

The Influence of Risk Willingness, Self-Efficacy and Role Modeling on Entrepreneurial Intention by Gender and Income

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Abstract

Entrepreneurship literature has confirmed the positive influence of gender income on the entrepreneurial intention. The aim of the current study was to investigate if the gender and household income of entrepreneurs moderate the impact of entrepreneurial competencies on the entrepreneurial intention. In fact, the authors aimed at identifying whether the influence of the entrepreneurial competencies on entrepreneurial intention is related to gender and income or not. The data of a sample of 258794 adults from 60 countries participated in annual surveys of Global Entrepreneurship Monitor (GEM) from 2001 to 2013 were analyzed using Pearson correlation coefficient, and hierarchical linear modeling by IBM SPSS Statistics version 20. Results indicated that in general, gender moderates the influence of the entrepreneurial competence on entrepreneurial intention in a positive way suggesting that being a male it is more possible that the entrepreneurial competencies being converted to the entrepreneurial intention. Specifically, gender moderates the influence of self-efficacy, entrepreneurial role modeling, and risk-willingness on entrepreneurial intention in a positive way. While the effect of household income was positive and significant on the individual's risk willingness and formation of individual's intention but its effect was negative on the conversion of entrepreneurial competencies to intention. Specifically, income negatively influences the conversion of self-efficacy and entrepreneurial role modeling to the entrepreneurial intention suggesting that low income individuals tend to better benefit from their competencies toward entrepreneurial intention.

Keywords: Entrepreneurial Competence, Risk-willingness, Opportunities, Intention, Gender, Income

Introduction:

Entrepreneurial intention has been one of the important aspects of entrepreneurship research after the seminal works of Shapero and Sokol (1982) and Krueger and Carsrud (1993). The importance which have been given to the entrepreneurial intention (hereafter EI) is rooted on the economic development literature which has considered entrepreneurship through small and medium sized enterprises as a key for the development of the societies specifically for liberal and market oriented economies (Davidsson, 1995a; 1995b;Davidsson, Lindmark & Olofsson, 1995). In fact, after the disappointment of the public policy about the ability of large enterprises in promoting the general employment level in the western countries, entrepreneurship via small and medium sized companies has become the alternative choice of the public policy toward the more political goal of increasing the level of employment. In this regard, this ontology of entrepreneur as the "spearhead" of economy along with the unemployment crisis and the efforts of government for improving the level of employment led to a public policy to pursue the removal of barriers to business creation and improve the institutional and structural barriers to

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entrepreneurship. An example of such a teleological tendency can be found in the experience of Liberal-Democrat party of French government in early 1990s (Marttila, 2003). In fact, the In this regard one of the key questions of the public policy and consequently research stream was finding an answer to this question: "what makes people found new firms? (Davidsson, 1995a, p.2). The first attempt in answering this question was study of ontology of entrepreneurs and finding and answer for "Who are entrepreneurs"? and "how they are different from nonentrepreneurs?" in search of an answer for the mentioned questions, the emergence of the firm as a topic of interest penetrated to the academic research and the researchers focused on finding the determinants of the entrepreneurship in individuals. At the first steps the academic effort focused on finding the difference between the entrepreneurs and non-entrepreneurs. A huge volume of research produced to find what distinguishes the entrepreneurs from nonentrepreneurs since the public policy was considering entrepreneurs as the front line of the economy (Marttila, 2003) and finding the frontiers at the first step started by distinguishing them from the non-frontiers. After the so called "trait" research stream which was focused on the distinguishing personality traits of entrepreneurs and non-entrepreneurs (Brockhaus, 1982; Chell, 1985; Wärneryd, 1988; Sexton & Bowman-Upton, 1990; Crant, 1996) a new research stream emerged focused on the determinants of entrepreneurship and improvement of entrepreneurial activities in the society to respond another political goal of the public policy; "how can we reproduce entrepreneurs to the society?" This aim lead to a new research stream in entrepreneurship literature; the "determinant" stream which was focused on finding the process in which individuals become entrepreneurs. In this point the entrepreneurial intention became a key research topic in entrepreneurship (Davidsson, 1995; Indarti & Kristiansen, 2003; Raijman, 2001; Douglas & Shepherd, 2002).

