Does gender matter for corporate entrepreneurship? A cross-countries study

Linda Elizabeth Ruiz[ID] · **José Ernesto Amorós**[ID] ·
Maribel Guerrero[ID]

Abstract The accumulated knowledge about corporate entrepreneurship has provided a better understanding of its antecedents and consequences. Corporate entrepreneurship activities are strongly related to incremental or disruptive innovation processes. However, academic debates demand a novel conceptual framework to understand the gendered workforce's contribution to corporate entrepreneurship initiatives worldwide. This study hypothesizes that a gendered workforce has similar capabilities (skills, ability to detect opportunities, and networks) to engage in corporate entrepreneurship. Therefore, any gender differences could be explained by the influence of country-level conditions (gender equality levels, culture, and social norms). We tested these hypotheses with a sample of 50,550 employees from 50 countries. Our results support these hypotheses extending the corporate entrepreneurship literature and provoking an interesting discussion to academics, managers, employees, and policymakers.

Plain English Summary This research analyzes women employees that act as corporate entrepreneurs. To understand why some women (and men) undertake entrepreneurial endeavors inside established organizations, we inquire about factors like the role of gender, individual capabilities, and institutional factors such as inequality levels and culture that shape corporate entrepreneurship activities. Our main findings suggest that disparity between men and women (gender inequality) reduces the development of corporate entrepreneurship for women but also men. We also found there are differences in the activity between genders. We call to continue working to reduce gender inequalities, at the national and corporate level, and to those in charge of organizations to promote the entrepreneurial behavior of women and men.

L. E. Ruiz
Escuela de Negocios, Tecnológico de Monterrey,
Monterrey, México
e-mail: linda.ruiz@tec.mx

J. E. Amorós
EGADE Business School, Tecnológico de Monterrey, Cd.
De México, México, México
e-mail: amoros@tec.mx

J. E. Amorós · M. Guerrero
Facultad de Economía y Negocios, Universidad del
Desarrollo, Santiago, Chile

M. Guerrero (✉)
Northumbria Centre for Innovation Regional
Transformation and Entrepreneurship (iNCITE),
Newcastle Business School, Northumbria University,
Newcastle upon Tyne, UK
e-mail: maribel.guerrero@northumbria.ac.uk

1 Introduction

Corporate entrepreneurship literature has highlighted the relevant contributions to organizational performance (Guth & Ginsberg, 1990; Simsek & Heavey, 2011). It is because corporate entrepreneurship is strongly related to entrepreneurial, incremental, or disruptive innovation processes (Dunlap-Hinkler et al., 2010). Google, 3M, Eli Lilly, among other companies, have adopted corporate entrepreneurship as a core strategy for their businesses (Finkle, 2012). However, these organizations have affirmed that superior corporate results also involve hiring, retaining, and developing a talented workforce (Cabral et al., 2020). Additionally, these organizations have paid particular attention to diversity and inclusion policies within their workplaces. While gender has been studied extensively at individual entrepreneurship activities, little is known about the effect of gender on corporate entrepreneurship (Guerrero, 2022) despite the increase in the proportion of skilled women among professionals (Elam et al., 2021; World Economic Forum, 2021).

By considering the theoretical foundation of the social/liberal feminist approaches, this study assumes that both women and men have similar corporate entrepreneurship capabilities; potential differences should be explained by country-level conditions (Fischer et al., 1993; Pettersson et al., 2017). For example, gender equality refers to women and men having the same opportunities, conditions, and treatments to develop and participate in different activities (UNICEF, 2017). Gender equality, related to general entrepreneurship activities, may result in similar opportunities for women and men to explore/exploit innovative ideas (Jennings & Brush, 2013). Therefore, differences in corporate entrepreneurship require a better analysis of the country context that influences individuals placed in different levels of gender equality. National policies influence the design and implementation of organizational strategies. Here, country-level determinates organizations' gender-oriented strategy, including corporate entrepreneurship. Previous research has noted how gender equality policies affect organizational outputs (Swaab & Galinsky, 2015). However, countries with higher gender equality rates show a significant gender gap in independent entrepreneurial activity; this circumstance may be related to policies and mechanisms that support women's engagement in formal employment (Klyver et al., 2013). Apparently, under these conditions, we may expect women to remain in the workplace and develop their entrepreneurial behavior in corporate environments (Thébaud, 2015). In addition, norms and cultural beliefs could impose stereotypes on women's performance and career choices (Foss et al., 2013; Yousafzai et al., 2015). Besides, previous studies have found that culture influences employees' engagement in entrepreneurial activities within organizations (Gómez-Haro et al., 2011). Accordingly, it remains unclear how different levels of equality at the country-level impact women's and men's entrepreneurial behavior under a corporation.

Inspired by this academic debate and considering the feminist theory approach, we propose a conceptual framework that is tested with a multilevel regression showing how reducing gender inequalities at the country level enhances female and male participation in corporate entrepreneurship. The results also provide insights into the positive effect of gender equality in labor that improve women's participation (and men's) in corporate entrepreneurship activities. The study contributes to the entrepreneurship literature by extending the knowledge about the relevance of gender within organizations oriented towards entrepreneurship (Marlow, 2020). The discussion provides implications for academics, managers, employees, and policymakers.

2 Literature Review

2.1 Theoretical Foundations

Corporate entrepreneurship is an entrepreneurial activity that occurs within established organizations based on the strategical goal of transforming or renewing the core business (Guth & Ginsberg, 1990). The accumulated literature about corporate entrepreneurship has provided a better understanding of its antecedents and consequences (Kreiser et al., 2019; Kuratko et al., 2015). Indeed, research studies have found that organizations that promote corporate entrepreneurship activities are more innovative and competitive (Guerrero & Peña-Legazkue, 2013, 2019), create more jobs, provide benefits to societies (Mason & Brown, 2013), hire/retain employees with entrepreneurial skills, and support employees' initiatives (Foba & De Villiers, 2007).

Entrepreneurship literature has highlighted the employees' passion for participating in

entrepreneurial initiatives (Hubner et al., 2019). Although the insights about gendered entrepreneurship (Bruton et al., 2010; Stam, 2013), we should recognize that majority of literature focused on independent entrepreneurship that differs from corporate entrepreneurship at (a) individual dimensions (risk-aversion, motivations, leadership styles), (b) organizational dimensions (investments under the umbrella of the employer), and (c) contextual dimensions (male-dominated environments vs. gender-balanced environments). Consequently, the entrepreneurship literature demands a novel conceptual framework to understand the women and men's contribution to corporate entrepreneurship initiatives worldwide. We assume similarities and differences in corporate entrepreneurship engagement per gender by adopting social/liberal feminists' approaches (Calás et al., 2009).

The feminist social view of corporate entrepreneurship assumes that gender differences are constructed by the workforce's sociodemographic characteristics (Pettersson et al., 2017). Women and men are not similarly engaged in corporate entrepreneurship due to structural barriers and discriminative behaviors observed within organizations or countries (Fischer et al., 1993). According to Luksyte et al. (2018), innovation processes have been ascribed to men than women workers. In this assumption, male workers are more achievement and assertive than female workers who are supportive and empathetic (Diekman & Eagly, 2000). The substantial gender entrepreneurial differences are explained through psychological traits like risk-taking propensity and self-confidence (Adachi & Hisada, 2017). Consequently, women workers are considered not as entrepreneurial as men workers.

