: Greenwood Press.
- Carayannis, E. G., Popescu, D., Sipp, C., & Stewart, M. (2006). Technological learning for entrepreneurial development (TL4ED) in the knowledge economy (KE): Case studies and lessons learned. *Technovation*, 26(4), 419-443.
- Chang, C.-C., Yao, S.-N., Chen, S.-A., King, J.-T., & Liang, C. (2016). Imagining garage startups: Interactive effects of imaginative capabilities on technopreneurship intention. *Creativity Research Journal*, 28(3), 289-297.
- Cooper, A. C., & Dunkelberg, W.C. (1986). Entrepreneurship and paths to business ownership. *Strategic Management Journal*, 7(1), 53-68.
- Cropley, A.J. (2015, April). *Transferable criteria of creativity: A universal aesthetic*. Paper presented at the New Zealand Creativity Challenge: Creativity crosses boundaries, Wellington, NZ.
- Doboli, S., Kamberova, G. L., Impagliazzo, J., Fu, X., & Currie, E. H. (2010 October). A model of entrepreneurship education for computer science

- and computer engineering students. Paper presented at the 40th ASEE/IEEE Frontiers in Education Conference, Washington, DC.
- Ellyard, P. (2011). Designing 2050: Imagining and building a global sustainable society. *Journal of Futures Studies*, 15(3), 175-190.
- Fayolle, A., Gailly, B., & Lassas-Clerc, N. (2006). Assessing the impact of entrepreneurship education programmes: A new methodology. *Journal of European Industrial Training*, 30(9), 701-720.
- Flora, J. L., Hodne, C. J., Goudy, W., Osterberg, D., Kliebenstein, J., Thu, K. M., & Marquez, S. P. (2002). Social and community impacts. *Iowa concentrated animal feeding operations air quality study*. Iowa: The University of Iowa.
- Freibauer, A., Mathijs, E., Brunori, G., Damianova, Z., Faroult, E., Gomis, G., O'Brien, L., & Treyer, S. (2011). *Sustainable food consumption and production in a resource-constrained world*. The 3rd SCAR Foresight Exercise.
- Fryer, M. (2006). Making a difference: A tribute to E. Paul Torrance from the United Kingdom. *Creativity Research Journal*, 18(1), 121-128.
- Hennessey, B. A., & Amabile, T. M. (2010). Creativity. *Annual Review of Psychology*, 61(1), 569-598.
- Hill, A. (2013) The rules of innovation are made to be broken. *Financial Times*, November 12, p. 10.
- Hockerts, K. (2015). Determinants of social entrepreneurial intentions. *Entrepreneurship Theory and Practice*, DOI: 10.1111/etap.12171.
- Honig, B. (1998). What determines success? Examining the human, financial, and social capital of Jamaican microentrepreneurs. *Journal of Business Venturing*, 13, 371-394.
- Hutchinson, E. D. (1931). Materials for the study of creative thinking. *Psychological Bulletin*, 28(5), 392-410.
- Joinson, A. N. (2003). Sharing and surfing: The benefits of on-line communities and web browsing. In *Understanding the psychology of Internet behaviour: Virtual worlds, real lives* (pp. 143-162). Houndmills, Basingstoke, Hampshire; New York: Palgrave Macmillan.
- Kay, A. (2006). Social capital, the social economy and community development. *Community Development Journal*, 41(2), 160-173.
- Lans, T., Gulikers, J., & Batterink, M. (2010). Moving beyond traditional measures of entrepreneurial intentions in a study among life-sciences' students in the Netherlands. *Research in Post-Compulsory Education*, 15(3), 259-274.
- Lechner, C., & Dowling, M. (2003). Firm networks: External relationships as sources for the growth and competitiveness of entrepreneurial firms. *Entrepreneurship & Regional Development*, 15, 1-26.
- 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(1), 124-136.
- Lin, N. (2002). *Social capital: A theory of social structure and action*. New York, NY: Cambridge University Press.

