

Studies in Higher Education



ISSN: (Print) (Online) Journal homepage: https://www.tandfonline.com/loi/cshe20

Developing entrepreneurial career intention in entrepreneurial university: the role of counterfactual thinking

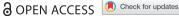
Mohammed Shamsul Karim, Vania Sena & Mark Hart

To cite this article: Mohammed Shamsul Karim, Vania Sena & Mark Hart (2022): Developing entrepreneurial career intention in entrepreneurial university: the role of counterfactual thinking, Studies in Higher Education, DOI: 10.1080/03075079.2022.2055326

To link to this article: https://doi.org/10.1080/03075079.2022.2055326

9	© 2022 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group
	Published online: 28 Mar 2022.
	Submit your article to this journal 🗹
Q	View related articles 🗗
CrossMark	View Crossmark data ☑







Developing entrepreneurial career intention in entrepreneurial university: the role of counterfactual thinking

Mohammed Shamsul Karim^a, Vania Sena^b and Mark Hart^c

^aStrategy, Operations, and Entrepreneurship Group, Essex Business School, University of Essex, Southend Campus, Elmer Approach, Southend-on-Sea, UK; ^bManagement School, University of Sheffield, Sheffield, UK; ^cAston Business School, Aston University, Birmingham, UK

ABSTRACT

This study addressed the guestion of how the counterfactual thinking of a student in an entrepreneurial university affects his/her future entrepreneurial career intention. In addition to testing this relationship, we also test how counterfactual thinking moderates the influence of attitude and opportunity identification in entrepreneurial career intention in an entrepreneurial university. We found that in an entrepreneurial university, counterfactual thinking is modifying the influence of attitude and opportunity identification in entrepreneurial career intention, but counterfactual thinking has no significant direct influence on entrepreneurial career intention of the students.

KEYWORDS

Regret; attitude; opportunity; intention; entrepreneurial university

1. Introduction

Recent studies in entrepreneurial university focus on the activities that universities can undertake to foster entrepreneurship in the community they belong to as a result of their main activities such as research and education (Audretsch and Belitski 2021; Cerver Romero, Ferreira, and Fernandes 2021; Audretsch 2014). For instance, Audretsch (2014) focused on the commercialisation of knowledge as a key characteristic of an entrepreneurial university. However, little is known about how universities can foster entrepreneurial culture among students. The aim of the research is to fill this gap in the literature by focusing on how universities can help students to develop mental schema, which will support opportunity identification, and entrepreneurial intention. This is quite important as to develop an entrepreneurial society, entrepreneurial university has to develop entrepreneurial career intention among the students.

The literature on the development of graduates' entrepreneurial career intention focuses on the start-up skills development (Athayde 2009; Neneh 2020; Sherkat and Chenari 2020). Earlier studies in entrepreneurship identified the influences of opportunity recognition in entrepreneurial intention and behaviour (Alonso-Galicia et al. 2015). Nevertheless, the research is limited in that it wants to understand how the opportunity and/or missed opportunity influence the entrepreneurial career intention. To date, there is no research trying to understand how missed opportunities influence the entrepreneurial career intention among the students in an entrepreneurial university.

After attending entrepreneurship courses, university graduates learn how to identify entrepreneurial opportunities. Sometimes students fail to identify an opportunity. This missed opportunity

CONTACT Mohammed Shamsul Karim 🔯 mskarim@essex.ac.uk 💼 Strategy, Operations, and Entrepreneurship Group, Essex Business School, University of Essex, Southend Campus, Elmer Approach, Southend-on-Sea SS1 1LW, UK

^{© 2022} The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group

might have an influence on his/her future entrepreneurial intention. Crucially, a missed opportunity may generate counterfactual thinking: if an individual looks back and regrets missing the opportunity, the mental state is called counterfactual thinking. This counterfactual thinking might influence their entrepreneurial attitude, opportunity identification, and entrepreneurial intention. However, little is known about the influence of missed opportunities on entrepreneurial attitude, opportunity identification, and entrepreneurial career intention of the students in an entrepreneurial university. This research wants to understand how counterfactual thinking affects entrepreneurial career intention. Unlike opportunity identification, missed opportunity and resultant counterfactual thinking have received little attention in entrepreneurial education even if would help to advance our understanding of the entrepreneurial motivation and promotion.