Research in entrepreneurial gained popularity after the seminal works by Shapero and Sokol (1982) and Krueger and Carsrud (1993). Shapero and Sokol (1982) developed an entrepreneurial intention model based on the individual's perception of feasibility, desirability and propensity to act. They proved that entrepreneurial intention will be shaped based on the individuals' perception on the desirability of entrepreneurship as a career choice and the feasibility of the starting their own job by the individuals and they proved the propensity to act as a key determinant in entrepreneurial intention. They named their model as entrepreneurial event model (EEM).

The other seminal work introduce to the entrepreneurship literature by Kruger and Carsrud (1993) which was a development of an entrepreneurial intention model based on the theory of planned behavior (TPB) of Ajzen (1991) in which attitude toward behavior, subjective norm and perceived behavioral control in individuals was the explanatory of their intention to do a special behavior. They called their model as the entrepreneurial intention model (EIM) in which the perceptions and attitudes of the individuals were the core of the formation of the entrepreneurial intention. They proved that 3 determinants of attitude toward entrepreneurship, social norms and perceived behavioral control as the immediate predictors of the entrepreneurial intention.

Regardless of the determinants which were used and proved by the two mentioned models, a body of the research selected the two model as the base for their EI research and researchers included so many variables for investigating the formation of EI (Schlaegel and Koenig, 2014. Specifically, the interest in investigating socio-demographic variables has been obvious in the EI research. Age, gender, household income, social rank, family status and income are among well researched topics.

The gender and income- the two variable of interest in the current research, are from the variables which has been researched well about their role in EI. The household income has a positive influence on EI and the gender (considering f=0 and m=1 in an empirical setting) has a positive influence on the EI respectively. Research is also very popular about the role of self-



efficacy, entrepreneurial role modeling and risk-willingness (the competencies of the individuals) on the intention of the individuals. They influence EI in a positive way (Krueger & Carsrud, 1993; Boyd & Vozikis, 1994; Wilson, Kickul & Marlino, 2007; Pihie, & Akmaliah; 2009). In spite of the abundance of the research about the role of gender and income, risk-willingness, self-efficacy and role modeling on EI, the research doesn't provide a unique understanding of the role of gender and income in converting individual's competencies to entrepreneurial intention. In this regard, the current research seeks to find a suitable answer for the role of gender and income in translating individual competencies to entrepreneurial intention. Therefore, the main question of the research is that "how gender and income influence the conversion of entrepreneurial competencies to entrepreneurial intention?"

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Research Hypotheses

H1: Entrepreneurial competence exerts a significant influence on EI.

H1a: self-efficacy exerts a significant influence on EI.

H1b: role modeling exerts a significant influence on EI.

H1c: risk-willingness exerts a significant influence on EI.

H2: Gender moderates the influence of the competence on EI in a positive way.

H2a: Gender moderates the influence of the self-efficacy on EI in a positive way

H2b: Gender moderates the influence of the role modeling on EI in a positive way

H2c: Gender moderates the influence of the risk-willingness to EI in a positive way.

H3: household income moderates the influence of the competence on EI in a positive way.

H3a: household income moderates the influence of the self-efficacy on EI in a positive way

H3b: household income moderates the influence of the role modeling on EI in a positive way

H3c: household income moderates the influence of the risk-willingness to EI in a positive way.