The feminist liberal view of corporate entrepreneurship assumes that both women and men have similar capabilities to detect innovative ideas and get the resources to exploit them (Foss et al., 2013). In this view, gender differences in corporate entrepreneurship could be associated with structural systems (i.e., organizational and country contexts). In this vein, Turro et al. (2020), who analyzed gender differences in corporate entrepreneurship, concluded that the glass-ceiling effect might prevent women from developing as corporate entrepreneurs.

Consequently, normative and structural organizational factors explain gendered bias in innovation and entrepreneurship processes (Alsos et al., 2013). Likewise, gender differences are due to cultural and social norms and a lack of equality legislation (Orser et al., 2010).

In this study, we assumed the conceptual foundations of the feminist social view to explain that country-level forms conditioned gender differences in corporate entrepreneurship. At the same time, we considered the feminist liberal view's conceptual foundations to assume no gender differences at the individual-level characteristics. The Appendix Tables 5, 6 and 7 summarizes our arguments.

2.2 Proposed Model and Hypotheses

2.2.1 A Gendered Social View of Corporate Entrepreneurship at the Country Level

Gender equality promotes economic growth and social development (Robb & Watson, 2012). Gender equality represents that, independently of gender, all individuals have access to similar education, labor, and socio-economic conditions (Millan et al., 2014). However, prior studies have recognized that gender equality varies across countries by the absence/existence of promoting inclusion and equality within workplaces (Dezsö & Ross, 2012; Ladge et al., 2018). Although the substantial governments' efforts by establishing policies that promote equal rights of women in the workplace, there are still existing environments with high inequality levels that may significantly affect women's corporate entrepreneurial activity (Estrin & Mickiewicz, 2011). Consequently, gender bias in entrepreneurship against women is strongly related to the lack of gender equality gaps within workplaces (Luksyte et al., 2018; Lyngsie & Foss, 2017). The participation of women in the labor market has been recognized as important for the economic development of regions. It contributes to building more diverse, inclusive, and innovative organizations (World Economic Forum, 2021)

In this regard, we assume that organizational teams' innovative behaviors are more attributable to men workers than women workers (Luksyte et al., 2018; Zuraik et al., 2020). Several authors suggested examining gender differences through macro-level factors (Arenius & Minniti, 2005; Thébaud, 2015; Verheul et al., 2006). Based on these arguments, we propose the following hypothesis.

Hypothesis 1: The country's higher equality rates increase the likelihood of workforces' engaging in corporate entrepreneurship. Therefore, it is expected a stronger effect on women workers than men workers in countries with higher levels of equalities.

Culture and social norms are particularly relevant when analyzing the workforce's entrepreneurial behaviors (Shane, 1993). Previous studies have found that cultural and social norms cause gender differences in corporate entrepreneurship (Kleven & Landais, 2017). By adopting Hofstede's measurement, masculine cultures vs. feminine cultures differ in risk-taking and proactive behaviors (Huggins & Thompson, 2016; Kreiser et al., 2010). There are still stereotypes that male workers are more risk-takers than female workers to achieve corporate entrepreneurship (Hayton et al., 2002; Taylor & Wilson, 2012). Even though culture is considered a good determinant of entrepreneurship, we assume the effect of culture on the employees' entrepreneurial behavior varies from a gender perspective (Barnett & Hyde, 2001). In this regard, we propose the following hypothesis:

Hypothesis 2: The country's favorable social perceptions of entrepreneurship increase the likelihood of workforces' engaging in corporate entrepreneurship. Therefore, it is expected to have a stronger effect on women workers than men workers in countries with lower social stereotypes.

2.2.2 A Gendered Liberal View of Corporate Entrepreneurship at the Individual Level

Entrepreneurship skills combine knowledge, attitudes, and skills necessary to identify, create, and exploit business opportunities. In the corporate entrepreneurship literature, Guerrero and Peña-Legazkue (2013, 2019) introduced a new measure of human capital called the intrapreneurial experience representing skills/knowledge acquired by employees during corporate entrepreneurship initiatives. We assume that the workforce's innovative behaviors and work values are similar when the organization promotes equality and diversity (Foss et al., 2013; Malach-Pines & Schwartz, 2008). Hence, we suggest the following hypothesis:

Hypothesis 3: The workforce's entrepreneurial skills increase the likelihood of developing corporate entrepreneurship. Therefore, it is expected a similar effect from women workers and men workers.

Fear of failure has been associated with entrepreneurial activities (Guerrero & Peña-Legazkue, 2019). It has been considered a type of barrier to entrepreneurial activity (Cacciotti & Hayton, 2015). Guerrero and Peña-Legazkue (2019) found that employees with corporate entrepreneurship experience are more likely to enroll in corporate entrepreneurship after a business failure. Consequently, high-risk tolerance is associated with entrepreneurial activity (Shinnar et al., 2012). Although risk-taking contributes to gender differences in entrepreneurship rates (Shahriar, 2018; Wagner, 2007), authors suggest that men and women workers have more risk-taking similarities than differences (Douglas & Fitzsimmons, 2013; Nelson, 2015).

Marlow and Swail (2014) suggested that different external elements could cause gender-related differences in tolerance for risk-taking. Therefore, we assume a similar workforce's risk-taking effect on their engagement in corporate entrepreneurship activities. In this regard, we propose the following hypothesis:

Hypothesis 4: A higher workforce's tolerance for failure increases their likelihood of developing corporate entrepreneurship activities. Therefore, it is expected a similar effect from women workers and men workers.

Entrepreneurial employees' networking benefits their engagement in corporate entrepreneurship activities (Klyver et al., 2008; Sullivan & Marvel, 2011). Employees' networks help access financial and human resources and relevant information about industries and markets necessary to identify corporate entrepreneurship (Seibert et al., 2001). Although prior studies have reported inconclusive differences in gendered workforces' networking contributions (Klyver & Grant, 2010; Manolova et al., 2007), we assume fewer differences between the contribution of men's and women's networks on corporate entrepreneurship (Foss, 2010; Marlow, 2020). In this assumption, established networks reinforce employees'

entrepreneurial behavior inside organizations for both men and women. In this regard, we propose the following hypothesis:

Hypothesis 5: The workforce's established networks increase their likelihood of developing corporate entrepreneurship. Therefore, it is expected a similar effect from women workers and men workers.

Opportunity recognition represents the ability to detect an opportunity that can be converted into an entrepreneurial initiative (Stainback et al., 2016; Welter & Smallbone, 2011). The detected workforce's opportunities motivate the development of innovative products/services (Davis et al., 1991), and this strategy gives them a significant competitive advantage (Nicolaidis & Kosta, 2011). Although some studies recognized gender differences in detecting opportunities (DeTienne & Chandler, 2007), we assume that women and men have similar capabilities to identify opportunities (Foss et al., 2013). Therefore, both genders behave the same and the bias can be explained by social stereotypes (Gupta et al., 2014) or dynamic environmental conditions (Baron & Tang, 2011). Therefore, we suggest the following hypothesis:

Hypothesis 6: The workforce's opportunity perceptions increase their likelihood of developing corporate entrepreneurship. Therefore, it is expected a similar effect from women workers and men workers.

