

Is it all about creating new firms? A broader look at the impact of the Entrepreneurial University on youth employment

Davide Hahn*

Department of Management, Information and Production Engineering *and*
Center for Young and Family Enterprise
University of Bergamo
viale Pasubio 7b
24044 Dalmine (BG), Italy
Tel.: +39 035 2052040
davide.hahn@unibg.it

Mara Brumana

Department of Management, Information and Production Engineering *and*
Center for Young and Family Enterprise
University of Bergamo
viale Pasubio 7b
24044 Dalmine (BG), Italy
Tel.: +39 035 2052047
mara.brumana@unibg.it

Tommaso Minola

Department of Management, Information and Production Engineering *and*
Center for Young and Family Enterprise
University of Bergamo
via Pasubio 7b
24044 Dalmine (BG), Italy
Tel. +39 035 2052025
tommaso.minola@unibg.it

*Corresponding author

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Abstract. While research on the Entrepreneurial University has largely focused on the support to venture creation, its contribution to youth employment and society might be much broader. In fact, entrepreneurial capabilities and attitudes students acquire at universities are crucial also in wage-paid jobs, and firms need employees predisposed to act entrepreneurially to stay competitive. However, we do not know much on the role of universities in preparing the next generation of graduates to such challenge. To address this gap, in this paper we investigate the extent to which entrepreneurial learning at university support towards entrepreneurship contributes to students' career intentions to work for small rather than larger firms. Additionally, we consider the role of the family context and investigate how the university influence on students' career intentions is moderated by students' exposure to entrepreneurship in their family. Using data from 155,358 students, we find that entrepreneurial learning at university is negatively associated to the preference to work for small firms compared to larger firms and that this effect is even more pronounced for students with an enterprising family background, particularly amongst those who have shares in their parents' company. Besides contributing to research on Entrepreneurial University and career intentions, our findings offer practical implications for universities and employers.

Keywords. Entrepreneurial University; Career choice; Small firms; GUESSS; Enterprising family background.

Introduction

Given the central role of student entrepreneurship for the Entrepreneurial University (Etzkowitz, 2016; Guerrero et al., 2016), research has recently focused on the study of university-based ecosystems that support student entrepreneurship (Wright et al., 2017). Such ecosystems expose university students to favorable norms towards entrepreneurship (Hahn, 2020; Ubierna et al., 2014) and provide access to resources that facilitate venture creation (Hahn et al., 2017; Saeed et al., 2015).

While venture creation is often framed as the key outcome of university support to student entrepreneurship, research has widely acknowledged that encouraging an entrepreneurial mindset among university students has benefits for their overall careers, which go well beyond venture creation (Lackéus, 2015). Yet, we surprisingly do not know much about how university support to student entrepreneurship affects other (i.e. non-founding) career intentions, such as employment. In particular, there are conflicting evidences regarding the contribution of entrepreneurship education and learning beyond the venture founding domain: even though taking entrepreneurship classes helps graduates to found more successful ventures (Eesley and Lee, 2021), it might allow them also to find more remunerating wage-paid jobs (Charney and Libecap, 2000).

It remains to be understood, thus, which firms are more likely to attract university students that have benefitted from entrepreneurial learning during their studies. Addressing this gap would lead to a more comprehensive understanding of the role played by the Entrepreneurial University in the society as a supplier of entrepreneurship capital (i.e. entrepreneurial-minded graduate workers) to existing firms (Audretsch and Belitski, 2021; Nicotra et al., 2021). Since universities put a lot of resources into stimulating an entrepreneurial mindset of their students and increasing evidence casts doubt on the ultimate effectiveness of university efforts to actually stimulate students' founding

intentions (Arranz et al., 2017; Longva and Foss, 2018), it is important to start looking at the consequences of such support (also) on aspiring employees.