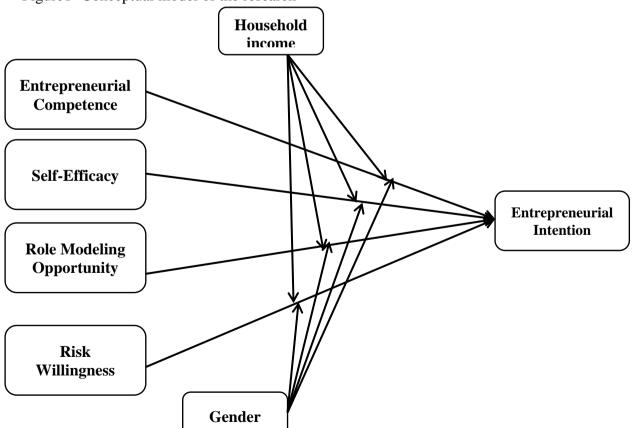


Figure 1 - Conceptual model of the research

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Research Design and Data

3.1. Data and Sampling

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This study benefits from data collected by Global Entrepreneurship Monitor (GEM) from 2001 to 2013 and provided freely on the web (Global Entrepreneurship Research Association, 2014). As the world largest study of entrepreneurship, annually, GEM surveys individuals' reports of their involvement in entrepreneurship (whether they own, manage, start or intend to start a business) as well as national framework conditions regarding to entrepreneurship activities (Bosma, 2013; Kelly, Singer and Herrington, 2012). Countries participate in GEM surveys on annual basis and based on self-selection. Our data are extracted from the Adult Population Survey (APS) for 2001 to 2013 from the following countries:

Angola, Argentina, Australia, Azores, Bosnia, Belgium, Bolivia, Brazil, Switzerland, Chile, China, Colombia, Costa Rica, Germany, Denmark, Ecuador, Egypt, Spain, Finland, France, Ghana, Greece, Guatemala, Croatia, Hungary, Ireland, Iran, Israel, Iceland, Italy, Jamaica, Japan, South Korea, Latvia, Montenegro, Macedonia, Mexico, Malaysia, Netherlands, Norway, Peru, Pakistan, Palestine, Portugal, Romania, Russia, Saudi Arabia, Sweden, Slovenia, Tunisia, Turkey, Trinidad & Tobago, Taiwan, Uganda, United Kingdom, United States, Uruguay, Vanuatu, South Africa and Zambia. The number of participating countries and the sample size (258794 cases) fairly represent the whole entrepreneurs and entrepreneurship activities in the world and thus enables us to fairly generalize the results.

In the adult population survey, in addition to data about numerous variables, we also can find data about gender, household income, entrepreneurial competencies and entrepreneurial intentions (the variables used in the current study).

3.2. Measuring Entrepreneurial Competencies

The GEM survey for evaluating individual competencies and adult's involvement in entrepreneurship has asked about 4 variables which the authors of the current study treat them altogether as a single index of *entrepreneurial competence*.

Self-efficacy: Do you have the knowledge, skill and experience required to start a new business? *Risk-Willingness*: this item has been measured as "fear of failure" with the following question: Would fear of failure prevent you from starting a business?

For the current research data for fear of failure were reversed to gain the data about risk-willingness of the entrepreneurs.

According to the literature, social role modeling of entrepreneurs evolves over time and it is less possible to transfer it from a region to another. It leads the individuals to become entrepreneurs within the region they live (Bönte, Falk and Heblich, 2009; Michelacci and Silva, 2007; Tabellini 2008). When discussing so, we mean that personal ties and peer groups of the entrepreneurs are locally bonded (Bayer, Ross, and Topa 2008). Based on the above argument, the GEM survey has asked the individuals about the entrepreneurial opportunities and personal role modeling as follows:

Role modeling opportunity: Do you know someone personally who started a business in the past 2 years?

3.3. Measuring Entrepreneurial Intention

The GEM survey of adult population has collected data about entrepreneurial intention of 258794 cases from 2001 to 2013. This variable has been measured via the following question: Are you, alone or with others, expecting to start a new business, including any type of self-employment, within the next three years?

