Investigating the moderating role of gender, experience and education on entrepreneurial orientation among Croatian entrepreneurs

Morić Milovanović, Bojan

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INVESTIGATING THE MODERATING ROLE OF GENDER, EXPERIENCE AND EDUCATION ON ENTREPRENEURIAL ORIENTATION AMONG CROATIAN ENTREPRENEURS

Bojan Morić Milovanović | PhD, Associate professor, Institute of Public Finance, Zagreb, Croatia; bojan.moric@ijf.hr; ORCID ID: 0000-0001-7676-6983

Abstract: *Entrepreneurial orientation (EO) represents one of the most robust scientific constructs explored by academics in management and entrepreneurship literature, where research mostly focuses on exploring EO as a firm-level or as an individual-level construct. Even though numerous studies found gender differences in EO, there is still a need to further explore differences in gender, experience and education on each of the EO dimensions separately. Therefore, the aim of this study is to further test these effects in a small open economy context such as Croatia. More specifically, by using the linear regression analysis this study will explore direct and moderating effects gender, experience and education have on EO and EO's dimensions within the context of Croatian SMEs. Results of this study have confirmed that male entrepreneurs are more entrepreneurially oriented and are more proactive than their female counterparts. On the other hand, results indicated no significant gender differences in the level of innovation and risk taking. Furthermore, results demonstrated that gender has a significant and direct effect on EO, and on risk taking as a dimension of EO, however, there are no significant effects of gender on innovativeness and proactiveness. Results also confirmed moderation effects gender has on the relationships between the level of education and EO, innovativeness and proactiveness, where these relationships are moderated as such that the relationships are stronger for women than for men. These findings are very interesting since they place significance on the importance education has on the success of female entrepreneurs. Therefore, findings of this study provide more evidence on how important tailor-made educational programs are for the development of successful female entrepreneurs.*

Key words: *entrepreneurial orientation, female entrepreneurship, gender, education, Croatia*

JEL classification: *L26, M14, M53, O30*

INTRODUCTION

Since its conception (Miller, 1983), EO has become one of the most robust scientific constructs explored by academics in management and entrepreneurship literature (Covin, et al., 2020; Wales, Covin, & Monsen, 2020; Hernández-Linares & López-Fernández, 2018; Wales, Gupta, & Fariss-Terry, 2013; Covin & Wales, 2012; Covin & Lumpkin, 2011; Lumpkin & Dess, 1996). Although most of the research has focused on exploring EO as a firm-level construct (Wilson & Perepelkin, 2022; Wales, Gupta, & Mousa, 2013; Wiklund, 1999; Lumpkin & Dess, 1996), many researchers investigated EO as an individual-level construct as well (Covin, et al., 2020; Kraus, Breier, Jones, & Hughes, 2019; Kollmann, Stöckmann, Meves, & Kensbock, 2017). Following several decades of evolution of the EO concept, academic literature has generated a common understanding of what this concept represents. Therefore, EO represents "*a strategic construct encompassing managerial tendencies, philosophies, and decision-making practices that are entrepreneurial in nature*" (Goktan & Gupta, 2015, p. 98), or stated differently "*entrepreneurial orientation reflects an overall posture consisting of deep-rooted beliefs and values associated with a tendency to be simultaneously proactive, risk taking and innovative*" (Goktan & Gupta, 2015, p. 98). A more precise understanding of what EO is could be better understood through the dimensions which constitute this construct.

In the most widely accepted theory, Miller (1983) describes EO as a uni-dimensional construct consisting of three dimensions - innovativeness, proactiveness and risk-taking, and should be viewed and researched as a single scale. Lumpkin and Dess (1996) build on Miller's work by adding two more dimensions - autonomy and competitive aggressiveness and argued that EO dimensions are independent of each other. In turn, EO can be conceptualized as a multi-dimensional scale construct as well. Following the abovementioned conceptualization of EO, many authors continue to build on the existing literature by viewing the EO as an individual-level construct (Al Issa, 2020; Santos, Marques, & Ferreira, 2020; Covin, et al., 2020; Kraus, Breier, Jones, & Hughes, 2019; Kollmann, Stöckmann, Meves, & Kensbock, 2017). Dickson and Weaver (2008) strongly advocate for such an approach as founders and top managers are responsible for shaping the overall strategic direction of their firms. This is also in line with the Upper echelon theory view of the firm (Hambrick & Mason, 1984). With that in mind, various authors (Zhang, Wang, & Jia, 2021; Kollmann, Stöckmann, Meves, & Kensbock, 2017; Ferreira, Marques, Bento, Ferreira, & Jalali, 2015; Goktan & Gupta, 2015) called for further examination of individual entrepreneurs' characteristics within the EO context, both observing the relationships within and outside of the organizational boundaries. Following this concern, numerous studies found gender differences in EO (Butkouskaya, Llonch-Andreu, & Alarcón-del-Amo, 2020; Wang, Li, & Long, 2019; Lim & Envick, 2013) and there is still a need to further explore effects of gender differences on each of the EO dimensions separately, i.e. on EO as a multidimensional concept.