The study contributes to the theory and practice of an entrepreneruial university in several ways. First, it establishes a relationship between counterfactual thinking and entrepreneurial career intention from an entrepreneurial university perspective, an area that has so far been overlooked. Second, it identifies entrepreneurial attitude as the most powerful dynamic factor in entrepreneurial career intention for an entrepreneurial university. Third, the interaction between counterfactual thinking, opportunity identification, and entrepreneurial attitude should help us to understand the influence of missing opportunity in entrepreneurial career intention. Finally, the study contributes to the practice of entrepreneurial education by emphasising the strength of regretful behaviour for missing opportunities among other drivers of entrepreneurial motivation.

The paper is structured as follows: Section 2 presents the theoretical background and develops the hypotheses. Section 3 is the method discusses the measures, data, and model variables. Section 4 presents the results. Section 5 discusses some implications of the results for the theory and policy development for the promotion of entrepreneurship, future research directions and some limitations of this study. The study concludes in Section 6.

2. Theoretical background and hypothesis development

To understand the influence of counterfactual thinking on entrepreneurial career intention in an entrepreneurial university perspective (Audretsch and Belitski 2021), we used the functional theory of counterfactual thinking. The presence in people's minds of 'what might have been' creates counterfactual thinking, which may, in turn, affect their intentions and behaviours (Epstude and Roese 2008). There are two types of counterfactual thinking: upward counterfactual thinking and downward counterfactual thinking. If the evaluative condition of the past is better in thought than in reality, this is described as upward counterfactual thinking; if it is worse than the reality, this is termed downward counterfactual thinking (Epstude and Roese 2008). In this study, we focus on the unpleasant or regret aspect of counterfactual thinking which comes from missed opportunities in upward counterfactual thinking. In what follows, we refer interchangeably to upward counterfactual thinking or regretful thinking.

In an entrepreneurial university, students learn and experience the opportunity identification process to start a business. However, in this process, missing an opportunity might invoke the upward counterfactual thinking. In their functional theory, Epstude and Roese (2008) explain that people that hugely regret missing opportunities will learn more for the future through mental simulation. This, in turn, will influence their future entrepreneurial intention. In this study, we refer to entrepreneurial career intention or entrepreneurial intention interchangeably. Functional theory of counterfactual thinking says that upward counterfactual thinking will be generated to solve a missing opportunity problem by developing intention for future action. This is depicted in Figure 1.

This shows that if an individual misses an opportunity, and if this missing opportunity develops counterfactual thinking, the individual will have a high level of intention to exploit future business opportunities. Based on the above argument, we hypothesise that:

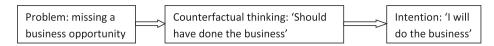


Figure 1. Functional counterfactual thinking. Source: Adapted from Epstude & Roese (2008).

2.1. Entrepreneurial attitude and counterfactual thinking

Previous studies of entrepreneurial intention and behaviour find that entrepreneurial attitude is a strong predictor of entrepreneurial intention (Neneh 2020; Alonso-Galicia et al. 2015; Liñán and Chen 2009). These studies consider entrepreneurial attitude in constant form. However, social psychologists argue that attitude may be moderated or changed through a continuous cognitive function if there is any dissonance between core belief and experience and/or counter-imagination (Roese and Summerville, 2005; Bohner and Dickel 2011). Dissonance in core belief can be generated by counterfactual thinking and different learning programmes. Studies of entrepreneurship suggest that enterprise learning programmes change participants' attitudes to entrepreneurship quite significantly (Athayde 2009). In what follows, we refer interchangeably to attitude or entrepreneurial attitude, or attitude towards self-employment.

Like enterprise learning programmes, counterfactual thinking can also change an individual's attitude significantly leading to a decision to make entrepreneurship a career. In this situation, upward counterfactual thinking will generate dissonance in the belief for missing opportunities. Upward counterfactual thinking will moderate attitude and guide subsequent behavioural intention if the missed good opportunity was feasible and affordable in the context of the individual's life goal. As a result, upward counterfactual imagination or thought will moderate our attitude and will influence the effect of attitude on behavioural intention. Based on this discussion, we hypothesise that:

Hypothesis 2: The influence of attitude on entrepreneurial intention will be moderated by upward counterfactual thinking or regret, such that attitude will have a more positive influence on entrepreneurial intention if regret is high rather than low.