3 Method

3.1 Data Collection

We used the 2015 Adult Population Survey (APS) from the Global Entrepreneurship Monitor (GEM) consortium, including information about individuals from 50 countries. Because APS variables identify employees' entrepreneurial behavior (Bosma et al., 2013), it is a good proxy for corporate entrepreneurial activities. We also used the National Expert Survey (NES) from GEM to identify variables that may support or constrain entrepreneurial activity in a country. Also, we matched information from the World Bank, the United Nations' Human Development

Reports, and the latest Hofstede studies (2010). Data from these databases provided important insights that enriched our understanding of the phenomena from a global perspective. Our final sample consisted of 50,550 employees who worked part-time or full-time jobs were not independent entrepreneurs and was involved in innovative projects during the last 3 years.

3.2 Variables

Following an approach used by previous studies (Bosma, 2013), the dependent variable *corporate entrepreneur (CE)* is operationalized as a binomial variable. A value of one indicates that an employee has worked in innovative projects in an organization and zero otherwise.

Three independent variables were included in our analysis to capture gender conditions at the country level. First, the *perception of cultural and social norm*s was obtained from the National Expert Survey (NES). This variable captures the perception of support for entrepreneurial activity (Bosma, 2013). Second, Hofstede's studies obtained the *masculinity/ femininity* variable (Hofstede et al., 2010). The variable measures how strongly masculine values lean toward achievement, competition, and success. It also captures how strongly feminine values refer to caring for others and their quality of life. Third, the *inequality* variable was obtained from the United Nations' dataset. It captures gender inequalities based on three factors, reproductive health, empowerment, and the labor market; ranges between 0 and 1 (higher values indicate greater inequality and lower human development) (Gaye et al., 2010).

GEM's information also includes variables at an individual level; these independent variables are helpful for this study (Bosma, 2013). Our analysis incorporates a set of binary variables from this database and used in previous studies, such as *skills* necessary to initiate a new venture (Arenius & Minniti, 2005), *networks* (Ramos-Rodriguez et al., 2010; Turro et al., 2020), *fear of failure* (Boudreaux et al., 2019; Martiarena, 2013), and *opportunity recognition* (Martiarena, 2013).

We also included a set of control variables. *Per-capita GDP*, which measures the value of goods and services produced annually, is a proxy for a country's income and economic development. Researchers have used GDP to control country differences

(Beugelsdijk & Noorderhaven, 2005; Boudreaux et al., 2019). Because individuals' income differences may stimulate entrepreneurial activities, we decided to include this variable (Arenius & Minniti, 2005; Fu et al., 2018). Other factors that influence entrepreneurial behavior are *age* (Parker, 2011) and *education* (Guerrero et al., 2021a). Finally, we also included the *ratio of female entrepreneurial activity* to capture a country's entrepreneurship gap (measures the ratio of female to male total entrepreneurship activity). Table 1 summarizes the variables included in the analysis.

3.3 Statistical Tests

A logit hierarchical regression analysis was used due to the binary nature of independent and dependent variables at the employee and country levels. Álvarez et al. (2014) describe that this type of analysis is well suited when using the GEM database. The model analyzes how covariates at the different employee and country levels affect the outcome. After an ICC (intraclass correlation coefficient) was calculated to assure the use of multilevel analysis, three separate models (one for women and one for men, and one including gender as a variable) were tested. Also,

Table 1 Description of variables

Variable	Description	Source
Dependent variable		
CE-Corporate entrepreneur	A binary variable indicates if men or women are active as corporate entrepreneurs during the past three years. The base is the employee population.	GEM APS (2015)
Independent variables at the individual level		
Skills	An individual who has the necessary skills, knowledge, or experience to start a business. It equals one if they have these skills and 0 if they do not.	GEM APS (2015)
Networks	This variable is operationalized as follows "Do you know someone personally who started a business in the past two years?" It equals 0 if they do not and one if they do.	GEM APS (2015)
Fear of failure	This variable refers to the perception that fear of failure would prevent an individual from starting a business. It equals 0 if they do not feel this way and one if they do.	GEM APS (2015)
Opportunity	The opportunity to do business in their living area. It equals one if yes and 0 if no.	GEM APS (2015)
Independent variables at the country level		
Cultural and social norms	It reflects the opinion of entrepreneurial experts about cultural and social support for entrepreneurial activity. The higher the number, the higher the support level.	GEM NES (2015)
Masculinity	It ranges from 0 to 100, where higher scores represent the highest masculine cultures and the lowest ones represent feminine cultures.	Hofstede et al. (2010)
Inequality	It ranges from 1 to 10, which reflects the disparity between men and women. The higher the number, which ranges from 0 to 1, the higher the inequality level.	United Nations (2015)
Control variables		
GDP (per capita)	The gross domestic product of a country is divided by its total population in US dollars.	World Bank (2015)
Incoming	Household income is divided into thirds (the lowest 33.3%, the middle 33.3%, and the highest 33.3%).	GEM APS (2015)
Education	Ranges from 0 to 4, where 0 i "non", 1 i "some secondary", 2 i "secondary", 3 i "post-secondar", and 4 i "graduat".	GEM APS (2015)
Female/male ratio	The TEA (total entrepreneurship activity) ratio of female respect to male.	GEM APS (2015)

robustness checks were implemented to confirm the findings.

4 Results

4.1 Descriptive Statistics

Table 2 describes the complete sample and the sub-samples of women and men. The average age for both men and women is 40 years, and most employees achieved either a secondary degree (37%) or a post-secondary degree (36%). About 45% of the employees had considered starting a new venture in the city where they live. By gender, 39% of women perceived this opportunity, compared with 42% for men. While most employees felt they had the required skills to start a business (51%), the specific breakdown was 56% for men versus 45% for women.

Table 3 shows the correlations analysis. We calculated both samples' variance inflation factors to confirm data and exclude any possible multicollinearity

issues in subsequent analyses. The mean was 1.74, with a maximum value of 3.47 and a minimum of 1.01 for the female model. For men, the mean was 1.63, with a high of 2.76 and a low of 1.01. These values were below the threshold of 10. We then calculated the ICC by running a null model, which assured a multi-level approach was the most appropriate for the analysis. Results showed a variance within 18% of countries for the female group and 20% for the male group. Since these values were above 0.05 (Aguinis et al., 2013), strong evidence favors the multilevel approach.

4.2 A Gendered Workforce's Engagement in Corporate Entrepreneurship

We first run a model with the complete sample and consider gender as an explanatory variable. As gender resulted in statistical significance, we continue running the two split proposed models of women and men. Table 4 describes the results.