Similar to the EO, female entrepreneurship as an academic concept has gained tremendous interest among researchers over the last few decades (Martínez-Rodríguez, Quintana-Rojo, Gento, & Callejas-Albinana, 2022; Ojong, Simba, & Dana, 2021; Ughetto, Rossi, Audretsch, & Lehmann, 2020; Demartini, 2018), since female entrepreneurship fuels economic growth, creates new jobs, and drives new venture

generation (Martínez-Rodríguez, Quintana-Rojo, Gento, & Callejas-Albinana, 2022; Ennis, 2019). In line with the theoretical development of EO by viewing the concept as an individual-level concept, research on female entrepreneurship has advocated investigating various factors that drive female entrepreneurs, such as their personality traits, demographic characteristics, networking abilities, etc. (Martínez-Rodríguez, Quintana-Rojo, Gento, & Callejas-Albinana, 2022; Vrdoljak Raguz, 2020; Moric Milovanovic, Opačak, & Bubaš, 2021; Byrne, Fattoum, & Diaz Garcia, 2019; Byrne, Fattoum, & Diaz Garcia, 2019; Cabrera & Mauricio, 2017). Although there have been considerable studies covering various contextual circumstances surrounding female entrepreneurship (Macchione, Sacco, Brown, & Keefer, 2022; Lee & Huang, 2018; Bianco, Lombe, & Bolis, 2017; Yadav & Uni, 2016), there are still not sufficient studies which explored how female entrepreneurship ranks on EO dimensions. This study attempts to bridge this gap in the literature.

Much research focuses on the effects of entrepreneurs' demographic characteristics on firm performance (Arham, Norizan, Muslim, & Aksan, 2020; Essel, Adams, & Amankwah, 2019; Neneh, Van Zyl, & Van Noordwyk, 2016; Sajilan, Hadi, & Tehseen, 2015), where in general the focus was placed on age, gender, education, firm tenure, etc. Furthermore, research also examined the effects of entrepreneurs' demographic characteristics on entrepreneurial intention (Reissová, Šimsová, Sonntag, & Kučerová, 2020; Farashah, 2015; Ferreira, Marques, Bento, Ferreira, & Jalali, 2015), personal qualities and traits (Öztaş, Kasımoğlu, & Şirin, 2017; Sajilan, Hadi, & Tehseen, 2015), and on EO (Neneh, Van Zyl, & Van Noordwyk, 2016; Goktan & Gupta, 2015; Lim & Envick, 2013; Entrialgo, Fernández, & Vázquez, 2000). Certain researchers notice the existence of clearly distinctive personal factors which have a diverse driving effect on men compared to women when it comes to their personal orientation towards entrepreneurship (Hossain, Arefin, & Yukongdi, 2021; Molino, Dolce, Cortese, & Ghislieri, 2018; Širec & Močnik, 2012; Langowitz & Minniti, 2007). These diverse drivers can be placed under three different categories. The first category refers to the notion that women consider the external environment more challenging, hostile and with more barriers compared to men (Meeussen, Begeny, Peters, & Ryan, 2022; Langowitz & Minniti, 2007; Morris, Miyasaki, Watters, & Coombes, 2006). The second category stems from the human capital theory and implies that due to various societal reasons men are more directed towards acquiring "hard skills" which are needed in the entrepreneurial setting, while women are more directed towards acquiring the so-called "soft skills" (Coda, Berne, Krakauer, & Moraes, 2021; Manzanera-Román & Brändle, 2016). The third category originates from the social network theory as women perceive they will have less support from their social capital, i.e. lower levels of social and business contacts compared to men, which in turn will diminish their abilities to get access to the required resources for the development of their business (Neumeyer, Santos, Caetano, & Kalbfleisch, 2019; Dastourian, 2017). This is particularly interesting to consider in small, young economies where women entrepreneurs are still under-represented but are entering the markets in increasing numbers. In line with this, the article considers the case of female entrepreneurship in Croatia. Several researchers have already investigated various interplays between demographic characteristics and EO (Pureta & Pureta, 2017; Jelenc, Pisapia, & Ivanusic, 2016; Podrug, Vrdoljak Raguz, & Dedic, 2015; Bilic, Prka, & Vidovic, 2011), and between demographic characteristics

and female entrepreneurship (Vrdoljak Raguz, 2020; Plazibat & Renko, 2020; Gasic, 2014) in Croatia.

Considering the ever-changing industrial and technological entrepreneurial landscape, contemporary entrepreneurs are faced with a growing number of barriers, both within and outside their organizational boundaries. Continuous education and professional development represent an essential driving force behind their likelihood of creating a new business and achieving organic growth (Vodă & Florea, 2019; Cho & Lee, 2018; Filser & Eggers, 2014). Moreover, research has confirmed that entrepreneurs with higher education outperform those with lower levels of education or with no education (Reza, Manurung, Kolmakov, & Alshebami, 2020; Cho & Lee, 2018; Almahry, Sarea, & Hamdan, 2018; Filser & Eggers, 2014; Chen, Su, & Wu, 2012), and even more so when this education is combined with experience (Filser & Eggers, 2014). Entrepreneurs with higher education are inclined to adopt more innovative solutions, practices and new technologies (Vodă & Florea, 2019; Florin, Karri, & Rossiter, 2007); their firms experience higher business growth (Kariv, Cisneros, & Ibanescu, 2019; Almahry, Sarea, & Hamdan, 2018), and are less likely to fail (Mayr, Mitter, Kücher, & Duller, 2021; Baù, Sieger, Eddleston, & Chirico, 2017). Following both the human capital theory and the resource-based theory, researchers have confirmed that women rely on advanced education as their route to self-employment much more than men do (Khyareh, 2018). Furthermore, many authors have found a positive relationship between levels of education and both female entrepreneurship (Franzke, Wu, Froese, & Chan, 2022; Bhat & Singh, 2018), and EO (Al-Awlaqi, Aamer, & Habtoor, 2021; Vodă & Florea, 2019; Cho & Lee, 2018; Sajilan, Hadi, & Tehseen, 2015), while others have found the relationship to be of non-existing or even of negative character (De Mattos & Salciuviene, 2019; Chowdhury, Yeasmin, & Ahmed, 2018; Noguera, Alvarez, & Urbano, 2013). Therefore, one of the aims of this research is to provide further clarifications of how does education affect EO, viewed as both a uni- and multi-dimensional construct.