2.2. Opportunity identification and counterfactual thinking

Previous work identifies the role of opportunity identification in entrepreneurship (Alonso-Galicia et al. 2015). Not everyone is able to identify opportunities. Some people recognise them before others. Some may be driven by opportunities before anybody else. The opportunity identification process is not unique, and is rather diverse (Gaglio 2004). Experiential learning, experience, different entrepreneurial cognitions, and past failures help some people to identify opportunities more quickly. Though the antecedents to opportunity identification are diverse, it has two common issues: experience and learning. People who use their experience for future learning can identify opportunities more quickly (Baron 2000). Like experience, upward counterfactual thinking may also help students to explore business ideas and evaluate them heuristically. Upward counterfactual thinking relates to missed opportunity which engenders regret (Epstude and Roese 2008). Through the counterfactual thinking process, individuals can deconstruct situations to make sense of the present as training for future activities (Arora, Haynie, and Laurence 2013). This helps existing and potential entrepreneurs to evaluate the situation through a heuristic information processing system to locate opportunities. Based on the above, we formulate the following hypothesis:

Hypothesis 3: The influence of opportunity identification on entrepreneurial intention will be moderated by upward counterfactual thinking or regret, such that opportunity identification will have a more positive influence on entrepreneurial intention if regret is high rather than low.

The hypotheses are illustrated in Figure 2.

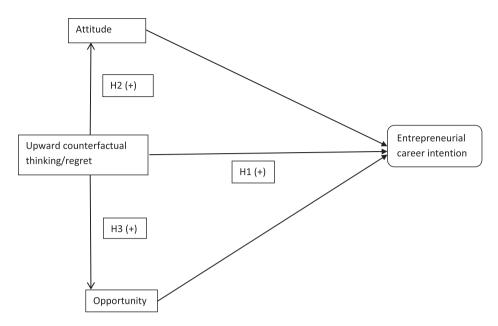


Figure 2. Hypotheses on counterfactual thinking and entrepreneurial career intention.

3. Method

There is a growing debate in social science research – especially in psychology, management, and marketing – over the use of a single item construct or multiple item measurement constructs. However, previous studies found similar predictive validity, convergent validity, and reliability of a single item measure compared to multiple item measures (Bergkvist and Rossiter 2007; Christophersen and Konradt 2011;) in management, marketing, and behaviour analysis. Following the above studies, we use a single item construct to measure attitude towards self-employment, business opportunity identification, skill, network, social status, independence, financing, and regret based on a 7-point Likert scale. The responses for the variable entrepreneurial career intention, gender, and parent self-employment are dichotomous. Age is the exact age. Details of the construct are provided in the appendix.

3.1. Sample and data

We have selected an university in the West Midlands of the UK following the criteria mentioned by Philphott et al. (2011). The university meets all nine criteria of entrepreneurial university. Considering the entrepreneurial university levels developed by Philphott et al. (2011), the university could be considered at the medium stage of an entrepreneurial university. This stage should give students enough opportunity for the development of their entrepreneurial attitude.

Participants in the study were final year undergraduate students in the Business School of the university. They have completed entrepreneurship module as part of their degree programme. We visited the classrooms and distributed the questionnaires, highlighting that participation in the survey was voluntary. Out of 120 students, 110 responded. Six students were excluded because the questionnaire was incomplete. Considering other similar studies our sample seems adequate to study counterfactual thinking and entrepreneurial career intention (Epstude and Roese 2008; Baron 2000).

3.2. Dependent variable

Entrepreneurial career intention is the dependent variable. Studies use either Likert scales (Walter, Parboteeah, and Walter 2013; Liñán and Chen 2009) or dichotomous responses for the

entrepreneurial career intention Since our objective is to find the cognitive condition of choosing entrepreneurship as career, we do not limit the intention by time. We asked respondents if they intended to work for themselves or for others in their career. The options were: yes, no, undecided, and no response. One hundred and three respondents answered either yes or no.

3.3. Independent variables

3.3.1. Attitude towards self-employment

To develop construct for attitude towards self-employment we consulted Kolvereid and Isaksen (2006), and Liñán and Chen (2009). Taking the concept of different items of the attitude construct from the above studies, we developed a single item construct for attitude. In the single item construct respondents are asked to give their opinions on the statement that 'self-employment is better than working for others'.