To address this gap, we study the relationship between university support towards entrepreneurship and students' employment career intentions. More specifically, we draw upon social cognitive career theory (SCCT) (Lent et al., 2000) to theorize about the effect of students' entrepreneurial learning at university on students' intentions to work for small rather than larger firms. In particular, following SCCT, we claim that large firms represent a more attractive workplace for students endowed with entrepreneurial learning and hence, their intentions to work for small firms will be lower compared to larger ones. While reduced firm size has been commonly associated to entrepreneurship because flexible and flat decision structures facilitate the pursuing of opportunities (Elfenbein et al., 2010), recent research has challenged such assumption (Kacperczyk and Marx, 2016) showing that larger firms have more resources to allocate to entrepreneurial endeavors and, hence, are more attractive to entrepreneurship educated graduates. In face of such puzzle, conceptualizing and testing possible differences between small and larger firms as preferred career option allows for a more fine-grained understanding of entrepreneurial learning and its implications of students' careers.

Moreover, since career choices are deeply rooted in the family embeddedness of individuals (e.g., Hahn et al., 2021; Minola et al., 2016), we study the role of the *family as a complementary social context* affecting students' career intention. In particular, we consider having an enterprising family background (i.e., one or both parents owning at least one firm) as a boundary condition for the relationship between university support towards entrepreneurship and employment intentions. In line with this reasoning, and with the "attractiveness" arguments from the SCCT, we hypothesize that the relationship between entrepreneurial learning at university and the preference to be employed in small

compared to larger firms is moderated by students' exposure to an enterprising family background.

By testing and confirming our hypotheses on sample of 155,358 university students, we go beyond the association between entrepreneurial learning and venture creation and challenge the common assumption according to which small firm are the most suitable context for employees endowed with entrepreneurial knowledge.

Theory and Hypotheses

Social cognitive career theory

SCCT is a vocational psychology theory which posits that career decisions are based on the belief that (i) one has the capabilities to pursue that path; (ii) the outcome of that path is positive for him/her (Lent et al., 2000). Furthermore, such beliefs can be formed through the support provided by personal environment, such as family and university (Meoli et al., 2020). The value of this theory has been established for studying which environmental factors enable graduates to act upon their entrepreneurial career intentions (Meoli et al., 2020) and how entrepreneurship education affects university students' career intentions (Liguori et al., 2018).

In our conceptual framework (Figure 1), students' entrepreneurial learning at university and their enterprising family background together represent the contextual influences that determine their career decisions.

INSERT FIGURE 1 ABOUT HERE

Entrepreneurial learning and employment status career intentions

Entrepreneurial learning captures the acquisition of knowledge and skills required to identify and act upon new business opportunities (Souitaris et al., 2007). At university, entrepreneurial learning can be obtained through specific entrepreneurship education (Arranz et al., 2019; Hahn et al., 2020), which universities are increasingly providing to

give future graduates the tools required to actively search for innovation opportunities (Hahn et al., 2017). According to SCCT, entrepreneurial learning matters for career choices, since individuals select those jobs, which best match their skills (Meoli et al., 2020). For example, the self-confidence in entrepreneurial competences obtained through entrepreneurial learning may contribute founding intentions and activities (Hahn et al., 2020). On the other hand, some studies point out that entrepreneurial learning at university might not necessarily lead only to increased founding intentions (e.g., Souitaris et al., 2007). It might also help graduates to be more innovative and receive larger salaries in wage-paid jobs (Charney and Libecap, 2000), as well as to be more attractive to employers (Eesley and Lee, 2021). Yet, while both small and larger firms might offer appealing career outcomes for entrepreneurial graduates (Sorenson et al., 2021), we build upon SCCT to show that entrepreneurial learning does not affect in the same way the preference to work for small versus larger firms.