When it comes to investigating the effects entrepreneurs' demographic characteristics have on EO, another important aspect which needs to be explored is experience or tenure within the firm. Research has confirmed that those entrepreneurs with higher work experience, managerial experience, or even the start-up experience better perceive business opportunities (Bignotti & Le Roux, 2020; Gielnik, Zacher, & Wang, 2018; Politis, 2008), have more confidence in their abilities (Kurczewska, Doryń, & Wawrzyniak, 2020), better assess potential pitfalls and risks (Strobl, Kronenberg, & Peters, 2012), and have less difficulty managing their companies (Staniewski, 2016). Moreover, many studies show that work experience is positively related to EO (Al-Jinini, Dahiyat, & Bontis, 2019; Filser & Eggers, 2014; Altinay & Wang, 2011), and to female entrepreneurship (Dean, Larsen, Ford, & Akram, 2019; Lin, Lu, Hsieh, & Liu, 2018; De Vita, Mari, & Pogessi, 2013), as well. Therefore, another aim of this study is to further test the effect work experience, i.e., enterprise tenure has on EO and its dimensions.

Because of the specificity of the context, it is important to set the baseline of the multi-dimensional characteristics of the EO in Croatian SME-s. Following is the literature review of EO and its dimensions, and the article elaborates further on which roles gender and other demographic factors could potentially have on previously de-

fined concepts. Five hypotheses were developed based on the evaluation of direct and moderating effects gender, work experience (enterprise tenure) and education could have on EO and its dimensions. The research method is explained, followed by hypotheses testing and the presentation of results. The paper concludes with theoretical and managerial implications, limitations, and implications for future research.

LITERATURE REVIEW

Despite many differences in opinions concerning methodological and measurement issues when it comes to observing the EO concept, there is a widespread consensus in the literature that EO has proved to be a very reliable and valid construct (Covin, et al., 2020; Wales, Covin, & Monsen, 2020; Hernández-Linares & López-Fernández, 2018; Wales, Gupta, & Mousa, 2013; Covin & Lumpkin, 2011; Wiklund, 1999; Lumpkin & Dess, 1996). As elaborated in the introduction, EO can be viewed as a firm-level and individual-level concept. Moreover, it can be conceptualized as a uni-dimensional and multi-dimensional construct, as well. In this paper we will adopt Miller (1983) and Covin and Slevin's (1989) view of EO as a uni-dimensional construct consisting of three dimensions: innovativeness, proactiveness and risk taking. Furthermore, for a better understanding of each of these three dimensions we have adopted the definitions provided by Lim and Envick (2013, p. 469), where innovativeness represents *"a firm's tendency to engage in, and support new ideas, novelty, experimentation, and creative process which may result in new products, services, or technological processes"*. Proactiveness is viewed as *"taking initiatives by anticipating and pursuing new opportunities and by participating in emerging markets*". Risk taking is understood as *"incurring heavy debt or making large resource commitments by seizing opportunities in the market place in the interest of high returns*".

Similarly, to EO, female entrepreneurship has gained significant momentum within the field of management (Ughetto, Rossi, Audretsch, & Lehmann, 2020; Demartini, 2018; Lin, Lu, Hsieh, & Liu, 2018; Khyareh, 2018; Brush & Cooper, 2012) sparked by an increasing number of women starting their own business ventures (Martínez-Rodríguez, Quintana-Rojo, Gento, & Callejas-Albinana, 2022; Ennis, 2019). Research findings have not been consistent when observing gender differences related to the performance of male vs. female owned businesses (Ughetto, Rossi, Audretsch, & Lehmann, 2020; Demartini, 2018). Moreover, research findings focused on investigating gender differences provided somewhat ambiguous and contradicting results where some researchers have established gender differences in respect to entrepreneurial intention (Neneh, Van Zyl, & Van Noordwyk, 2016; Goktan & Gupta, 2015; Lim & Envick, 2013), however the others have not (Expósito, Sanchis-Llopis, & Sanchis-Llopis, 2022).

There is still debate in scholarly literature as to whether gender affects EO as various researchers have not found any significant differences that gender explains variations in EO at all (Fellnhofer, Puumalainen, & Sjögrén, 2016; Runyan, Huddleston, & Swinney, 2006). On the other hand, many have found that men have higher levels of EO (Neneh, Van Zyl, & Van Noordwyk, 2016; Goktan & Gupta, 2015) which in turn is the reason why male-led ventures are perceived as being more successful (Lee & Huang, 2018; Bianco, Lombe, & Bolis, 2017). For example, De Vita, Mari and Poggesi (2013) found female entrepreneurs to be less innovative compared to their

male counterparts, and to be less export oriented and less favorable towards expanding their business. On the other hand, Verheul, Van Stel and Thurik (2006) found that female entrepreneurs have a higher inclination towards innovation then men do, however they are less focused on new market developments and growth of the business. Research also suggests that males are more inclined to self-employment than females are (Saridakis, Marlow, & Storey, 2014), implying a higher level of proactiveness.

When directly observing proactiveness as an EO dimension, Jelenc, Pisapia and Ivanusic (2016) and Tan (2008) found that female entrepreneurs actually tend to be more proactive than men, while on the other hand, Arham et al. (2020) determined the opposite results. Many researchers (Baù, Sieger, Eddleston, & Chirico, 2017; Charness & Gneezy, 2012; Minniti & Nardone, 2007) found that male entrepreneurs are more risk-inclined then female entrepreneurs are, or stated differently, that female entrepreneurs are more risk averse then male entrepreneurs. Moreover, Minniti and Nardone (2007) state that risk aversion is one of the main causes why there are significantly fewer female entrepreneurs compared to male entrepreneurs. On the hand, Tan (2008) found that female entrepreneurs are more tolerable to risky ventures compared to men, while Furdas and Kohn (2010) have not found any gender differences towards risk taking among German entrepreneurs. With such conflicting evidence on whether gender has an influence on EO dimensions, there is certainly a need to further explore the relationship between EO and gender in specific contexts. Therefore, we propose the following hypotheses:

H1: Gender has a positive effect on EO, with males having a higher level of EO than females.