At the country-level of analysis, the results showed that the *inequality level variable* was a strong

Table 2 Descriptive statistics

Female					Male				Full sample			
Variable	Mean	Std. Dev.	Min.	Max.	Mean	Std. Dev.	Min.	Max.	Mean	Std. Dev.	Min	Max
CE-corporate entrepreneur	0.115	0.319	0	1	0.149	0.356	0	1	0.135	0.341	0	1
Gender												
Female									0.419	0.493	0	1
Networks	0.353	0.478	0	1	0.403	0.490	0	1	0.409	0.492	0	1
Opportunity	0.385	0.486	0	1	0.412	0.492	0	1	0.427	0.495	0	1
Skills	0.400	0.490	0	1	0.515	0.499	0	1	0.503	0.499	0	1
Fear of failure	0.485	0.499	0	1	0.403	0.490	0	1	0.425	0.494	0	1
Age	3.640	0.403	2.89	6.90	3.632	0.371	2.890	6.906	3.630	0.379	2.890	6.906
Education												
Some secondary	0.134	0.341	0	1	0.155	0.362	0	1	0.143	0.350	0	1
Secondary	0.351	0.477	0	1	0.395	0.488	0	1	0.379	0.485	0	1
Post-secondary	0.381	0.485	0	1	0.311	0.463	0	1	0.336	0.472	0	1
Graduate	0.068	0.252	0	1	0.056	0.231	0	1	0.059	0.235	0	1
Income												
Middle	0.331	0.470	0	1	0.340	0.473	0	1	0.339	0.473	0	1
Upper	0.352	0.477	0	1	0.388	0.487	0	1	0.364	0.481	0	1
GDP	9.757	0.9989	6.355	11.527	9.586	1.061	6.355	11.527	9.542	1.059	6.355	11.527
Cultural norms	2.911	0.500	1.62	4.402	2.907	0.487	1.62	4.401	2.895	0.499	2.006	4.402
Masculine vs. feminine	47.78	19.909	5.00	100	47.48	18.168	5.00	100	46.712	18.778	5.00	100
Inequality	0.209	0.145	0.044	0.621	0.233	0.159	0.042	0.621	0.238	0.159	0.044	0.621
Female/male ratio	0.667	0.208	0.3	1.3	0.690	0.216	0.3	1.3	0.695	0.216	0.3	1.3

Table 3 Correlation matrixes

	1	2	3	4	5	6	7	8	9	10	11	12	13
1. CE male	1												
2. Networks	0.083*	1											
3. Opportunity	0.085*	0.228*	1										
4. Skills	0.083*	0.253*	0.212*	1									
5. Fear of failure	.000	−0.031*	−0.080*	−0.144*	1								
6. Age	−0.013*	−0.079*	−0.058*	0.002	−0.002	1							
7. Education	0.054*	0.012*	0.008*	0.008*	0.004	−0.009*	1						
8. Income	0.093*	0.105*	0.091*	0.104*	−0.032*	−0.005	0.123*	1					
9. GDP	0.095*	−0.150*	−0.085*	−0.149*	0.056*	0.161*	0.135*	0.039*	1				
10. Cultural norms	−0.013*	0.055*	0.110*	0.010*	−0.013*	0.013*	0.029*	0.040*	0.137*	1			
11. Masculine vs. feminine	−0.071*	0.004	−0.058*	0.019*	−0.008*	−0.019*	−0.056*	0.012*	−0.147*	0.002	1		
12. Inequality	−0.096*	0.129*	0.127*	0.169*	−0.095*	−0.155*	−0.124*	−0.025*	−0.871*	−0.002	0.215*	1	
13. Female/male ratio	−0.115*	0.120*	0.046*	0.102*	−0.013*	−0.101*	−0.061*	−0.022*	−0.368*	0.226*	0.075*	0.330*	1

Significance level: *0.05

	1	2	3	4	5	6	7	8	9	10	11	12	13
1. CE Male	1												
2. Networks	0.095*	1											
3. Opportunity	0.098*	0.228*	1										
4. Skills	0.102*	0.253*	0.212*	1									
5. Fear of failure	−0.007	−0.031*	−0.080*	−0.144*	1								
6. Age	−0.012*	−0.080*	−0.058*	0.002	−0.002	1							
7. Education	0.061*	0.012*	0.008*	0.008*	0.004	−0.009*	1						
8. Income	0.138*	0.105*	0.091*	0.104*	−0.032*	−0.005	0.123*	1					
9. GDP	0.134*	−0.150*	−0.085*	−0.149*	0.056*	0.161*	0.135*	0.039*	1				
10. Cultural norms	0.005	0.055*	0.110*	0.010*	−0.013*	0.013*	0.029*	0.040*	0.137*	1			
11. Masculine vs. feminine	−0.087*	0.005	−0.058*	0.019*	−0.008*	−0.019*	−0.056*	0.012*	−0.147*	0.002	1		
12. Inequality	−0.122*	0.129*	0.127*	0.170*	−0.095*	−0.155*	−0.124*	−0.025*	−0.871*	−0.002	0.215*	1	
13. Female/Male ratio	−0.133*	0.120*	0.046*	0.102*	−0.013*	−0.101*	−0.061*	−0.022*	−0.368*	0.226*	0.075*	0.330*	1

Significance level: *0.05

Table 4 Logit hierarchical regression results

Variables	CE female		CE male		Full sample	
	B	SE	B	SE	B	SE
Individual level						
Gender					−0.284***	0.029
Networks	0.482***	0.047	0.511***	0.037	0.504***	0.029
Opportunity recognition	0297***	0.047	0.207***	0.037	0.240***	0.029
Skills	0.726***	0.048	0.646***	0.040	0.675***	0.030
Fear of failure	−0.120	0.046	−0.062	0.037	−0.085**	0.029
Age (Ln)	−0.140***	0.063	−0.103***	0.051	−0.0003**	0.037
Educ. – non (reference)						
Educ. - some secondary	−0.016	0.139	0.246***	0.098	0.196**	0.080
Educ. - secondary degree	0.297***	0.123	0.317***	0.091	0.346***	0.0723
Educ. - post-secondary	0.608***	0.124	0.733***	0.091	0.725***	0.073
Educ. – graduate	0.954***	0.138	1.108***	0.104	1.082***	0.083
Income – lowest (reference)						
Income – middle	0.278***	0.064	0.351***	0.056	0.306***	0.042
Income – upper	0.596***	0.062	0.754***	0.054	0.676***	0.041
Country-level						
GDP	0.030	0.187	−0.009	0.167	−0.014	0.166
Cultural and social norms	0.065	0.169	0.071	0.177	0.083	0.176
Culture: masculine vs. feminine	−0.002	0.005	−0.001	0.005	−0.002	0.004
Inequality	−2.201**	1.098	−2.573**	1.134	−2.557**	1.129
Female ratio	−1.311**	0.451	−1.392**	0.465	−1.350***	0.463
var(_cons[country])	0.320***	0.079	0.369***	0.082	0.375***	0.081
Constant	−2.029	1.775	−1.572	1.8377	−1.213***	−0.66
Observations	21,193		29357		50550	
Number of groups	50		50		50	

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

predictor for corporate entrepreneurship. Regardless of gender, less corporate entrepreneurship occurs in countries with high inequality. Therefore, inequality affects the workforce's involvement in corporate entrepreneurial activity (see Fig. 1 in the appenAppendixgher levels of inequality seem to be related to stronger negative effects for men, so we partially support H1. A plausible explanation is attributed to the lack of gender equality within workplaces (Luksyte et al., 2018; Østergaard et al., 2011). Regarding the *cultural and social norms*, we did not find significant and strong support (H2).