Generally speaking, small firms are linked to entrepreneurship, since the flexibility associated to reduced firm size could provide to employees more autonomy to pursue new business opportunities (Elfenbein et al., 2010). However, there are reasons to argue that larger firms offer the best working environment to individuals endowed with entrepreneurial skills (Kacperczyk and Marx, 2016). First, these companies typically possess more resources to support employee-generated initiatives compared to small-sized firms. For example, large incumbent firms such as Google have organizational arrangements (e.g., Hackatons and innovation contests) that encourage the entrepreneurial endeavors of its workforce (Ghosh and Wu, 2021). Hence, since larger firms offer more opportunities to attract and retain entrepreneurial talents (Kacperczyk and Marx, 2016), working for them offers better outcomes for graduates endowed with entrepreneurial skills. Second, since corporations are increasingly looking for workers predisposed to act entrepreneurially (Eesley and Lee, 2021), university students who are

confident about their entrepreneurial learning will more likely prefer working for large and established firms where earning prospects are generally better (Sorenson et al., 2021). For these reasons, we hypothesize that entrepreneurial learning will push students' preferences towards larger firms, where they are more likely to take advantage of their entrepreneurial knowledge. Based on these arguments, we formulate the following hypothesis.

H1: There is a negative relationship between students' entrepreneurial learning at university and the likelihood to prefer working for small vs. larger firms.

Enterprising family background as a boundary condition

In line with SCTT and recent research on career choice (Roach and Sauermann, 2015); we acknowledge the multiplicity of contexts in which individuals are simultaneously embedded and which influence their decision-making and behavior. With specific reference to career choices, scholars defend a family embedded perspective on entrepreneurship (Aldrich et al., 2021), according to which family affects young individuals' career trajectories (Hahn et al., 2021). Therefore, university students' exposure to an enterprising family is likely to represent a boundary condition for the influence of entrepreneurial learning on the preference of being employed in a small rather than larger firm. Having an enterprising family background is a form of exposure towards entrepreneurship, which previous research has shown to influence the effects of university offering towards entrepreneurship (Hahn et al., 2020). This resonates with SCCT assumption that individuals' enterprising family background interacts with the educational context in shaping individuals' careers (Meoli et al., 2020). In particular, since family businesses are for the vast majority characterized by smaller size (Valenza et al., 2021), one could think that enterprising family background could make students eager to work for small companies. However, research on succession has largely acknowledged that growing up in an enterprising family can foster the attractiveness of

other types of careers (Hahn et al., 2021). In particular, students with enterprising family background are more likely to be exposed to the typical SMEs' resource constraints, which might limit entrepreneurial behavior (Aldrich & Auster, 1986); students grown up in an enterprising family are likely to learn (for good or for bad) how the abundance of resources enables firms to explore new solutions and opportunities (Kim et al., 2008). If the arguments in support of H1 are valid, we expect that such exposure leads students to develop expectations about the difficulty to exploit their entrepreneurial capabilities in small, resource-constrained firms. According to SCCT, such expectation will influence the career decisions of university students who have experienced entrepreneurial learning. In particular, entrepreneurial learning might more easily push these students towards larger firms rather than small ones, where they believe that more resources are available to them to act entrepreneurially. We thus hypothesize

H2: Students' enterprising family background negatively moderates the relationship between their entrepreneurial learning at university and the likelihood to prefer working for small vs. larger firms.

Methods

Sample

We address our research questions on an international sample of 155,358 university students using the survey data collected in the 2018 wave of the GUESSS ("Global University Entrepreneurial Spirit Students' Survey") project. After excluding from the sample respondents for which we could not build the variables of interest, we obtained a final sample consisting of 155,358 university students from 54 countries. The sample of our study has already been checked for non-response bias (Hahn et al., 2021).

Measures

Dependent variable. Our dependent variable is a categorical variable capturing students' career intentions five years after studies, in line with prior research (Hahn et

al., 2021). The categories include the preference (i) to work for a small firm (i.e. a firm with up to 50 employees); (ii) to work for a larger firm (i.e. a firm with more than 50 employees); (iii) to work for a non-profit or public organization, including government and academia; (iv) to found a business; or (v) to take over an existing one.