H1.1: Gender has a positive effect on innovativeness, with males having a higher level of innovativeness than females.

H1.2: Gender has a positive effect on proactiveness, with males having a higher level of proactiveness than females.

H1.3: Gender has a positive effect on risk taking, with males having a higher level of risk taking than females.

Work experience or firm tenure can be viewed as the knowledge or skill gained in a particular job over time (Kurczewska, Doryń, & Wawrzyniak, 2020), and literature asserts that business experience is one of the vital entrepreneurial characteristics (Bignotti & Le Roux, 2020; Gielnik, Zacher, & Wang, 2018; Politis, 2008). The relationship between work experience and EO is still somewhat ambiguous. Roghoff, Lee and Suh (2004) argue that the owner's experience has an effect on being open towards entrepreneurial actions, that is more proactive. It has also been shown that less experienced entrepreneurs are more willing to engage in the so-called ''entrepreneurial endeavors" while the more experienced entrepreneurs are more relying on their social and human capital (Kautonen, Down, & Minniti, 2014).

However, Lumpkin, Wales and Ensley (2006) show that a firm's ability to generate innovations declines with the passage of time. Simmons (2010) also observed that besides risk-taking, with experience firm owners are less innovative as well. Other researchers (Jelenc, Pisapia, & Ivanusic, 2016) also showed that as firm owners become more experienced, their appetite for riskier projects diminishes. Stated differently, with the accumulation of business experience, and in turn the age, business owners seem to be become more risk-averse and in turn they are less willing to act "entrepreneurially". However, this is still a largely unexplored area which is very context-dependent.

There is a need to further test the character of the relationship between EO and work experience. Thus, we propose the following hypotheses:

H2: Experience has a positive effect on EO.

H2.1: Experience has a positive effect on innovativeness.

H2.2: Experience has a positive effect on proactiveness.

H2.3: Experience has a positive effect on risk taking.

There is however consensus in the scholarly literature that education has a key role in promoting entrepreneurship and developing entrepreneurially-driven actions (Reza, Manurung, Kolmakov, & Alshebami, 2020; Cho & Lee, 2018; Almahry, Sarea, & Hamdan, 2018; Filser & Eggers, 2014; Chen, Su, & Wu, 2012). Besides viewing teaching courses focused on entrepreneurship as vehicles for giving students fundamental skills and knowledge on how to successfully start-up and run their business ventures, such courses also build in learners a positive attitude towards entrepreneurship (Vodă & Florea, 2019). Many scholars (Al-Awlaqi, Aamer, & Habtoor, 2021; Vodă & Florea, 2019; Cho & Lee, 2018; Sajilan, Hadi, & Tehseen, 2015) firmly state that entrepreneurial education and the training programs focused on the development of entrepreneurial skills are strong drivers behind the development of entrepreneurial intentions, entrepreneurial orientation, and in turn entrepreneurial actions. Moreover, Charney and Libecup (2020) found that the individuals with higher levels of education are better equipped to act entrepreneurially and to use modern technology, which in turn makes them more inclined towards innovativeness, risk-taking, and towards starting-up their own ventures. Furthermore, Bae et al. (2014) determined that entrepreneurial education has a much stronger impact on entrepreneurial intention compared to the general business education. Even Miller (1983) observed that education has an important effect on EO of small and medium sized firm owners, while Storey and Wynarczyk (1996) observed that educated firm owners have higher levels of EO compared to those with lower levels of education or with no education at all. However, more recent studies have not confirmed such relationships or have shown inconsistent results (De Mattos & Salciuviene, 2019; Chowdhury, Yeasmin, & Ahmed, 2018; Noguera, Alvarez, & Urbano, 2013). Therefore, we propose to test the following hypotheses:

H3: Education has a positive effect on EO.

H3.1: Education has a positive effect on innovativeness.

H3.2: Education has a positive effect on proactiveness.

H3.3: Education has a positive effect on risk taking.

The widely cited liberal feminist theory argues that main differences in venture performance between men-led ventures and women-led ventures arise due to systematic factors such as lack of relevant education, discrimination, and lack of experience (Pettersson, Ahl, Berglund, & Tillmar, 2017). In fact, it has been found that innovativeness, proactiveness, and risk taking accelerate with the quality of education but also with more business experience an entrepreneur possesses. It is more likely for males coming from a family background where parents previously had some entrepreneurial experiences to start their own business compared to the females with the same family background (Drennan, Kennedy, & Renfrow, 2005).

Within the context of Croatia, Jelenc, Pisapia and Ivanusic (2016) investigated individual entrepreneurial orientation on a sample of Croatian IT firms, and found that younger entrepreneurs are more inclined to risk compared to their older counterparts.

They also found that female entrepreneurs are more proactive compared to their male counterparts, while there are no gender differences when investigating its effects on risk taking and innovativeness. However, current literature does not clearly evidence to what extent the moderating roles of work experience have on EO and its dimensions when interacting with gender. Therefore, we propose to further test the following hypotheses:

H4: Relationship between experience and EO will be moderated so that the relationship will be stronger for women than for men.

H4.1: Relationship between experience and innovativeness will be moderated so that the relationship will be stronger for women than for men.

H4.2: Relationship between experience and proactiveness will be moderated so that the relationship will be stronger for women than for men.

H4.3: Relationship between experience and risk taking will be moderated so that the relationship will be stronger for women than for men.