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3.4. Gender of Entrepreneurs

One of the questions in the GEM survey ask entrepreneurs about their demographic variables such as gender. This variable has been included in GEM codebook as GENDER and in our study coded 1 for males and 0 for females.

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3.5. Household income

The GEM adult population survey asks the individuals about their level of household income. Countries and GEM members make brands for low and high income families based on the economic conditions of each country. For our study, we used the GEM's final categorization of the data of household income.

3.5. Statistical Analysis

At the first, Z scores of variables calculated to reduce the probability of co-linearity of the variables. The data of the current study were analyzed through the following techniques: 1-correlation analysis (for determining whether we are allowed to use 3 entrepreneurial competencies as a single index of entrepreneurial competence); 2-hierarchical linear modeling (for measuring the direct and moderation effects of the hypotheses under the label H1, H2 and H3). Based on Woltman, Feldstain, MacKay & Rocchi (2012), "Hierarchical Linear Modeling (hereafter HLM) is a complex form of ordinary least squares (OLS) regression that is used to analyze variance in the outcome variables when the predictor variables are at varying hierarchical levels" (p. 52). All the analyses were done via IBM SPSS Statistics software version 20.

Results

In this section, the sample has been described regarding to gender, income, entrepreneurial competencies and entrepreneurial intention. Then, the results of hypotheses testing are provided.

4.1. Means, standard deviations and correlations

The characteristics of the sample are described in Table 1. Gender coded 1 for male and 0 for the female.

Table 1. Means, standard deviations and correlations of the variables

	EI	Role	Self-	Risk	Competence	Gende	Income
		Modeling	Efficacy	willingness		r	
EI	1	.212**	.279**	.096**	.298**	.093**	.040**
Role Modeling	.212**	1	.235**	.045**	.652**	.106**	.133**
Self-Efficacy	.279**	.235**	1	.153**	.713**	.157**	.123**
Risk	.096**	.045**	.153**	1	.601**	$.068^{**}$.031**
willingness							
Competence	.298**	.652**	.713**	.601**	1	.168**	.145**
Gender	.093**	.106**	.157**	.068**	.168**	1	.067**
Income	.040**	.133**	.123**	.031**	.145**	.067**	1
Mean	0.21	0.40	0.53	0.64	1.58	0.51	2.15
Std	0.411	0.489	0.499	0.480	0.963	0.500	0.799

^{**} Significant at 0.01 level. Gender (m=1, f=0)

Gender is correlated with entrepreneurial intention and females are less intended to become entrepreneurs than men. Self-efficacy, role modeling, and risk-willingness are significantly correlated to each other thus, considering all of them as a single index of entrepreneurial competence is allowed.

Income is correlated with the entrepreneurial intention and the correlation is slightly significant.



Three entrepreneurial competencies (role model, self-efficacy and risk willingness) have significant relationship with each other indicating that we can treat them as a single index of entrepreneurial competence. Entrepreneurial competence as a single index has a significant relationship with EI.

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4.2. The effect of entrepreneurial competencies on EI

For measuring the impact of competence on EI, competencies were considered totally as a single index and each of them separately as a variable (Hypotheses under the category of H1). Tables 2 shows the results.

Table 2. The effect of entrepreneurial competence on EI

Parameter	Estimate	Std. Error	t	
Sig.	.232865	.001988	117.153	.000
	.170064	.001930	88.102	.000
ZSELFEF	.217405	.001949	111.534	.000
ZRISK	.064238	.001958	32.801	.000

Dependent variable: EI, COMPETENCE: Z score for entrepreneurial competence as a single variable, ZSELFEF: Z score for self-efficacy, ZRISK: Z score for risk-willingness, ZROLE: Z score for role modeling

Hierarchical linear modeling (hereafter HLM) (considering country of residence as a random effect) employed to test the effect of 3 competencies on entrepreneurial intention. Results in table 2 indicate that entrepreneurial competence (as a single index) exerts a significant and positive influence on EI. Three other competencies role modeling, self-efficacy and risk-willingness significantly influence EI in a positive way. Amongst the three competencies, self-efficacy has a more positive influence on EI while the effect of risk-willingness is slightly significant.