Independent variables. Entrepreneurial learning is measured through the 5-items Likert scale previously used among others in Souitaris et al. (2007). The scale proved to be reliable (Cronbach alpha = 0.925) and one-dimensional (all items loaded on a single factor). The variable has been standardized in our regression model in order to avoid multicollinearity issues that might arise in computing interaction variables.

Moderating variable. Our moderator enterprising family background (EFB) is a dummy equal to one if at least one of the respondent's parents is a majority owner of a business (cf. Hahn et al., 2020).

Control variables. We control for a set of individual-level influences following previous GUESSS-based studies (e.g., Hahn et al., 2017): gender, age, level of education, entrepreneurial status of the respondent.

Results

The means, standard deviations, and correlations of the variables in this study can be found in Table 1.

INSERT TABLE 1 ABOUT HERE

To check for multicollinearity issues, we verified that all Variance Inflation Factors (VIFs) remain below 2.

We conducted a multinomial logistic regression since our dependent variable is categorical. When we interpret the coefficients of the independent variables on each outcome, we compare their effects taking as reference the base category *large firm employment*. To deal with the nested structure of our data, we took advantage of clustered

standard errors in all our models and included country fixed effects (Hahn et al., 2020).

Table 2 contains the results from our main regression analyses.

INSERT TABLE 2 ABOUT HERE

Results show that entrepreneurial learning is negatively and significantly related to the intention to be employed in a small compared to a larger firm ($\beta=-0.134$; $p<0.01$), providing support to H1.

Focusing on the moderator EFB, we can see that the interaction term between entrepreneurial learning and EFB is negative and statistically significant ($\beta=-0.123$; $p<0.01$) in the model with small firm employment as outcome, as predicted by H2. Figure 2 displays the marginal effect of entrepreneurial learning on the probability of preferring small firm employment over employment in larger firms for students with and without EFB.

INSERT FIGURE 2 ABOUT HERE

Post-hoc analysis

In order to obtain a better understanding of the mechanisms through which the EFB strengthens the negative effect of entrepreneurial learning on small firm employment intention, we perform a post-hoc analysis only on the subsample of students who have an EFB. Focusing on this subsample allows us to consider the heterogeneity of students' exposure to an enterprising family, in line with recent papers on entrepreneurial intentions and learning of university students with an EFB (e.g., Hahn et al., 2021). More specifically, to have a clear understanding of the type of exposure of the respondents in their parents' business, we consider whether they possess shares of the family business.

Table 3 displays the results of the multinomial regression model for the subsample of respondents with an enterprising family background. In this model, we introduce *family*

business ownership as moderator of the effect of entrepreneurial learning on career intentions. Family business ownership is a dummy equal to one if the offspring has some shares in the parents' business.

INSERT TABLE 3 ABOUT HERE

The interaction between family business ownership and entrepreneurial learning is negative and statistically significant ($\beta=-0.125$; $p<0.10$) in the model with small firm employment as an outcome. Therefore, the ownership of shares in parents' business negatively moderates the relationship between entrepreneurial learning and the preference of working for a small rather than larger firm. If we assume that students with shares in their parents' company are exposed more intensely to the enterprising family, these results further support that the exposure to the EFB moderates the entrepreneurial learning – career intention relationship, as we observed in the full sample..

Discussion and Conclusion

In this paper, we explored how university support towards entrepreneurship in terms of entrepreneurial learning affects students' intentions to work as employees for small rather than larger firms. First, our results reveal that university students that have experienced entrepreneurial learning view larger firms as more attractive employers compared to small ones. This challenges the assumption according to which small firms are more adequate workplaces to entrepreneurial individuals. Instead, larger firms might offer an environment rich of resources where university students can better exploit (and be rewarded for) the entrepreneurial capabilities and attitudes learnt during their studies (Kacperczyk and Marx, 2016).