3.3.2. Opportunity identification

Walter, Parboteeah, and Walter (2013) measure opportunity perception by asking the dichotomous question of whether the respondent can perceive an opportunity or not. However, following the study of Liñán and Chen (2009) and Short et al. (2010), we developed a single item construct to measure opportunity identification by asking respondents to rate the statement that 'I have a very good profitable business idea' on a 7-point scale.

3.3.3. Upward counterfactual thinking

Regret intensity is commonly used in psychology to measure upward counterfactual thinking. From an entrepreneurial university perspective, by following Arora, Haynie, and Laurence (2013) and Teigen, Kanten, and Terum (2011) we asked the following contextual question suitable to undergraduate students to measure the regret intensity: We asked them first if they would like to get the latest mobile phone set on special sale offer, which they then could resell at a profit. The follow-up question was if they missed the opportunity of the special offer to buy the set for only £75 (pay as you go) and the resale value of £200 – how much on a 7-point scale would they regret this.

3.4. Control variables

Previous studies find that parents' self-employment, gender, skill (Liñán and Chen 2009), network, social status, finance (Karim et al. 2022), and independence are important determinants of an entrepreneurial career intention. So, we control for these variables. Zellweger, Sieger, and Halter (2011) do not find any significant impact of age on entrepreneurial career intention. This may be because of the student sample. Our data include some missing values for age. Age is excluded from our control variables following the technique of handling missing values.

3.5. Model and analysis

We run the first three logit regression models to check the impact of upward counterfactual thinking on entrepreneurial career intention (hypothesis 1) using the primary variables of interest. After analysing the direct effect of upward counterfactual thinking, we measure the indirect effect of upward counterfactual thinking to test hypotheses 2 and 3 using interaction models 4, 5, and 6. In a logistic regression model to analyse interaction effects the variables should have standardised or harmonised values. To obtain our interaction models, we generate dummy variables for the scale variables to ensure consistency of interpretation. Developing dummy variables for scale variables may introduce potential data loss. We checked and did not find any significant data loss. We use margin analysis for our interaction effect analysis. We checked the correlations of the variables and did not find

any multi-collinearly problems. The descriptive statistics and correlation matrix are presented in Table 1.

4. Results

The results (in Figure 3) show that there is no significant direct influence of regret (counterfactual thinking) on entrepreneurial career intention of the entrepreneurial university students. Equation (3) in Tables 2 and Table A1 is related to the direct effect of regret on entrepreneurial career intention. Based on this finding we can say that hypothesis 1 is not supported by our findings. However, hypotheses 2 and 3 are supported by our results.

Equation (4) shows that the interactions of regret and opportunity have a significant impact on entrepreneurial career intention. In the same equation, we can see that skill, social status, and opportunity are significant in the model for regret. Equation (5) shows that the interaction between attitude and regret is highly significant. We introduced both interactions in Equation (6) to see their joint effects.

The study identifies that the interaction of regret with opportunity and attitude in model-6 improves the predictive capacity of the model compared to model-3 by 9% although regret does not increase the predictive capacity of model-3. Table 2 shows that gender, skill, financing, social status, and independence are significant in the interaction model. This finding explains the importance of counterfactual thinking in entrepreneurial career intention. Since logit gives us the log odds for each variable, the magnitude of the log odds of each variable depends on other variables in the model in Table A1.

Graphical presentation of margin analysis shows the interaction effect of regret with opportunity and attitude in Figures 3 and 4. In the two Figures, brown colour lines represent high regret and teal

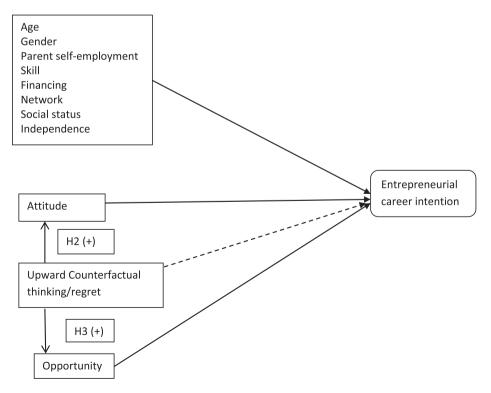


Figure 3. Influence of counterfactual thinking (regret) on entrepreneurial career intention.

Table 1. Descriptive statistics and correlation matrix.