The employee-level analysis showed that the perception of the required *skills* to engage in corporate entrepreneurial activities is significant, partially supporting H3 because of differences between genders. Therefore, both men's and women's entrepreneurial skills contribute to their workplace's entrepreneurship initiatives (Guerrero et al., 2021a; Parker, 2011).
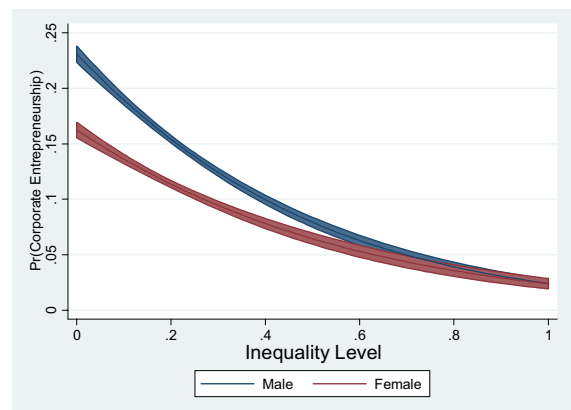
Fig. 1 Marginal plots of the effect of inequality levels on corporate entrepreneurship by gender

However, the results did not provide significant insights into the *fear of failure perception* variable. Therefore, H4 is not supported. Regarding the *workforce's networks*, results show that male and female employees who know other entrepreneurs are more likely to engage in corporate entrepreneurship activities, partially supporting H5. *Concerning the ability to perceive opportunities*, our results show that both male and female employees are likely to engage in corporate entrepreneurship activities, partially supporting H6. Regarding *control variables*, education is significant for male and female corporate entrepreneurial behavior. Employees use their acquired knowledge to detect potential opportunities (Guerrero & Peña-Legazkue, 2013, 2019). Age, while significant for both men and women, is negatively associated with corporate entrepreneurship.

Since the coefficients from the two subsamples are closed, we decided to run a Chow test (Chow, 1960) to review the coefficients' equality from the two models. The Chow test is an econometric test used to evaluate if the regression coefficients are the same between two subsamples. It is the case in this study where we evaluate women's and men's behaviors. In this study, the results after the Chow test were $chi^2 = 150.54$, where the probability did not result significant to accept the null hypothesis of equality of coefficients from both regressions (prob$<chi^2 = 0.0000$). So, it is inferred that are significant differences between women and men. Therefore, we partially support hypotheses 3, 5, and 6.

4.3 Robustness Checks

We included a follow-up analysis to confirm our results (see appenAppendixe first is a linear logistic regression for both men and women, which supports our hypotheses. The positive ability to start a business is significantly related to corporate entrepreneurship for both men and women. Additionally, having access to the right networks and perceiving opportunities benefit both male and female groups in our sample. Our results also show that the two highest levels of education have the greatest significance for both men and women. Secondary education, by contrast, was not significant. The age was not significant in the logistic regression for females but males.

Moreover, as in the hierarchical model, the incoming variable was significant for both groups. The logistical analysis also indicated the importance of inequality levels. The variable of *culture and social norms support* resulted not significant as in the hierarchical analysis. However, the culture variable of Masculinity from Hofstede's studies has mixed results because the ordinary logistic regression resulted in statistical significance and negative but with a small effect. Since we are also concerned with differences in factor-, efficiency-, and innovation-driven countries, we undertook additional analysis to evaluate male and female models in these groups of countries. Because six groups were factor-driven,[1] twenty-three were efficiency-driven,[2] and twenty-one were innovation-driven,[3] we could not follow the multilevel approach, where at least 36 second-level groups are required (Bell et al., 2010). We then performed an analysis following a regular logistic regression strategy.

The logistic regression results for factor-driven countries support hypotheses H3 and H6 for both men and women. For instance, higher education levels seem to be important when pursuing corporate entrepreneurship activities. Regarding environmental factors, we have mixed results inequality levels are significant and positive, while cultural norms significantly influence women. Moreover, high masculinity levels may have a negative influence on women's activities. Results from the efficiency-driven countries were similar to those in the hierarchical regression. Skills are statistically significant for both groups. There are differences in the opportunity recognition variable between women and men, with significance to women but not men. Higher-level education and income also had a significant effect.

Regarding environmental variables, the inequality variable did not result with significance for women. It is statistically significant and negative for men.

---

[1] Burkina Faso, India, Iran, the Philippines, Senegal, and Vietnam.
[2] Argentina, Brazil, Bulgaria, Chile, China, Colombia, Ecuador, Egypt, Guatemala, Hungary, Indonesia, Latvia, Lebanon, Malaysia, Mexico, Morocco, Panama, Peru, Poland, Romania, South Africa, Thailand, and Uruguay.
[3] Australia, Belgium, Canada, Estonia, Finland, Greece, Ireland, Israel, Italy, Luxembourg, the Netherlands, Norway, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, the UK, and the US.

Cultural norms had a significant positive effect on women and men. The last regression results suggest that innovation-driven countries, linked networks, perceived skills, opportunity recognition, and fear of failure to entrepreneurial activity. For both men and women, graduate study, income, and GDP were significant. The environmental variables showed that cultural and social norms and high masculinity levels negatively affected entrepreneurial activity. Inequality levels are only significant for men, the coefficient is positive (see AppenAppendix**. DISCUSSION**).

5 Discussion

Given the limited number of studies that have analyzed gender differences in corporate entrepreneurship, we explored how country-level factors and individual-level factors help to explain the gendered workforce's engagement in corporate entrepreneurship. Our conceptual framework proposed assumed that men's and women's employees have similar capabilities to develop corporate entrepreneurial activities (feminist liberal) theory. Therefore, any gender differences in corporate entrepreneurship should be explained by the country-level conditions (feminist social theory).

Regarding country-level conditions, inequality levels (Klyver et al., 2013) and cultural values (Hayton et al., 2002) explain men's and women's differences in entrepreneurial behaviors within workplaces across societies. Our results show that inequality was negatively associated with employees' entrepreneurial behaviors. However, that condition may differ depending on the region. A plausible explanation is that women may try to engage more in independent entrepreneurship in less egalitarian and less developed countries (Malach-Pines et al., 2010). We also deduce that gender inequality was positive and statistically significant in less developed countries because those countries are often characterized by a lack of employment opportunities and access to education. So, those that get into a corporation are the most prepared. Inequality becomes irrelevant in efficiency and innovation-driven economies because of workplace policies.

Cultural values and normative support are statistically insignificant for men and women who engage in corporate entrepreneurship activities.

However, more advanced countries tend to be more masculine and, therefore, the effect will be negatively stronger.

Regarding individual-level conditions, Guerrero (2022) shows that the workforce's characteristics (skills, networks, and environment to do business) are strongly linked to corporate entrepreneurship activities. Although our results support the assumption that men and women are equally capable of developing corporate venturing, our results also show differences between men and women on this subject and need further examination (Marlow, 2020). The individual regression coefficients, in absolute terms, showed gender differences.

5.1 Implications

Our results contribute to the entrepreneurship literature in two ways. First, previous studies theorized gender differences in country-level conditions (Boden Jr & Nucci, 2000; Robb & Watson, 2012). By following the feminist social approach, our study highlights how national inequality levels and cultures may cause men and women to operate when engaging in corporate entrepreneurship activities. A similar approach was taken by Turro et al. (2020), however, they focused on studying the quality of regulations that promote the development of the activity and individualistic cultures. Our research extends previous findings (e.g., Adachi & Hisada, 2017; Turro et al., 2020) by considering how inequality levels contribute to gender differences in corporate entrepreneurship. We also expand the study by including both liberal and social feminist theories. Concretely, we show how inequality levels influence corporate entrepreneurship for both men and women and believe that equal opportunities for men and women provide a synergistic effect. Our results provide insights to managers with good benefits by integrating a diversified and gendered workforce to manage teams' corporate entrepreneurship configuration (Lyngsie & Foss, 2017). Indeed, our study provides insights for policymakers into the gender corporate entrepreneurship gap within workplaces motivated by environmental factors.