Second, the negative effect of entrepreneurial learning on the preference of working for small compared to larger firms is even more negative for university students grown up in an enterprising family. As these students might be more conscious that the

lack of resources limits the possibilities to pursue new business opportunities, they seem to be more reluctant to work for small firms. The results of our post-hoc analysis provide further support to this explanation and also to the hypothesized explanations for the negative relationship between entrepreneurial learning and employment in small firms.

This study extends our understanding of the role of the Entrepreneurial University and encourages new and broader developments in the conceptualization of the impact created by university support to student entrepreneurship (Audretsch and Belitski, 2021; Nicotra et al., 2021), embracing non-founding career choices. Our findings endorse the idea that learning entrepreneurial competencies at university prepares university students not only to create their own business (or take over an existing one), but also induce them also to search for larger employers, which typically offer more opportunities to their employees to explore and concretize new business opportunities. Overall, these findings highlight an important way to think about the contribution of Entrepreneurial Universities to the demands of the emerging entrepreneurial society (Guerrero et al., 2016). Besides forming entrepreneurial agents that will create new businesses, the Entrepreneurial University has the key role to supply existing organization with entrepreneurial talent.

Limitations and future research directions

Future research could focus on actual (rather than intentional) career choices right after graduation and, if possible, on wage differentials among university students. Concerning the explanatory variables, we focused on students' perception of the support received at university because perceptions determine the formation of career intention. However, it would be interesting to focus on the roots of these perceptions and study the impact of specific university offerings, such as entrepreneurship education programs of different nature. Looking at the heterogeneity of the entrepreneurship education offerings attended by students could add further nuances to the entrepreneurial learning – career intention relationship. Finally, to strengthen our understanding on how university affects

employment career choices, we recommend to adopt alternative methodologies: experiments or quasi experiments might be used to study the treatment effect of interventions specifically designed for education fields such as STEM; longitudinal in-depth case studies or experience-based-sampling research designs, instead, might shed light on the cognitive processes shaping career intentions.

Practical contributions

Our findings also offer some practical contributions for large firms: we recommend them to nurture strong relationships with the Entrepreneurial Universities in order to secure for themselves graduates who have attended entrepreneurship programs and have studied in an entrepreneurial environment. On the other hand, managers of small firms should be aware that it might be particularly difficult for them to attract entrepreneurial talents; therefore, they should somehow signal that they reward entrepreneurial employees, for example by actively collaborating with university entrepreneurship offerings. Finally, our results provide an additional reason for the universities to invest into support for entrepreneurship, since such support is likely to translate into contributions to youth employment and society that might be broader than usually thought. For example, universities could offer more entrepreneurship education programs that teach students what it takes to pursue entrepreneurial initiatives as employees in both small and larger firms.

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Table 1. Descriptive statistics and correlations

	Mean	Std. Dev.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(12)	(13)	(14)
1. Small firm employee	0.039	0.193	1												
2. Large firm employee	0.266	0.442	-0.1207	1											
3. Public organization employee	0.268	0.443	-0.1213	-0.3643	1										
4. Founder	0.404	0.491	-0.165	-0.4955	-0.498	1									
5. Successor	0.024	0.152	-0.0311	-0.0935	-0.094	-0.1278	1								
6. Entrepreneurial Learning	4.396	1.621	-0.0215	0.0055	-0.1241	0.1045	0.0357	1							
7. EFB	0.244	0.429	-0.0036	-0.0253	-0.0603	0.0259	0.1705	0.0654	1						
8. Age	23.623	5.790	0.0093	-0.0791	0.0859	-0.0024	-0.0243	0.0353	-0.0259	1					
9. Male	0.465	0.499	0.0068	0.0544	-0.1098	0.0412	0.0201	0.0721	0.0255	0.0472	1				
10. Bachelor	0.792	0.406	-0.0182	0.0082	-0.0541	0.0451	0.0115	0.0176	-0.0019	-0.2951	0.006	1			
12. Business	0.371	0.483	-0.0357	0.0155	-0.1353	0.1041	0.0588	0.2132	0.0305	0.0155	-0.0406	0.022	1		
13. STEM	0.334	0.472	-0.0047	0.0771	-0.0953	0.0244	-0.0195	-0.0649	-0.0139	-0.0581	0.2459	-0.006	-0.5438	1	
14. Entrepreneur	0.332	0.471	0.0036	-0.1187	-0.1587	0.2315	0.0557	0.1979	0.1385	0.1079	0.1522	-0.0113	0.0463	-0.0026	1