Bilic, Prka and Vidovic (2011) in their research based on university students found that male graduate students are more entrepreneurially oriented compared to female students, implying a positive relationship between education and EO. Podrug, Vrdoljak Raguz and Dedic (2015) in their research found that Croatian students are more entrepreneurially inclined with the level of the environmental support they receive. Pureta and Pureta (2017) investigated demographic differences among Croatian employees and found that "women think they understand the needs of their users much more than men" and that employees with a higher level of education are considered to be more trustworthy by their coworkers, are capable of making more sound business decisions, and are more intent on establishing their own companies compared to their colleagues with lower levels of education. However, Smaguc (2020), specifically focused on women owners and managers of Croatian ICT firms and observed that there are no entrepreneurship-related gender stereotypes, and that the women's entrepreneurship is possible to develop via making entrepreneurship courses as integral part of the education system. Therefore, this paper will further explore the effects gender and education have on EO and its dimensions. More specifically, the paper will explore direct and moderating effects gender and education have on EO, innovativeness, proactiveness, and risk taking within the context of Croatian SME owners.

H5: Relationship between level of education and EO will be moderated so that the relationship will be stronger for women than for men.

H5.1: Relationship between level of education and innovativeness will be moderated so that the relationship will be stronger for women than for men.

H5.2: Relationship between level of education and proactiveness will be moderated so that the relationship will be stronger for women than for men.

H5.3: Relationship between level of education and risk taking will be moderated so that the relationship will be stronger for women than for men.

RESEARCH METHOD

Sample, variables and measures

The sample has been taken from the database of the Croatian Financial Agency (Fina) where 2000 randomly selected SMEs have been contacted over a two-month period, from December 2019 to January 2020. Out of the data sample, 202 SMEs correctly filled out and replied to an online email questionnaire which constitutes a response rate of 10.1%.

Table 1. Descriptive statistics of sample demographics – part 1

Variable	Frequency	Percentage	Variable	Frequency	Percentage
Gender			Experience		
Male	135	66.83%	<1 year	3	1.49%
Female	67	33.17%	1 – 4 years	19	9.41%
Size			5 – 7 years	20	9.90%
Micro	58	28.71%	>7 years	160	79.21%
Small	87	43.07%	Industry		
Medium	57	28.22%	Agriculture	4	1.98%
Education			Manufacturing	43	21.28%
High school	34	16.83%	Construction	19	9.40%
Bachelor	132	65.35%	Communication/transportation	14	6.93%
MBA/Master	32	15.84%	Retail/wholesale	45	22.27%
Doctorate	4	1.98%	Tourism/hospitality	22	10.89%
			Financial services	55	27.22%

Source: Author

Table 1 depicts descriptive statistics of the sample demographics, where it can be seen that the majority of the respondents (entrepreneurs) are male (67%) compared to females (33%) which goes in line with the previous studies indicating that women tend to be less self-employed compared to men (Saridakis, Marlow, & Storey, 2014). When looking at the educational level of the respondents, based on table 2, more than 80% of both men and women had a bachelor degree or higher. Table 2 provides another interesting insight when observing work experience (tenure within the firm), as both men and women entrepreneurs have a high work experience within the firm, as more than 70% of respondents have spent more than 7 years with their firms, which adds further validity to the findings.

Table 2. Descriptive statistics of sample demographics – part 2

Description	Sample (N, %)	Male (N, %)	Female (N, %)
Education			
High school	34 (17%)	22 (16%)	12 (18%)
Bachelor	132 (65%)	86 (64%)	46 (69%)
MBA/Master	32 (16%)	24 (18%)	8 (12%)
Doctorate	4 (2%)	3 (2%)	1 (1%)
Total	202 (100%)	135 (100%)	67 (100%)

Experience			
<1 year	3 (1%)	1 (1%)	2 (3%)
1 – 4 years	19 (10%)	11 (8%)	8 (12%)
5 – 7 years	20 (10%)	12 (9%)	8 (12%)
>7 years	160 (79%)	111 (82%)	49 (73%)
Total	202 (100%)	135 (100%)	67 (100%)

Source: Author

EO was measured using Covin and Slevin's (1989) 7-point Liker-type scale questions assessing innovativeness, proactiveness, and risk-taking. EO as a dependent unidimensional variable has a mean of 4.33, a standard deviation of 1.21, and a Cronbach's α value of 0.779. Each of the EO dimensions have been further tested as dependent variables, as well. Innovativeness has a mean of 4.59, a standard deviation of 1.50, and a Cronbach's α value of 0.831, proactiveness has a mean of 4.64, a standard deviation of 1.41, and a Cronbach's α value of 0.797, while the risk-taking score has a mean of 3.78, a standard deviation of 1.46, and a Cronbach's α value of 0.840. Gender, experience and education, as independent variables, have been coded in a following way. Gender as a dummy variable with 0 = female, while 1 = male; experience as: 1 = less than one year, 2 = one to four years, 3 = five to seven years, and 4 = more than seven years; while education as: 1 = secondary school and lower, 2 = university diploma, 3 = master/MBA diploma, and 4 = PhD diploma. In order to provide additional robustness to the results, firm size and industry have been used as control variables. Firm size has been classified according to the EU's definition of SME, and coded as: 1 = micro, 2 = small, and 3 = medium sized firm. While on the other hand, industry has been classified according to the Croatian Chamber of Economy and coded as: 1 = agriculture, 2 = manufacturing, 3 = construction, 4 = communication and transportation, 5 = retail and wholesale, 6 = tourism and hospitality, and 7 = financial services sector.

Analysis

To test the causality between independent and dependent variables, linear regression analysis has been used iteratively, where independent variables have been mean centered with the purpose of improving the interpretability of results and especially considering the moderation effects. Moreover, to provide further robustness to the results, Durbin-Watson statistic, maximum Cook's distance, and variance inflation factors (VIF) have been calculated where all of the mentioned outputs were well below the critical values. Furthermore, a nonresponse and common method bias analysis have been conducted with the conclusion that it is not a concern in this study.