Second, the study highlights the importance of having employees with entrepreneurial capabilities, regardless of their gender. We agree with Guerrero (2022), who argues that a diversified workforce

should have the skills/knowledge required to undertake entrepreneurial and innovative organizations. We reinforce previous studies by analyzing gender differences considering the feminist liberal approach, as well as by highlighting some insights into how managing gender tensions are crucial in developing more ambidextrous organizations (Guerrero, 2021b).

The study provides useful insights for policymakers to improve equality levels and promote a more egalitarian work environment. Especially, less-developed countries need to strengthen equality policies and create environments where established companies can pursue entrepreneurial activities by providing specialized training to employees. Developed countries need to pay attention to restrictive norms that may diminish these activities. Companies that promote corporate entrepreneurship create more jobs and regions to be more competitive (Mason & Brown, 2013). Therefore, creating more egalitarian environments and policies that promote equality levels may also help organizations direct their efforts to develop networks, skills, and competencies to achieve better entrepreneurial outcomes. Therefore, our study may help in the promotion of renewing internal processes or expanding into new businesses.

5.2 Limitations and Future Directions

Our study has some limitations. First, we primarily relied on the GEM database to provide proxies for employees' perceptions. We also limited the study to countries included in this database. For example, future research may include more factor-driven countries. Besides, the GEM database does not provide information at the organizational level, although it is a key factor in the study of corporate entrepreneurship, further research may incorporate variables such as organizational culture, corporate strategy, and talent acquisition. A more extended research project could use different and more accurate proxies for independent and dependent variables or in-depth analysis of other countries and organizations. Second, using other independent variables to analyze the environment's effect could help add different perspectives to the research. The effect of culture in corporate entrepreneurship could be studied differently in further research because culture can moderate other variables and corporate entrepreneurship.

6 Conclusion

Our research question was, does gender matter in corporate entrepreneurship?—Yes, a gendered workforce matters.—First, this study considers country-level factors that promote corporate entrepreneurial behavior and explain gender differences. Among the elements evaluated, inequality strongly determines entrepreneurship for both men and women, finding significant differences. Our results highlight the importance of establishing mechanisms to close the gender gap within organizations across the globe (Brush et al., 2019). Second, the individual-level factors also are relevant to promote workers' corporate entrepreneurial activity (Marlow, 2020). While challenging, identifying, retaining, and developing employees with entrepreneurial skills, networks, and opportunities can benefit the entire organization. Although countries and companies can limit women's opportunities, it is important to understand men's and women's capabilities provide similar conditions to develop corporate entrepreneurship and innovative initiatives (Akulava & Guerrero, 2022) and to become high-performance ambidextrous organizations (Guerrero, 2021b). Therefore, country-level conditions, instead of individual-level conditions, could be the most important determinant for explaining gender differences when pursuing organizations' entrepreneurial and innovation activities.

Declarations

Appendix

Table 5 A social and liberal gendered view of corporate entrepreneurship

Emphasis	Social feminist theory	Liberal feminist theory
Foundation	Corporate entrepreneurship and innovation are considered gendered processes, where differences exist between women and men.	There are no differences between women and men in developing corporate entrepreneurship activities when considering stereotypes or norms.
Rationality	• Women face a challenge due to the need to balance work and family responsibilities, so when developing new projects in the workplace, they may be needed to make an extra effort to accomplish tasks. • Women may face additional challenges to find support and resources to develop corporate entrepreneurship activities. • Corporate entrepreneurship projects developed by women may not be so visible as their counterpart's male because women are not supposed to challenge the discourse that are men the ones that develop these types of activities in the workplace.	• Women and men have the same capabilities to face the same challenges in corporate entrepreneurship. • The organization plays a significant role in establishing policies that recognize the work of women and men. • Countries also play an important role in developing policies to support women in the workplace. • Equality is an essential factor in the development of corporate entrepreneurship.
Gender focus	• Focus on gender differences. These differences may be due to patriarchal hierarchies, roles, and race. • Gender moderates relationships. • The research focuses on understanding the capabilities and other factors that contribute to the corporate entrepreneurship process.	• Focus on the individual capabilities of each person regardless of gender. • Women have characteristics that may enrich corporate entrepreneurship. • A context may facilitate or hinder the corporate entrepreneurship process led by women.
Corporate entrepreneurship and innovation processes	As socially ascribed women are responsible for children and family responsibilities, as this is the case, this situation may limit them in having innovation results like patents. • Innovative behavior is more associated with men than women. Men receive better evaluations regarding innovation than women (Luksyte et al., 2018), so corporate entrepreneurship follows this same line. • Women are perceived as less effective when leading innovation than their male counterparts (Zuraik et al., 2020). Hence women are expected to less engage in corporate entrepreneurship than men.	• The dominance of masculine discourses in the industry may harness the development of feminine discourses that potentially may enrich the innovation process like open innovation (Wikhamn & Knights, 2013) • Women and men do not have differences when analyzing innovative behaviors. Differences may be due to the organizational structure and work environment (Foss et al., 2013).

Authors

Table 6 Logit regression results

Variables	CE female		CE male	
	B	SE	B	SE
Individual level				
Networks	0.452***	0.046	0.472***	0.036
Oportunity recognition	0.351***	0.046	0.288***	0.036
Skills	0.740***	0.047	0.696***	0.038
Fear of failure	−0.094	0.045	−0.061	0.036
Age	−0.152	0.060	−0.135*	0.056
Educ.—non (reference)				
Educ.—some secondary	−0.304	0.131	−0.019	0.090
Educ.—secondary degree	0.039**	0.113	0.044**	0.081
Educ.—post-secondary	0.358***	0.112	0.444***	0.081
Educ.—graduate	0.790***	0.124	0.929***	0.097
Income—lowest (reference)				
Income—middle	0.372***	0.062	0.444***	0.054
Income—upper	0.615***	0.060	0.968***	0.051
Country level				
GDPLn	0.168***	0.046	0.233***	0.039
Cultural and social norms	0.029**	0.046	−0.057**	0.038
Culture: masculine vs. feminine	−0.002***	0.001	−0.001***	0.001
Inequality	−0.875***	0.299	−0.591**	0.228
Female ratio	−1.807***	0.135	−1.884***	0.101
Constant	−2.963***	0.546	−3.770***	0.472
Pseudo R^2	0.09		0.123	
Observations	21193		29357	

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

Table 7 Logistic regression results per subsamples (factor, efficiency, and innovation-driven economies)