SL NO	Variables	Mean	SD	1	2	3	4	5	6	7	8	9	10	11
1	Entp_career_intention	0.660	0.476	_										
2	Age	20.765	1.775	-0.048										
3	Gender	0.563	0.498	0.112	0.104									
4	Parent_self_emp	0.544	0.501	0.454***	0.083	0.136								
5	Skill	0.538	0.501	0.289***	0.017	0.176*	0.178*							
6	Financing	0.202	0.403	0.007	0.082	0.154	0.173*	0.129						
7	Network	0.760	0.429	0.359***	0.095	0.232**	0.391***	0.201**	0.115					
8	Social_status	0.481	0.502	0.246**	-0.087	-0.084	0.032	0.157	0.139	0.091				
9	Independence	0.615	0.489	0.158	-0.167	-0.123	-0.032	0.140	-0.095	-0.121	0.088			
10	Opportunity	0.625	0.486	0.301***	-0.011	0.178*	0.148	0.319***	-0.006	-0.017	0.189*	0.123		
11	Attitude	0.606	0.491	0.6723***	0.019	-0.037	0.330***	0.200**	0.063	0.237**	0.304***	0.171*	0.351***	
12	Regret	0.452	0.500	-0.042	0.048	-0.018	-0.139	0.027	-0.024	-0.167	-0.100	0.083	0.105	-0.019

^{***} *p* < .01, ** *p* < .05, * *p* < .1.

Table 2. Marginal effects, logit regression of entrepreneurial career intention.

	(1)	(2)	(3)	(4)	(5)	(6)
	Entp_career_intention	Entp_Career_Intention	Entp_career_intention	Entp_career_intention	Entp_career_intention	Entp_career_intention
Gender	0.078	0.196	0.198	0.207	.245*	0.233*
	(0.120)	(0.135)	(0.135)	(0.138)	(136)	(0.137)
Parent self-employment	0.456***	0.393***	0.393***	.435***	.469***	0.435***
	(0.112)	(0.125)	(0.126)	(.133)	(141)	(0.148)
Skill	0.160	0.181	0.181	.234*	.248*	0.255*
	(0.110)	(0.114)	(0.116)	(.123)	(.133)	(0.149)
Financing	-0.273	-0.392*	-0.393*	-0.237	-0.479**	-0.337
	(0.189)	(0.207)	(0.211)	(.221)	(0.218)	(0.233)
Network	0.214	0.194	0.193	.109	.057	0.023
	(0.159)	(0.186)	(0.189)	(.166)	(0.164)	(0.116)
Social status	0.286**	0.161	0.161	.204*	0.153	0.152
	(0.108)	(0.110)	(0.111)	(.112)	(0.104)	(0.099)
Independence	0.202	0.148	0.148	.143	0.209	0.174
	(0.126)	(0.135)	(0.135)	(.127)	(134)	(0.121)
Opportunity		0.130	0.126	-0.233*	-0.046	-0.167
		(0.116)	(0.116)	(.137)	(.098)	(0.110)
Attitude		0.618***	0.618***	.615***	0.343**	0.325*
		(0.115)	(0.116)	(.127)	(0.170)	(0.181)
Regret			-0.004	-0.308*	-0.269*	-0.515**
			(0.107)	(.186)	(.179)	(0.246)
Regret \times opportunity				.376**		0.283*
				(.148)		(0.146)
Regret × attitude					0.376***	0.294**
					(0.133)	(0.130)
Y = Pr(Entp_career_intention) (predict)	.716	0.819	0.819	0.855	0.857	0.902

Standard errors in parentheses. ***p < .01, **p < .05, *p < .1.

colour lines represent low regret. Figure 4 depicts the interaction between opportunity and regret. It shows that the probability of entrepreneurial career intention in entrepreneurial university increases when both regret and opportunity are high. On the other hand, when regret is low, the probability of entrepreneurial career intention decreases with increased opportunity identification. However, when both opportunity and regret are low, the entrepreneurial career intention is high. In general, Figure 4 shows that the impact of opportunity on the entrepreneurial career intention increases with a higher level of regret and decreases with a lower level of regret.

Figure 5 shows that the impact of attitude increases at a higher rate to predict entrepreneurial career intention, if respondents have a higher level of regret, and vice versa. This shows that the influence of attitude on the entrepreneurial career intention is higher when respondents have a higher level of regret compared to a lower level of regret.