Results

Table 3 presents the results of the independent sample t-test concerning gender differences on EO and on each of the three EO's dimensions. Results indicate that there are significant gender differences regarding EO and proactiveness, while there are no differences for innovativeness and risk taking. More precisely, results show that male entrepreneurs are more entrepreneurially oriented ($T = -2.28$, $P < 0.05$) and are more

proactive (T = -2.29, P < 0.05) than their female counterparts which is in line with the prior studies which showed that men are more inclined towards taking entrepreneurially-oriented actions (Lee & Huang, 2018; Bianco, Lombe, & Bolis, 2017), and are more proactive (Arham, Norizan, Muslim, & Aksan, 2020). On the other hand, results indicate no significant gender differences in the level of innovativeness and risk-taking which is contradictory to several previous studies (Baù, Sieger, Eddleston, & Chirico, 2017; De Vita, Mari, & Pogessi, 2013; Charness & Gneezy, 2012; Minniti & Nardone, 2007).

Table 3. Gender differences in EO and EO dimensions, n = 202

	Mean		T-test for equality of means			95% Confidence interval of the mean difference	
	Males	Females	Mean difference	T-value	P-value	Lower	Upper
EO	4.47	4.06	0.41	-2.28	.023*	-0.766	-0.056
Innovativeness	4.71	4.33	0.38	-1.71	.088	-0.827	0.057
Proactiveness	4.80	4.32	0.47	-2.29	.023*	-0.890	-0.068
Risk taking	3.90	3.53	0.37	-1.70	.090	-0.800	0.058

Notes: *P < 0.05; **P < 0.01.

Source: Author

Table 4 depicts the results of the correlation analysis between all of the observed variables in all four models, where correlation coefficients range from -.279 to .862. Statistically significant correlation coefficients important for this research are between the following dependent and independent variables: gender and EO (r = .160), gender and proactiveness (r = .160), experience and EO (r = -.200), experience and innovativeness (r = -.151), experience and risk taking (r = -.279), and education and risk taking (r = .144).

Table 4. Means, SDs, and correlations, n = 202

	Mean	S.D.	1	2	3	4	5	6	7	8	9
1. EO	4.33	1.21	1.00								
2. Innovativeness	4.59	1.50	.862**	1.00							
3. Proactiveness	4.64	1.40	.850**	.656**	1.00						
4. Risk taking	3.78	1.46	.787**	.486**	.480**	1.00					
5. Industry	4.67	1.94	.032	.015	-.023	.086	1.00				
6. Firm size	1.99	0.75	.074	.085	.107	-.007	-.278**	1.00			
7. Gender	0.66	0.47	.160*	.120	.160*	.120	-.117	.065	1.00		
8. Experience	3.66	0.70	-.200**	-.151*	-.066	-.279**	.005	.043	.116	1.00	
9. Education	2.02	0.63	.117	.107	.039	.144*	.212**	.072	.066	-.154*	1.00

Notes: *P < 0.05; **P < 0.01.

Source: Author

Table 5 illustrates the results of the linear regression analysis for all four observed models, where the dependent variable in model 1 is EO, innovativeness in model 2, proactiveness in model 3, and risk taking in model 4. As it can be observed from table 5, there is enough evidence to support hypothesis 1 ($\beta = .175$, $P < 0.05$), and sub-hypothesis H1.3 ($\beta = .139$, $P < 0.05$). Put simply, it has been shown that gender has a positive effect on EO and risk taking, with males having a higher level of EO and risk taking than females, respectively. On the other hand, there is not enough evidence to support hypothesis 2, hypothesis 3, and hypothesis 4, nor their respective sub-hypotheses. However, there is sufficient evidence to support hypothesis H5 ($\beta = -.153$, $P < 0.05$), sub-hypothesis H5.1 ($\beta = -.150$, $P < 0.05$), and sub-hypothesis H5.2 ($\beta = -.149$, $P < 0.05$). There is also no evidence to support sub-hypothesis H5.3. Therefore, it is suggested that the relationship between the level of education and EO will be moderated so that the relationship will be stronger for women than for men. Furthermore, the same moderation effect exists for the relationship between education and innovativeness, and education and proactiveness, respectively.

Table 5. Multiple regression analysis

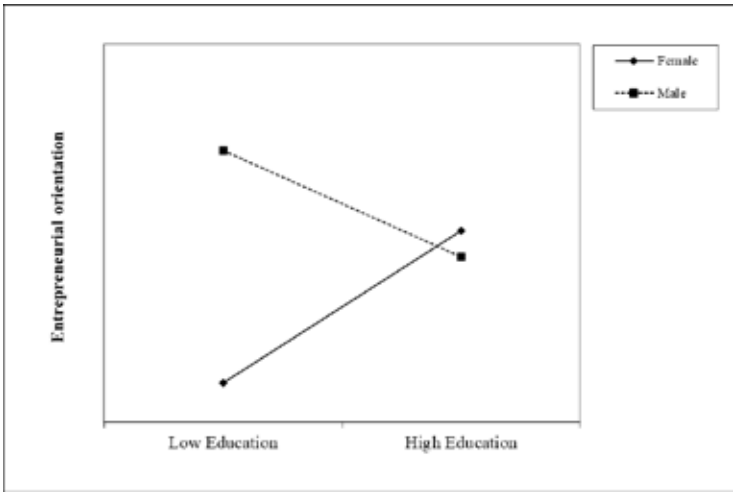
Variables	Model 1: EO		Model 2: Innovativeness		Model 3: Proactiveness		Model 4: Risk-taking	
	β	S.E.	β	S.E.	β	S.E.	β	S.E.
Controls								
Industry	.097	.040	.054	.059	.043	.055	.110	.055
Firm size	.068	.098	.096	.145	.112	.136	.019	.137
Direct effects								
Gender	.175*	.159	.094	.235	.120	.221	.139*	.222
Experience	-.213**	.105	-.174*	.156	-.088	.146	-.271**	.147
Education	.061	.117	.066	.173	.014	.162	.075	.163
Moderation effects								
Gender x Experience	.053	.206	-.011	.304	.050	.285	.082	.287
Gender x Education	-.153*	.246	-.150*	.363	-.149*	.340	-.038	.343
Model stats								
R-squared	.123**		.076*		.067*		.125**	
Adj.R-squared	.092**		.042*		.034*		.093**	
D-W	2.167		2.132		2.113		2.089	
VIF	<1.2		<1.2		<1.2		<1.2	
Max Cooks	.046		.104		.083		.042	