- Lin, W.-S., Hsu, Y., & Liang, C. (2014). The mediator effects of conceiving imagination on academic performance of design students. *International Journal of Technology and Design Education*, 24(1), 73-89.
- Liñán, F., & Chen, Y. (2009). Development and cross-cultural application of a specific instrument to measure entrepreneurial intentions. *Entrepreneurship Theory and Practice*, 33(3), 593-617.
- Liñán, F., & Santos, F.J. (2007). Does social capital affect entrepreneurial intentions? *International Advances in Economic Research*, 13(4), 443-453.
- Mayer, R. E. (1999). Fifty years of creativity research. In R. J. Sternberg (Ed.), *Handbook of human creativity* (pp. 449-460). New York, NY: Cambridge University Press.
- Mel, E., & Jenny, O. (2007). Social capital and sustainability in a community under threat. *Local Environment*, 12(1), 17-30.
- Middleton, A., Murie, A., & Groves, R. (2005). Social capital and neighbourhoods that work. *Urban Studies*, 42(10), 1711-1738.
- Ministry of Education (2015). Important statistics. Retrieved 30 December, 2015, <http://www.edu.tw/pages/detail.aspx?Node=4076&Page=20047&Index=5&WID=31d75a44-efff-4c44-a075-15a9eb7aecdf>
- Nahapiet, J., & Ghoshal, S. (1998). Social capital, intellectual capital, and the organizational advantage. *Academy of Management Review*, 23(2), 242-266.
- Newman, L., & Dale, A. (2005). The role of agency in sustainable local community development. *Local Environment*, 10(5), 477-486.
- Olufunso, O. F. (2010). Graduate entrepreneurial intention in south Africa: Motivation and obstacles. *International Journal of Business and Management*, 5(9), 87-98.
- Orr, D. W. (1994). *Earth in mind: On education, environment, and the human prospect*. Covelo, CA: Island Press.
- Ozaralli, N., & Rivenburgh, N. K. (2016). Entrepreneurial intention: antecedents to entrepreneurial behavior in the U.S.A. and Turkey. *Journal of Global Entrepreneurship Research*, 6, DOI: 10.1186/s40497-016-0047-x.
- Pittaway, L., & J. Cope. (2007). Entrepreneurship education: A systematic review of the evidence. *International Small Business Journal*, 25(5), 479-510.
- Prodan, I., & Drnovsek, M. (2010). Conceptualizing academic-entrepreneurial intentions: An empirical test. *Technovation*, 30(5-6), 332-347.
- Razmi, M. J., & Firoozabadi, S. R. (2016). Investigating the effect of education on women's entrepreneurship. *International Journal of Learning and Intellectual Capital*, 13(2-3), DOI: 10.1504/IJLIC.2016.075693.
- Richards, G., & Wilson, J. (2007). Creativities in tourism development. In G., Richards & J. Wilson (Eds.), *Tourism, creativity and development* (pp. 255-288). New York, NY: Routledge.
- Runco, M. A., & Jaeger, G. (2012). The standard definition of creativity. *Creativity Research Journal*, 24(1), 92-96.

- Shane, S. (2004). Encouraging university entrepreneurship? The effect of the Bayh-Dole Act on university patenting in the United States. *Journal of Business Venturing*, 19(1), 127-151.
- Sharma, L. (2014). Impact of family capital & social capital on youth entrepreneurship: A study of Uttarakhand state, India. *Journal of Global Entrepreneurship Research*, 4(14), 1-18.
- Shaw, E., Lam, W., & Carter, S. (2008). The role of entrepreneurial capital in building service reputation. *The Service Industries Journal*, 28, 899-917.
- Shapiro, A., & Sokol, L. (1982). Social dimensions of entrepreneurship. In Kent, C., Sexton, D., Vesper, C. (Eds.), *The encyclopedia of entrepreneurship*. New York, NY: Prentice-Hall.
- Silvia, P. J. (2008). Creativity and intelligence revisited: A latent variable analysis of Wallach and Kogan (1965). *Creativity Research Journal*, 20(1), 34-39.
- Stein, M. I. (1953). Creativity and culture. *Journal of Psychology*, 36(1), 311-322.
- Sternberg, R. J. (1999). A propulsion model of types of creative contributions. *Review of General Psychology*, 3(2), 83-100.
- Thompson, E. R. (2009). Individual entrepreneurial intent: Construct clarification and development of an internationally reliable metric. *Entrepreneurship Theory and Practice*, 33(3), 669-694.
- Torrance, E. P. (1998). *The Torrance Tests of Creative Thinking norms technical manual figural (streamlined) forms A & B*. Bensenville, IL: Scholastic Testing Service, Inc.
- Van Auken, H., Fry, F. L., & Stephens, P. (2006). The influence of role models on entrepreneurial intentions. *Journal of Developmental Entrepreneurship*, 11(2), 157-167.
- Van der Gaag, M., & Webber, M. (2008). Measurement of individual social capital: Questions, instruments, and measures. In I., Kawachi, S. V., Subramanian, D., Kim. (Eds.), *Social capital and health* (pp. 29-49). New York, NY: Springer.
- Walker, G., Kogut, B., & Shan, W. (1997). Social capital, structure holes and the formation of industry. *Organization Science*, 8, 109-125.
- Wang, J.-H., Peng, L.-P., & Liang, C. (2014). Developing and testing the psychological influence, rural practice, and entrepreneurial intention scales. *Review of Agricultural Extension Science*, 31, 72-95.
- Williams, D. (2006). On and off the 'Net: Scales for social capital in an online era. *Journal of Computer-Mediated Communication*, 11(2), 593-628.
- Wilson, K., & Morren Jr., G. E. B. (1990). *Systems approaches for improvement in agriculture and resource management*. New York, NY: Macmillan.
- Yao, S.-N., Peng, L.-P., Lee, J.-L., & Liang, C. (2016). Imagining rural practice. *Business Creativity & the Creative Economy*. Retrieved 30 March, 2016, [https://www.researchgate.net/publication/285771448\\_Imagining\\_rural\\_practice](https://www.researchgate.net/publication/285771448_Imagining_rural_practice)