On the other hand, a higher level of regret decreases entrepreneurial career intention at a higher rate if the individual has a lower level of attitude. However, as in point estimation, the standard error of estimation is higher in the case of low attitude. On the left-hand side of Figure 5, we see that having regret has a negative influence on entrepreneurial career intention when attitude to entrepreneurship is low. The slope of the high regret line is higher than the slope of the low regret line. This indicates a positive moderation impact of regret (counterfactual thinking) on entrepreneurial career intention.

5. Discussion

The study set out to advance ongoing research on entrepreneurial activity in entrepreneurial university (Audretsch and Belitski 2021). Our results support Arora, Haynie, and Laurence's (2013) study. They find an insignificant negative impact of upward counterfactual thinking on self-efficacy – another important construct of behaviour. We have tried to explain the impact of upward counterfactual thinking on entrepreneurial career intention and found an insignificant negative impact.

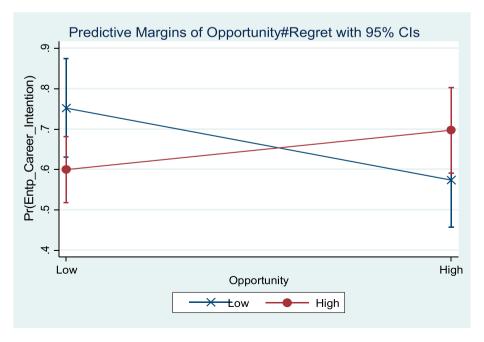


Figure 4. Margin of interaction of opportunity and regret.

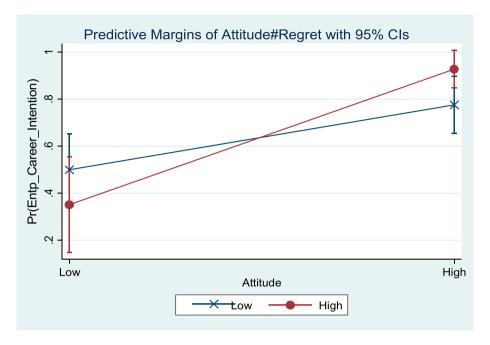


Figure 5. Margin of interaction of attitude and regret.

The moderation of entrepreneurial attitude by counterfactual thinking supports the findings in Bohner and Dickel (2011), which explain the adjustment of attitude based on available information. Our findings showed that regretful thinking increases the effectiveness of attitude in entrepreneurial career intention in an entrepreneurial university. So, to improve the entrepreneurial motivation in an entrepreneurial university, attitude towards entrepreneurship should be supported by high regret for missed opportunities. This is an important addition to entrepreneurship cognition based research in developing entrepreneurial university.

Figure 4 shows that if opportunity identification is not supported by a high level of regret about a missed opportunity, the influence of opportunity will decline. This is an interesting addition to the study of Alonso-Galicia et al. (2015). They identified a significant influence of opportunity recognition self-efficacy in entrepreneurial intention. The interaction effect of opportunity and regret supports Gaglio's (2004, 544) proposition-9 that 'opportunity finders are more likely to generate uphill counterfactuals'. These interesting findings add value to the existing models of entrepreneurial activity in entrepreneurial universities (Cerver Romero, Ferreira, and Fernandes 2021; Audretsch 2014; Fuller, Beynon, and Pickernell 2019).

The main limitation of this study is the data. Our data are cross-sectional. To understand the accurate influence of counterfactual thinking on career decisions the subjects need to be observed several times until they take up their careers. The current study is only a snapshot that explores a static relationship between counterfactual thinking, attitude, opportunity identification and entrepreneurial career intention.

6. Conclusions

The study identified the direct and indirect influences of counterfactual or regretful thinking on entrepreneurial career intention in an entrepreneurial university (Cerver Romero, Ferreira, and Fernandes 2021; Audretsch 2014). In the study, we found that upward counterfactual thinking modifies the influence of entrepreneurial attitude and opportunity identification in entrepreneurial career intention though it has no direct influence on entrepreneurial career intention. Higher levels of counterfactual thinking increase the influence of both attitude towards self-employment and opportunity identification in entrepreneurial career intention. On the other hand, lower levels of counterfactual thinking reduce the influence of opportunity identification negatively. This influence on entrepreneurial attitude reduces the influence of attitude at a lower rate. The findings show the importance of counterfactual thinking to analyse the profile of an entrepreneur.