Notes: *P < 0.05; **P < 0.01.

Source: Author

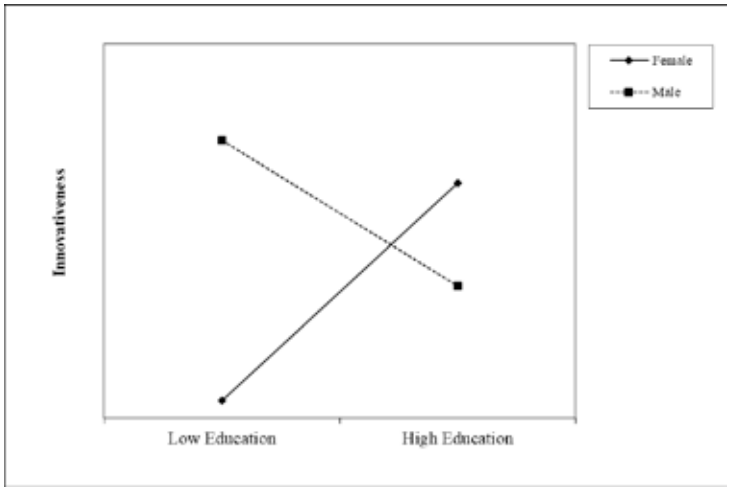
Figures 1, 2 and 3 provide further evidence to the previously stated moderation effects of gender on the education to EO relationship, education to innovativeness, and education to proactiveness relationships. Furthermore, figure 4 also depicts the non-existence of the moderation effect that gender plays on the relationship between education and risk taking.

Figure 1. Interaction between gender, education, and EO



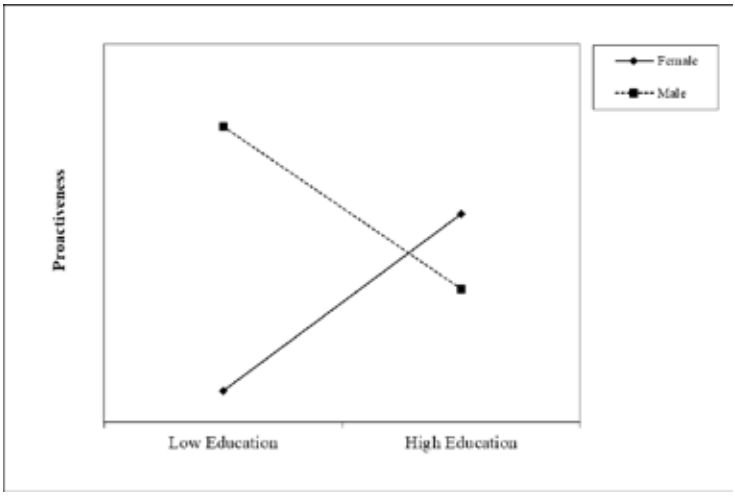
Source: Author

Figure 2. Interaction between gender, education, and innovativeness



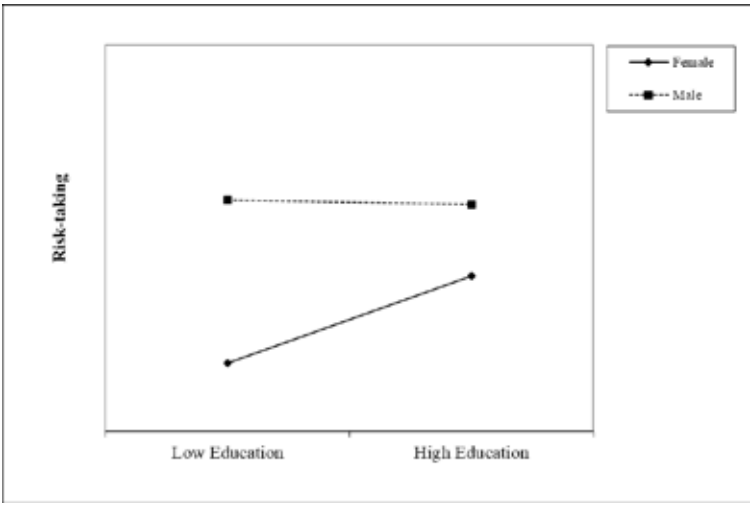
Source: Author

Figure 3. Interaction between gender, education, and proactiveness



Source: Author

Figure 4. Interaction between gender, education, and risk taking



Source: Author

CONCLUSIONS - DISCUSSION OF SIGNIFICANT FINDINGS

Over the last few decades, the topic of entrepreneurial orientation (EO) has greatly occupied scholars within the fields of management and entrepreneurship. The same can be said for female entrepreneurship topics. The literature provides an abundance of studies focused on exploring various facets of EO within many contextual circumstances and in interactions with numerous organizational variables stemming from both internal and external organizational environments (Covin, et al., 2020; Wales, Covin, & Monsen, 2020; Al Issa, 2020; Santos, Marques, & Ferreira, 2020; Kraus, Breier, Jones, & Hughes, 2019; Hernández-Linares & López-Fernández, 2018; Kollmann,