- Zampetakis, L. A. (2008). The role of creativity and proactivity on perceived entrepreneurial conviction. *Thinking Skills and Creativity*, 3, 154-162.
- Zhao, W., Ritchie, J. R. B., & Echtner, C. M. (2011). Social capital and tourism entrepreneurship. *Annals of Tourism Research*, 38(4), 1570-1593.

### **Abstract (in Polish)**

*Koordynacja regionalnej wiedzy i systematyczne promowanie kultury wiejskiej, przy wykorzystaniu kombinacji ekologicznych przewag i edukacji ekologicznej, pojawiają się w dyskusjach na temat przedsiębiorczości. Biorąc pod uwagę, że zarówno kreatywność jak i kapitał społeczny są kluczowymi czynnikami dla rozwoju działalności turystycznych, w tym badaniu sprawdzano ich wpływ na przedsiębiorcze intencje studentów turystyki w obszarze metropolitalnym, mając na celu przyczynienie się do rozwoju talentów w turystycznej przedsiębiorczości. Badanie przeprowadzono w jednej z uczelni na Tajwanie, na próbie 213 studentów. Wyniki wykazały, że kreatywność studentów turystyki została podzielona na dwie płaszczyzny, a mianowicie oryginalności i użyteczności; kapitał społeczny może być zakwalifikowany jako pomostowy lub spajający; a intencje przedsiębiorcze zostały podzielone na przekonanie i przygotowanie. Wyniki wskazują, że studenci turystyki z wyższym poziomem kreatywności wykazują silniejsze intencje przedsiębiorcze. Użyteczność kreatywności miała większy wpływ na przedsiębiorcze przekonania niż na przedsiębiorcze przygotowania. Ponadto, pomostowy kapitał społeczny miał istotny wpływ na przedsiębiorcze przekonania studentów turystyki. Wyniki tego badania mogą służyć jako punkt odniesienia dla administratorów turystyki w rozwoju strategii zarządzania zasobami ludzkimi, szczególnie w selekcji i szkoleniu personelu.*

**Słowa kluczowe:** *kreatywność, intencje przedsiębiorcze, kapitał społeczny, studenci turystyki.*

### **Biographical notes**

**Chien-Ching Chia** is a Research Assistant in the Department of Bio-Industry Communication and Development, National Taiwan University, Taipei, Taiwan. He gained his Master degree in the Visual Arts Education program at National Dong Hwa University, Hualien, Taiwan. His research interests focus on: visual arts, video production, creativity, and entrepreneurship. Mr. Chia can be reached via [tn00271183@gmail.com](mailto:tn00271183@gmail.com).

**Chaoyun Liang** is a Professor in the Department of Bio-Industry Communication and Development, National Taiwan University, Taipei, Taiwan. He gained his Ph.D. degree in the Instructional Systems Technology program at Indiana University, USA. His research interests focus on: imagination & creativity, entrepreneurship & social enterprise, and agrirural communication & marketing. Professor Liang can be reached via [cliang@ntu.edu.tw](mailto:cliang@ntu.edu.tw).