The findings of the study are of interest for the advancement of the theory and policy related to the development of entrepreneurial university. From a policy perspective, the findings should help in the development of entrepreneurial culture in an entrepreneurial university by focusing on both opportunity identification and regretful thinking. Counterfactual thinking should be incorporated in designing and developing the entrepreneurship development programmes after a careful costbenefit analysis of the curriculum development. From a theoretical development perspective, future studies should include counterfactual thinking in entrepreneurship behaviour model as a moderating variable.

Disclosure statement

No potential conflict of interest was reported by the author(s).

References

Alonso-Galicia, P. E., V. Fernández-Pérez, L. Rodríguez-Ariza, and M. D. M. Fuentes-Fuentes. 2015. "Entrepreneurial Cognitions in Academia: Exploring Gender Differences." Journal of Managerial Psychology 30 (6): 630-44.

Arora, P., J. M. Haynie, and G. A. Laurence. 2013. "Counterfactual Thinking and Entrepreneurial Self-Efficacy: The Moderating Role of Self-Esteem and Dispositional Affect." Entrepreneurship Theory and Practice 37 (2): 359–85.

Athayde, R. 2009. "Measuring Enterprise Potential in Young People." Entrepreneurship Theory and Practice 33 (2): 481-500.

Audretsch, D. B. 2014. "From the Entrepreneurial University to the University for the Entrepreneurial Society." The Journal of Technology Transfer 39 (3): 313-21.

Audretsch, D. B., and M. Belitski. 2021. "Three-Ring Entrepreneurial University: In Search of a New Business Model." Studies in Higher Education 46 (5): 977–87.

Baron, R. A. 2000. "Counterfactual Thinking and Venture Formation: The Potential Effects of Thinking About "What Might Have Been"." Journal of Business Venturing 15 (1): 79-91.

Bergkvist, L., and J. R. Rossiter. 2007. "The Predictive Validity of Multiple-Item Versus Single-Item Measures of the Same Constructs." Journal of Marketing Research 44 (2): 175–84.

Bohner, G., and N. Dickel. 2011. "Attitudes and Attitude Change." Annual Review of Psychology 62: 391-417.

Cerver Romero, E., J. J. Ferreira, and C. I. Fernandes. 2021. "The Multiple Faces of the Entrepreneurial University: A Review of the Prevailing Theoretical Approaches." The Journal of Technology Transfer 46 (4): 1173-95.

Christophersen, T., and U. Konradt. 2011. "Reliability, Validity, and Sensitivity of a Single-Item Measure of Online Store Usability." International Journal of Human-Computer Studies 69 (4): 269-80.

Epstude, K., and N. J. Roese. 2008. "The Functional Theory of Counterfactual Thinking." Personality and Social Psychology Review 12 (2): 168-92.

Fuller, D., M. Beynon, and D. Pickernell. 2019. "Indexing Third Stream Activities in UK Universities: Exploring the Entrepreneurial/Enterprising University." Studies in Higher Education 44 (1): 86-110.

Gaglio, C. M. 2004. "The Role of Mental Simulations and Counterfactual Thinking in the Opportunity Identification Process." Entrepreneurship Theory and Practice 28 (6): 533-52.

Karim, S., C. Kwong, M. Shrivastava, and J. P. Tamvada. 2022. "My Mother-in-Law Does Not Like It: Resources, Social Norms, and Entrepreneurial Intentions of Women in an Emerging Economy." Small Business Economics, 1-23. doi:10.1007/s11187-021-00594-2.

Kolvereid, L., and E. Isaksen. 2006. "New Business Start-Up and Subsequent Entry Into Self-Employment." Journal of Business Venturing 21 (6): 866-85.

Liñán, F., and Y. W. Chen. 2009. "Development and Cross Cultural Application of a Specific Instrument to Measure Entrepreneurial Intentions." Entrepreneurship Theory and Practice 33 (3): 593–617.

Neneh, B. N. 2020. "Entrepreneurial Passion and Entrepreneurial Intention: The Role of Social Support and Entrepreneurial Self-Efficacy." Studies in Higher Education 47 (3): 587-603. doi:10.1080/03075079.2020.1770716.

Philpott, K., L. Dooley, C. O'reilly, and G. Lupton. 2011. "The Entrepreneurial University: Examining the Underlying Academic Tensions." Technovation 31 (4): 161–170.