Stöckmann, Meves, & Kensbock, 2017). The topic of female entrepreneurship has received no less attention (Martínez-Rodríguez, Quintana-Rojo, Gento, & Callejas-Albinana, 2022; Ojong, Simba, & Dana, 2021; Ughetto, Rossi, Audretsch, & Lehmann, 2020; Demartini, 2018). In line with global research endeavours, several such studies within these two fields have been conducted in Croatia as well (Moric Milovanovic, Opačak, & Bubaš, 2021; Vrdoljak Raguz, 2020; Plazibat & Renko, 2020; Smaguc, 2020; Pureta & Pureta, 2017; Gasic, 2014; Jelenc, Pisapia, & Ivanusic, 2016; Bilic, Prka, & Vidovic, 2011; Moric Milovanovic, Bubas, & Mikic, 2021). This study further contributes to the development of these fields by merging them to explore the direct and moderating effects entrepreneurs' demographic characteristics (gender, work experience, and education) have on EO and its dimensions.

The results of this study began with the observation that the majority of the entrepreneurs as respondents are male which goes in line with the previous studies indicating that women tend to be less self-employed compared to men (Saridakis, Marlow, & Storey, 2014). Moreover, the results indicated significant gender differences regarding EO and proactiveness, but there were no gender differences found for innovativeness and risk taking. More precisely, results showed that male entrepreneurs are more entrepreneurially oriented and are more proactive than their female counterparts which is in line with prior studies which showed that man are more inclined towards perusing entrepreneurially oriented actions (Lee & Huang, 2018; Bianco, Lombe, & Bolis, 2017); and are more proactive (Arham, Norizan, Muslim, & Aksan, 2020). On the other hand, results indicated no significant gender differences in the level of innovation and risk taking which is contradictory to several previous studies (De Vita, Mari, & Pogessi, 2013; Baù, Sieger, Eddleston, & Chirico, 2017; Charness & Gneezy, 2012; Minniti & Nardone, 2007). Furthermore, results demonstrated that gender has a significant and direct effect on EO, and on risk taking as a dimension of EO. These findings are in line with the previous results determined by Minniti and Nardone (2007). However, there are no significant effects of gender on innovativeness and proactiveness which is somewhat contradictory to the findings of Verheul, Van Stel and Thurik ((2006) and Jelenc, Pisapia and Ivanusic (2016), respectively.

Another interesting finding of this study is the direct effect of work experience on EO, in that it has been shown that experience has a significant direct effect on EO, innovativeness and risk taking, but not on proactiveness. However, these direct effects are all negative in nature meaning that as entrepreneurs are becoming more experienced, they are less entrepreneurially oriented, less innovative, and more risk averse. These findings are somewhat surprising and in contradiction with the earlier findings (Neneh, Van Zyl, & Van Noordwyk, 2016). When observing moderation effects, results showed that there is no interaction effect gender has on the relationship between experience and EO, nor between experience and each of EO's dimensions. On the other hand, results did confirm moderations effect gender has on the relationships between level of education and EO, innovativeness and proactiveness, where these relationships are moderated as such that the relationships are stronger for women than for men. These findings are very interesting since they further validate previous findings (Moric Milovanovic, Opačak, & Bubaš, 2021; Neneh, Van Zyl, & Van Noordwyk, 2016; Lim & Envick, 2013) that placed significance on the importance education has on the success of female entrepreneurs. Therefore, findings of this study give strong

evidence of how important educational programs tailor-made for women are and how beneficial they are for the development of successful female entrepreneurs.

Many authors (Franzke, Wu, Froese, & Chan, 2022; Bhat & Singh, 2018) note that tailor-made educational programs for women focused on entrepreneurship could significantly help female entrepreneurs develop their business skills and competencies and more importantly further develop their entrepreneurial careers. Entrepreneurial educational programs which differ from standardized business studies could incentivize women to pursue self-employment (Khyareh, 2018). It has been noted that by equipping them with lifelong skills, such as entrepreneurial spirit, technology skills, creativity and critical thinking needed for the creation of innovative solutions, it would lead to the creation of new jobs, and in turn accelerate economic development (Martínez-Rodríguez, Quintana-Rojo, Gento, & Callejas-Albinana, 2022; Ennis, 2019). Such tailor-made programs could also focus more on the development of so-called "female characteristics" required for business success such as paying more attention to the relationships with the clients and customers, than to sole venture performance and profit-making activities. Moreover, such programs should provide "real world" practical experiences for their students which could later serve female entrepreneurs to better recognize and seize profit-making opportunities. Such programs could also incorporate digital technologies in their curriculums with the aim to enable women who lack "traditional entrepreneurial" resources to set up their business ventures (Ughetto, Rossi, Audretsch, & Lehmann, 2020).

This study has several limitations. One of its main limitations is the design of the study which focused on collecting information from only one respondent within the firm at a single point in time. Such an approach opens up to subjective bias since the results have not been further validated by a set of objective measures, nor by the use of triangulation approach. Therefore, future studies could explore obtaining the views and opinions from several actors within the sample firms and throughout a longer period of time. Moreover, future studies could focus specifically on female entrepreneurs and therefore further contribute to the understanding of specific nuances surrounding female entrepreneurs. Nevertheless, besides the stated limitations, by stressing the importance of education, this study brings considerable value to the fields of entrepreneurial orientation and female entrepreneurship within a small and open economy such as Croatia. With that in mind, results of this study invite policy makers and educators to further develop educational and training programs to better suit the need of female entrepreneurs in order to increase the participation of women in the entrepreneurial process.

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