N=155,358

Absolute values of pairwise correlations above 0.005 are significant at the $p < 0.05$

Table 2. Results of multinomial logistic regression analysis

Variables	Small firm employment ^a	Founder ^a	Successor ^a	Public employment ^a
Age	0.0286*** (0.00331)	0.00814*** (0.00247)	-0.0118** (0.00478)	0.0361*** (0.00195)
Male	-0.0805** (0.0362)	0.0243 (0.0197)	0.189*** (0.0380)	-0.233*** (0.0222)
Bachelor	0.0121 (0.0380)	0.0338 (0.0276)	0.0102 (0.0562)	-0.279*** (0.0337)
Business	-0.780*** (0.0413)	-0.0845*** (0.0323)	0.288*** (0.0507)	-1.038*** (0.0477)
STEM	-0.668*** (0.0426)	-0.276*** (0.0376)	-0.323*** (0.0590)	-1.123*** (0.0501)
Entrepreneur	0.533*** (0.0369)	1.217*** (0.0424)	1.079*** (0.0470)	0.0611** (0.0306)
Entrepreneurial Learning	-0.134*** (0.0179)	0.0172 (0.0108)	0.0647* (0.0339)	-0.121*** (0.0121)
EFB	-0.0184 (0.0363)	0.156*** (0.0187)	2.126*** (0.0511)	-0.0737*** (0.0218)
Entrepreneurial Learning x EFB	-0.123*** (0.0329)	-0.0898*** (0.0193)	-0.0920** (0.0442)	-0.00987 (0.0187)
Constant	-1.063*** (0.0981)	-0.339*** (0.0681)	-2.527*** (0.259)	-0.202 (0.257)
Log pseudolikelihood	-173959.29			
Pseudo R-squared	0. 0.1288			

N= 155,358

Heteroskedasticity robust standard errors, clustered by university, are reported in brackets.
Country fixed effects are included in each regression

*** p<0.01, ** p<0.05, * p<0.1

^a The comparison baseline is “Large firm employment”.

Table 3. Results of multinomial logistic regression analysis

Variables	Small firm employment ^a	Founder ^a	Successor ^a	Public employment ^a
Age	0.0323*** (0.00865)	0.0203*** (0.00430)	-0.0135* (0.00764)	0.0494*** (0.00458)
Male	-0.181** (0.0806)	0.00532 (0.0340)	0.237*** (0.0595)	-0.325*** (0.0424)
Bachelor	0.00664 (0.101)	0.0244 (0.0471)	-0.0611 (0.0822)	-0.330*** (0.0557)
Business	-0.806*** (0.0943)	-0.121** (0.0501)	0.504*** (0.0789)	-1.049*** (0.0730)
STEM	-0.586*** (0.0956)	-0.285*** (0.0508)	-0.140 (0.0894)	-1.086*** (0.0705)
Entrepreneur	0.422*** (0.0933)	1.255*** (0.0511)	0.803*** (0.0689)	0.0189 (0.0575)
Entrepreneurial Learning	-0.128*** (0.0472)	0.0355 (0.0237)	0.126*** (0.0425)	-0.0919*** (0.0240)
Family business ownership	-0.00485 (0.0872)	-0.116*** (0.0406)	0.235*** (0.0632)	-0.0628 (0.0440)
Entrepreneurial Learning x Family business ownership	-0.125* (0.0748)	-0.0520 (0.0387)	-0.190*** (0.0663)	0.0236 (0.0395)
Constant	-0.884*** (0.260)	-0.0204 (0.133)	-0.0817 (0.393)	0.141 (0.698)
Log pseudolikelihood		-32627.007		
Pseudo R-squared		0.1110		

N= 27,461

Heteroskedasticity robust standard errors, clustered by university, are reported in brackets.
Country fixed effects are included in each regression

*** p<0.01, ** p<0.05, * p<0.1

^a The comparison baseline is “Large firm employment”.