- Roese, N. J., and A. Summerville. 2005. "What We Regret Most ... and Why." Personality and Social Psychology Bulletin 31 (9): 1273-85.
- Sherkat, A., and A. Chenari. 2020. "Assessing the Effectiveness of Entrepreneurship Education in the Universities of Tehran Province Based on an Entrepreneurial Intention Model." Studies in Higher Education 47 (1): 97-115. doi:10. 1080/03075079.2020.1732906.
- Short, J. C., D. J. Ketchen, C. L. Shook, and R. D. Ireland. 2010. "The Concept of 'Opportunity' in Entrepreneurship Research: Past Accomplishments and Future Challenges." Journal of Management 36 (1): 40-65.
- Teigen, K. H., A. B. Kanten, and J. A. Terum. 2011. "Going to the Other Extreme: Counterfactual Thinking Leads to Polarised Judgements." Thinking & Reasoning 17 (1): 1-29.
- Walter, S. G., K. P. Parboteeah, and A. Walter. 2013. "University Departments and Self-Employment Intentions of Business Students: A Cross Level Analysis." Entrepreneurship Theory and Practice 37 (2): 175–200.
- Zellweger, T., P. Sieger, and F. Halter. 2011. "Should I Stay or Should I Go? Career Choice Intentions of Students with Family Business Background." Journal of Business Venturing 26 (5): 521-36.

Appendix

Table A1. Logit regression of entrepreneurial career intention.

	(1)	(2)	(3)	(4)	(5)	(6)
Variables	Entp_Career_Intention	Entp_Career_Intention	Entp_Career_Intention	Entp_Career_Intention	Entp_Career_Intention	Entp_Career_Intention
Gender	0.378	1.258	1.258	1.547*	1.815**	2.221*
	(0.581)	(0.827)	(0.826)	(0.940)	(0.920)	(1.138)
Parent self-employment	2.277***	2.468***	2.467***	3.063***	3.303***	3.719***
	(0.634)	(0.861)	(0.862)	(1.034)	(1.060)	(1.140)
Skill	0.783	1.179	1.184	1.761**	1.872**	2.453**
	(0.543)	(0.739)	(0.758)	(0.879)	(0.880)	(1.050)
Financing	-1.207	-1.987**	-1.994**	-1.438	-2.582**	-2.272*
	(0.800)	(0.981)	(1.003)	(1.111)	(1.113)	(1.218)
Network	0.969	1.110	1.104	0.768	0.428	0.251
	(0.676)	(0.915)	(0.932)	(1.009)	(1.124)	(1.170)
Social Status	1.439**	1.091	1.088	1.621*	1.242	1.659*
	(0.575)	(0.758)	(0.763)	(0.894)	(0.850)	(0.931)
Independence	0.957	0.933	0.931	1.051	1.492*	1.632*
	(0.585)	(0.785)	(0.786)	(0.845)	(0.889)	(0.957)
Opportunity		0.0873	0.0854	-2.164	-0.385	-2.151*
		(0.771)	(0.773)	(1.325)	(0.851)	(1.298)
Attitude		3.680***	3.683***	3.990***	2.344**	2.755**
		(0.900)	(0.908)	(1.038)	(0.982)	(1.136)
Regret			-0.0241	-2.239*	-1.996*	-4.271**
			(0.727)	(1.223)	(1.152)	(1.788)
Regret × Opportunity				4.301**		4.347**
				(1.831)		(2.036)
Regret × Attitude					4.930**	5.136**
					(2.105)	(2.430)
Constant	-2.751***	-4.997***	-4.980***	-4.787***	-4.956***	-5.000***
	(0.877)	(1.521)	(1.600)	(1.699)	(1.732)	(1.817)
Pseudo R ²	0.322	0.559	0.559	0.610	0.618	0.660
LR chi ²	42.27***	73.30***	73.30***	80.05***	81.02***	86.56***
Observations	102	102	102	102	102	102

Standard errors in parentheses; *** p < .01, ** p < .05, * p < .1.

Some of the Statements of Single Item construct:

Skill – I have sufficient knowledge and skill on starting and running a business.

Finance – I have sufficient funds to start a business.

Network - My friends, family members or the people known to me can help me to start a business.

Attitude – Self-employment is better than working for others.

Opportunity – I have some very good, profitable, and executable business ideas.

Social status – Self-employment gives better social status than working for others.

Independence – I do prefer to work independently.

Regret - I would not regret missing a sale to buy the latest model of a smart phone for only £75 (pay as you go) with resell value now £200.