4.3. The effect of entrepreneurial competence on EI by gender

For measuring the influence exerted by gender on the relationship between entrepreneurial competencies and EI, hierarchical linear modeling was used. At the first glance, the impact of gender on the relationship between the single index of competence (computed as an index comprising of three competencies of role modeling, self-efficacy and risk-willingness) and EI measured using HLM. Then the impact of gender on the relationship of each of competencies and EI tested separately (hypotheses under the category of H2). Gender was coded 1 for the males and 0 for the females.

Table3. The Influence of entrepreneurial competence on EI by gender

1		<i>J U</i>		
Parameter	Estimate	Std. Error	t	Sig.
ZGENDERFM * ZCOMPETENCE	.014617	.001953	7.485	.000
ZGENDERFM * ZSELFEF	.008024	.001909	4.204	.000
ZGENDERFM * ZRISK	.009866	.001933	5.103	.000
ZGENDERFM * ZROLE	.010170	.001897	5.361	.000

Dependent variable: EI, ZGENDERFM: Z score for gender, ZSELFEF: Z score for self-efficacy, ZRISK: Z score for risk-willingness, ZROLE: Z score for role modeling

As table 3 indicates, the influence of gender on the relationship between entrepreneurial competence and EI is positive and significant. This means being a man it is more probable that entrepreneurial competence being converted to EI. Similarly, the effect of the gender on the translation of self-efficacy, risk willingness and role modeling was slightly significant. The

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results indicate that gender enhances the conversion of these competencies to entrepreneurial intention.

4.4. The effect of entrepreneurial competence on EI by household income

For measuring the influence exerted by household income on the relationship between entrepreneurial competencies and EI, hierarchical linear modeling (hereafter HLM) was used. At the first glance, the impact of income on the relationship between the single index of competence (computed as an index comprising of three competencies of role modeling, self-efficacy and risk-willingness) and EI measured using HLM. Then the impact of gender on the relationship of each of competencies and EI tested separately (hypotheses under the category of H1). Income coded 1 for low income and 2 for high income families. The results of analysis has been presented in table 4.

Table 4. The Influence of entrepreneurial competence on EI by income

Parameter	Estimate	Std. Error	t	Sig.
ZINCOME * ZCOMPETENCE	005595	.002224	-2.516	.012
ZINCOME * ZSELFEF	010785	.002178	-4.952	.000
ZINCOME * ZRISK	.008638	.002216	3.899	.000
ZINCOME * ZROLE	005213	.002204	-2.366	.018

Dependent variable: EI, ZINCOME: Z score for household income, ZSELFEF: Z score for self-efficacy,

ZRISK: Z score for risk-willingness, ZROLE: Z score for role modeling

Tables 4 indicates that the conversion of the entrepreneurial competence to the EI is slightly under the effect of household income. As table shows, this influence is surprisingly negative indicating that the people who come from low income families tend to more benefit from their competencies toward EI with 1 exception: people from high income families better convert their risk-willingness to EI.

Discussion, conclusions and direction for future research

The aim of the current study was to investigate the moderation effect of household income and gender on the relationship between entrepreneurial competencies and entrepreneurial intention. The study found that there is a significant influence from competencies on EI by gender. This indicates that men tend to benefit from their gender in translating their competencies to entrepreneurial intention compared to women. These results are in line with those of Rezaei and Rahsepar (2009). The results regarding to the influence of gender on converting each competencies on EI indicated a positive and significant effect for gender. Specifically. Of specific importance the influence of role modeling opportunity will be enhanced by gender. This opens a new research avenue for the home and family business studies. As the influence of role modeling opportunity on EI will be moderated by gender, why do men perform better than women in role modeling and what causes the men to benefit from their gender more than women. There are some studies indicating that the individuals are similar to their role models in terms of gender and race (Ruef et al., 2003). Combined with our study results which indicated the positive role of gender on the competency-EI relationship, the research on the causes of this shared preference for men with their role models in choosing entrepreneurship as a good career choice will be beneficial. We invite the future research to pay more attention to the role modeling of men from a social learning theory (Bandura, 1977) perspective.