Variables	factor-driven economies				Efficiency-driven economies				Innovation-driven economies			
	CE female		CE male		CE female		CE male		CE female		CE male	
	B	SE	B	SE	B	SE	B	SE	B	SE	B	SE
Individual level												
Networks	0.369	0.220	0.467**	0.156	0.293***	0.076	0.432***	0.059	0.550***	0.060	0.493***	0.048
Opportunity recognition	0.436*	0.223	0.524***	0.153	0.200**	0.076	0.072	0.058	0.397***	0.061	0.344***	0.049
Skills	0.679**	0.266	0.400*	0.188	0.723***	0.080	0.743***	0.065	0.766***	0.060	0.678***	0.050
Fear of failure	0.169	0.139	−0.098	0.154	−0.005	0.076	0.052	0.059	−0.141**	0.058	0.091*	0.048
Age	−0.410	0.265	−0.407**	0.211	−0.192**	0.099	−0.160**	0.074	−0.081	0.082*	−0.090	0.069
Educ												
Educ.—None (reference)												
Educ.—some secondary	1.001**	0.3893	0.8599	0.252	−0.418	0.216	−0.039	0.143	−0.234	0.202	0.255	0.160
Educ.—secondary degree	0.944***	0.407	0.151*	0.260	0.313	0.169	0.325*	0.121	−0.085	0.91	0.202	0.152
Educ.—post-secondary	1.140***	0.412	0.571**	0.237	0.526***	0.171	0.587***	0.124	0.346*	0.188	0.765***	0.151
Educ.—graduate	0.941	0.623	1.382***	0.344	0.987***	0.202	1.047***	0.157	0.807***	0.199	1.229***	0.159
Income—lowest (reference)												
Income—middle	0.286	0.259	0.048	1.90	0.384***	0.103	0.459***	0.085	0.340***	0.083	0.446***	0.077
Income—upper	0.192	0.263	0.430*	0.173	0.605***	0.101	0.712***	0.082	−0.636***	0.0799	0.934***	0.073
Country level												
GDP	1.480**	0.479	0.413	0.267	0.525***	0.103	0.602***	0.075	0.394***	0.077	0.521***	0.064
Cultural and social norms	1.165**	0.594	−0.239	0.376	0.451***	0.107	0.291***	0.085	−0.197**	0.070	−0.198***	0.057
Culture: masculine vs. feminine	−0.139**	0.040	−0.023	0.025	0.004**	0.002	−0.0004	0.001	−0.006***	0.002	−0.003***	0.002
Inequality	27.933***	6.288	11.81**	3.795	−0.222	0.480	−0.698*	0.372	0.825	1.223	1.81**	0.943
Female/male ratio	5.540***	1.391	2.961***	0.737	−2.66***	0.302	−2.391***	0.219	−2.25***	0.210	−2.793***	0.168
Constant	−29.249***	7.028	−11.929**	4.13	−7.308***	1.146	−7.4380***	0.849	−4.742***	0.860	−6.150***	0.719
Observations	1521		2761		9406		13762		10266		12834	

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

Springer

References

Adachi, T., & Hisada, T. (2017). Gender differences in entrepreneurship and intrapreneurship: an empirical analysis. *Small Business Economics, 48*(3), 447–486.

Aguinis, H., Gottfredson, R. K., & Culpepper, S. A. (2013). Best-practice recommendations for estimating cross-level interaction effects using multilevel modeling. *Journal of Management, 39*(6), 1490–1528.

Akulava, M. & Guerrero, M. (2022). Entrepreneurial gendered ambidexterity in Belarusian SMEs. *Journal of Technology Transfer*. https://doi.org/10.1007/s10961-022-09936-y

Alsos, G. A., Hytti, U., & Ljunggren, E. (2013). Gender and innovation: state of the art and a research agenda. *International Journal of Gender and Entrepreneurship*, *5*(3), 236-256.

Álvarez, C., Urbano, D., & Amorós, J. E. (2014). GEM research: achievements and challenges. *Small Business Economics, 42*(3), 445–465.

Arenius, P., & Minniti, M. (2005). Perceptual variables and nascent entrepreneurship. *Small Business Economics, 24*(3), 233–247.

Barnett, R. C., & Hyde, J. S. (2001). Women, men, work, and family: an expansionist theory. *American Psychologist, 56*(10), 781–796.

Baron, R. A., & Tang, J. (2011). The role of entrepreneurs in firm-level innovation: Joint effects of positive affect, creativity, and environmental dynamism. *Journal of Business Venturing, 26*(1), 49–60.

Bell, B. A., Morgan, G. B., Schoeneberger, J. A., Loudermilk, B. L., Kromrey, J. D., & Ferron, J. M. (2010). Dancing the sample size limbo with mixed models: How low can you go. *In SAS Global Forum, 4*, 11–14.

Beugelsdijk, S., & Noorderhaven, N. (2005). Personality characteristics of self-employed; an empirical study. *Small Business Economics, 24*(2), 159–167.

Boden Jr., R. J., & Nucci, A. R. (2000). On the survival prospects of "mmen'sand" of women's new business ventures. *Journal of Business Venturing, 15*(4), 347–362.

Bosma, N. (2013). The Global Entrepreneurship Monitor (GEM) and its impact on entrepreneurship research. *Foundations and Trends® in Entrepreneurship, 9*(2), 143–248.

Bosma, N., Wennekers, S., Guerrero, M., Amorós, J.E., Martiarena, A., & Singer, S. (2013). *The Global Entrepreneurship Monitor. Special report on entrepreneurial employee activity*. London: .

Boudreaux, C. J., Nikolaev, B. N., & Klein, P. (2019). Sociocognitive traits and entrepreneurship: the moderating role of economic institutions. *Journal of Business Venturing, 34*(1), 178–196.

Brush, C., Edelman, L. F., Manolova, T., & Welter, F. (2019). A gendered look at entrepreneurship ecosystems. *Small Business Economics, 53*(2), 393–408.

Bruton, G. D., Ahlstrom, D., & Li, H. L. (2010). Institutional theory and entrepreneurship: where are we now and where do we need to move in the future? *Entrepreneurship Theory and Practice, 34*(3), 421–440.

Cabral, J. J., Francis, B. B., & Kumar, M. S. (2020). The impact of managerial job security on corporate entrepreneurship: evidence from corporate venture capital programs. *Strategic Entrepreneurship Journal.* https://doi.org/10.1002/sej.1357

Cacciotti, G., & Hayton, J. C. (2015). Fear and entrepreneurship: a review and research agenda. *International Journal of Management Reviews, 17*(2), 165–190.

Calás, M. B., Smircich, L., & Bourne, K. A. (2009). Extending the boundaries: reframing "e" "trepreneurship as social change" "through feminist perspectives". *Academy of Management Review, 34*(3), 552–569.

Chow, G. C. (1960). Test of equality between sets of coefficients in two linear regressions. *Econometrica, 28*, 591–605.

Davis, D., Morris, M., & Allen, J. (1991). Perceived environmental turbulence and its effect on selected entrepreneurship, marketing, and organizational characteristics in industrial firms. *Journal of the Academy of Marketing Science, 19*(1), 43–51.

DeTienne, D. R., & Chandler, G. N. (2007). The role of gender in opportunity identification. *Entrepreneurship Theory and Practice, 31*(3), 365–386.

Dezsö, C. L., & Ross, D. G. (2012). Does female representation in top management improve firm performance? A panel data investigation. *Strategic Management Journal, 33*(9), 1072–1089.

Diekman, A. B., & Eagly, A. H. (2000). Stereotypes as dynamic constructs: women and men of the past, present, and future. *Personality and Social Psychology Bulletin, 26*(10), 1171–1188.

Douglas, E. J., & Fitzsimmons, J. R. (2013). Intrapreneurial intentions versus entrepreneurial intentions: distinct constructs with different antecedents. *Small Business Economics, 41*(1), 115–132.

Dunlap-Hinkler, D., Kotabe, M., & Mudambi, R. (2010). A story of breakthrough versus incremental innovation: corporate entrepreneurship in the global pharmaceutical industry. *Strategic Entrepreneurship Journal, 4*(2), 106–127.

Elam, A. B., Hughes, K. D., Guerreo, M., Hill, S., Nawangpalupi, C., del Mar Fuentes, M., & González, J. P. D. (2021). Women's Entrepreneurship 2020/21: Thriving through Crisis. Global Entrepreneurship Research Association, London. Available at https://www.gemconsortium.org/file/open?fileId=50841

Estrin, S., & Mickiewicz, T. (2011). Institutions and female entrepreneurship. *Small Business Economics, 37*(4), 397.