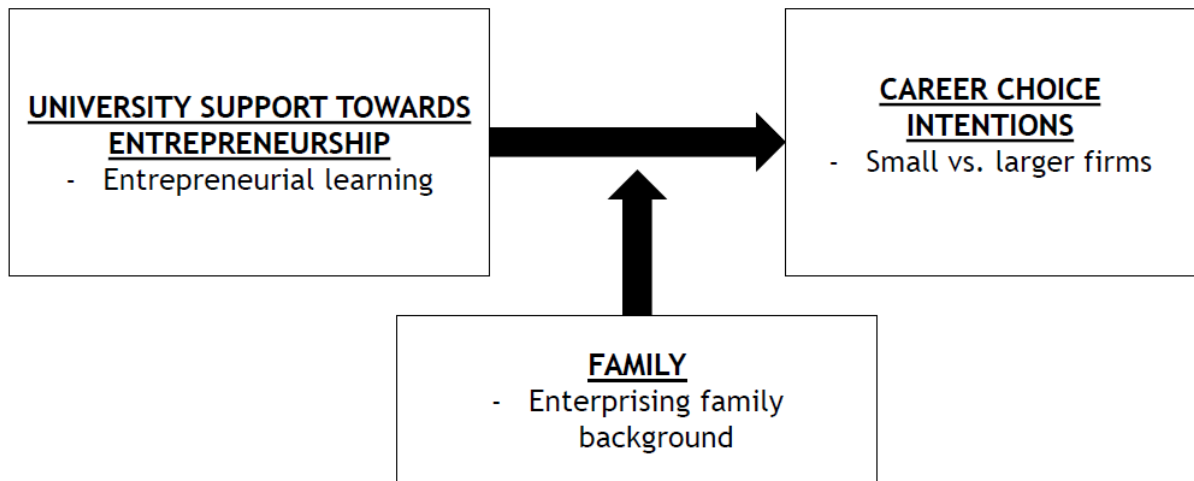


Figure 1: Conceptual framework

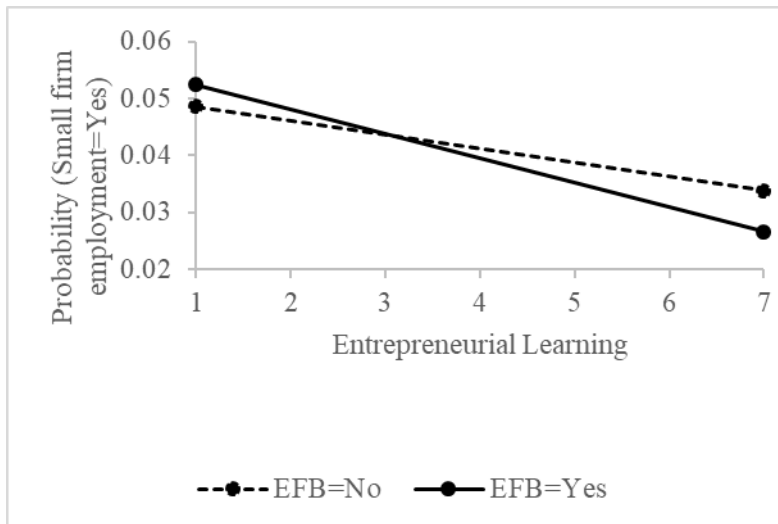


Figure 2: Interaction of entrepreneurial learning and EFB on small firm employment intention