The results indicated that gender enhances the influence of self-efficacy on EI. This finding have some implications for the study of entrepreneurship at the national or international level where the national cultures' role plays an important role. For example, within countries with the dominance of masculinity values, do this moderation effect enhances? What are the differences between the masculine and feminist values in this regard? Since gender enhances the self-efficacy-EI relationship what happens if we combine the effect of age or other demographic variables? How will be the effect of gender by individualistic culture on EI? The results indicated the positive moderation effect of gender on the risk willingness-EI relationship indicating that men benefit more than women from their risk-willingness toward entrepreneurship. One possible explanation may be more networking possibilities for men (Marlow, S., & Patton, 2005) compared to women which leads to a greater resilience in the face of adversity. Future studies may focus on the combined effect of network and gender on the conversion of individual's self-efficacy to the EI.

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The study results indicated that household income has a negative influence the relationship between entrepreneurial competences and EI indicating that low income people tend to benefit from their competence toward EI more than high income individuals. This finding was opposed to findings of Caputo and Dolinsky (1998) and those of Hurst and Lusardi (2004). Hurst and Lusardi (2004) found that there will be an increase in the motivation to start a business by increase in the level of family wealth. The impact of income on role modeling-EI and self-efficacy-EI relationships was negative and significant. This means that low income individuals benefit from their role modeling and self-efficacy toward EI formation more than high income people. It will be valuable to study the process of EI formation based on family environment factors such as family cohesiveness and independence values combined with the effect of income status of families. We also suggest that the role of other family related variables such as level of members' earning from an entrepreneurial activity within families, the family members' business knowledge and marital status of the member in the family being investigated combined with household income effect on the relationship between EI and its antecedents.

Study also found that the influence of income is positive on the relationship between risk-willingness and EI indicating that high income individuals benefit from their risk-willingness toward EI formation more than low income individuals. Combined with the other result of our study which found the positive moderating effect of gender on risk willingness-EI relationship, we invite future research to find the relative importance of income and gender on risk willingness-EI relationship. Another valuable avenue for the future research may be combining the cultural dimensions suggested by Hofstede (1984) and Hofstede, Hofstede and Minkov (1991) to gain an insight for the effect of institutional arrangement on EI in national and international setting.

Based on the results, entrepreneurial self-efficacy exerts a direct significant influence on the EI. This finding suggest that the people' belief in their ability to start their own business is a great pathway to their EI. A possible explanation of this finding may be the fact that men are different from women in terms of some entrepreneurial treats. Rezaei and Rahsepar (2009) found that there are significant differences in achievement motivation and need for independence and entrepreneurial mentality in terms of gender among their study participants. Based on the literature beliefs are rooted in the individuals' values (Fishbein & Ajzen, 1977). So, we suggest that future studies focus more on the value in shaping EI. Specifically, the investigation of cultural values and institutional arrangements which contribute to value formation will be beneficial.



As well, as some studies have emphasized on the role of uncertainty in entrepreneurship (Muller & Thomas, 2000; Thomas & Muller, 2000), we suggest future studies focus on uncertainty avoidance on the formation of the entrepreneurial self-efficacy and consequently EI. As our study found the influence of risk-willingness and role modeling opportunity on EI positive and significant, the study of moderation effect of cultural values such as uncertainty avoidance and individualism on the conversion of role modeling opportunity and risk-willingness to EI will be valuable.

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Recognizing the complexity of understanding the interplay between financial, social and family factors in starting a business, we believe that the public policy face a great challenge in planning small business development and this necessitates the strong cooperation of policy and research for deepening our understanding of the mentioned interplay.

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