Finkle, T. A. (2012). Corporate entrepreneurship and innovation in Silicon Valley: the case of Google, Inc. *Entrepreneurship Theory and Practice, 36*(4), 863–884.

Fischer, E. M., Reuber, A. R., & Dyke, L. S. (1993). A theoretical overview and extension of research on sex, gender, and entrepreneurship. *Journal of Business Venturing, 8*(2), 151–168.

Foba, T. W., & De Villiers, D. (2007). The integration of intrapreneurship into a performance management model. *SA Journal of Human Resource Management, 5*(2), 1–8.

Foss, L. (2010). Research on entrepreneur networks: the case for a constructionist feminist theory perspective. *International Journal of Gender and Entrepreneurship, 2*(1), 83–102.

Foss, L., Woll, K., & Moilanen, M. (2013). Creativity and implementations of new ideas: do organisational structure,

Does gender matter for corporate entrepreneurship? A cross-countries study

945

work environment and gender matter? *International Journal of Gender and Entrepreneurship, 5*(3), 298–322.

Fu, K., Larsson, A. S., & Wennberg, K. (2018). Habitual entrepreneurs in the making: how labour market rigidity and employment affects entrepreneurial re-entry. *Small Business Economics, 51*(2), 465–482.

Gaye, A., Klugman, J., Kovacevic, M., Twigg, S., & Zambrano, E. (2010). Measuring key disparities in human development: the Gender Inequality Index. *Human Development Research Paper, 46*, 41.

Gómez-Haro, S., Aragón-Correa, J. A., & Cordón-Pozo, E. (2011). Differentiating the effects of the institutional environment on corporate entrepreneurship. *Management Decision, 49*, 1688–1693.

Guerrero, M. (2022). Does workforce diversity matter on corporate venturing? *Economics of Innovation and New Technology, 31*(1–2), 35–53.

Guerrero, M., & Peña-Legazkue, I. (2013). The effect of intrapreneurial experience on corporate venturing: evidence from developed economies. *International Entrepreneurship and Management Journal, 9*(3), 397–416.

Guerrero, M., & Peña-Legazkue, I. (2019). Renascence after post-mortem: the choice of accelerated repeat entrepreneurship. *Small Business Economics, 52*(1), 47–65.

Guerrero, M., Amorós, J. E., & Urbano, D. (2021a). Do ememployees'enerational cohorts influence corporate venturing? A multilevel analysis. *Small Business Economics, 57*, 47–74.

Guerrero, M. (2021b). Ambidexterity and Entrepreneurship Studies: A Literature Review and Research Agenda. *Foundations and Trends® in Entrepreneurship, 17*(5–6), 436–650

Gupta, V. K., Goktan, A. B., & Gunay, G. (2014). Gender differences in evaluation of new business opportunity: a stereotype threat perspective. *Journal of Business Venturing, 29*(2), 273–288.

Guth, W. D., & Ginsberg, A. (1990). "Guest" editors' introduction: corporate entrepreneurship. *Strategic Management Journal, 11*, 5–15.

Hayton, J. C., George, G., & Zahra, S. A. (2002). National culture and entrepreneurship: a review of behavioral research. *Entrepreneurship Theory and Practice, 26*(4), 33–52.

Hofstede, G., Hofstede G. J., & Minkov, M. (2010). *Cultures and organizations: software of the mind.* Revised and Expanded 3rd Edition. : McGraw-Hill.

Hubner, S., Baum, M., & Frese, M. (2019). Contagion of entrepreneurial passion: effects on employee outcomes. *Entrepreneurship Theory and Practice*.

Huggins, R., & Thompson, P. (2016). Socio-spatial culture and entrepreneurship: some theoretical and empirical observations. *Economic Geography, 92*(3), 269–300.

Jennings, J. E., & Brush, C. G. (2013). Research on women entrepreneurs: challenges to (and from) the broader entrepreneurship literature? *Academy of Management Annals, 7*(1), 661–713.

Kleven, H., & Landais, C. (2017). Gender inequality and economic development: fertility, education and norms. *Economica, 84*(334), 180–209.

Klyver, K., & Grant, S. (2010). Gender differences in entrepreneurial networking and participation. *International Journal of Gender and Entrepreneurship, 2*, 213–227.

Klyver, K., Hindle, K., & Meyer, D. (2008). Influence of social network structure on entrepreneurship participation—a study of 20 national cultures. *International Entrepreneurship and Management Journal, 4*(3), 331–347.

Klyver, K., Nielsen, S. L., & Evald, M. R. (2013). Women'sself-employment: an act of institutional (dis) integration? A multilevel, cross-country study. *Journal of Business Venturing, 28*(4), 474–488.

Kreiser, P. M., Marino, L. D., Dickson, P., & Weaver, K. M. (2010). Cultural influences on entrepreneurial orientation: the impact of national culture on risk taking and proactiveness in SMEs. *Entrepreneurship Theory and Practice, 34*(5), 959–984.

Kreiser, P. M., Kuratko, D. F., Covin, J. G., Ireland, R. D., & Hornsby, J. S. (2019). Corporate entrepreneurship strategy: extending our knowledge boundaries through configuration theory. *Small Business Economics*, 1–20.

Kuratko, D. F., Hornsby, J. S., & Hayton, J. (2015). Corporate entrepreneurship: the innovative challenge for a new global reality. *Small Business Economics, 45*(2), 245–253.

Ladge, J. J., Humberd, B. K., & Eddleston, K. A. (2018). Retaining professionally employed new mothers: the importance of maternal confidence and workplace support to their intent to stay. *Human Resource Management, 57*(4), 883–900.

Luksyte, A., Unsworth, K. L., & Avery, D. R. (2018). Innovative work behavior and sex-based stereotypes: examining sex differences in perceptions and evaluations of innovative work behavior. *Journal of Organizational Behavior, 39*(3), 292–305.

Lyngsie, J., & Foss, N. J. (2017). The more, the merrier? Women in top-management teams and entrepreneurship in established firms. *Strategic Management Journal, 38*(3), 487–505.

Malach-Pines, A., & Schwartz, D. (2008). Now you see them, now you don't gender differences in entrepreneurship. *Journal of Managerial Psychology, 23*, 811–832.

Malach-Pines, A., Lerner, M., & Schwartz, D. (2010). Gender differences in entrepreneurship: equality, diversity and inclusion in times of global crisis. *Equality, diversity and inclusion: an International Journal, 29*(2), 186–198.

Manolova, T. S., Carter, N. M., Manev, I. M., & Gyoshev, B. S. (2007). The differential effect of men and women 'entrepreneurs' human capital and networking on growth expectancies in Bulgaria. *Entrepreneurship Theory and Practice, 31*(3), 407–426.

Marlow, S. (2020). Gender and entrepreneurship: past achievements and future possibilities. *International Journal of Gender and Entrepreneurship*.

Marlow, S., & Swail, J. (2014). Gender, risk and finance: why can't a woman be more like a man? *Entrepreneurship & Regional Development, 26*(1-2), 80–96.

Martiarena, A. (2013). What's so entrepreneurial about intrapreneurs? *Small Business Economics, 40*(1), 27–39.

Mason, C., & Brown, R. (2013). Creating good public policy to support high-growth firms. *Small Business Economics, 40*(2), 211–225.

Millan, J. M., Congregado, E., Roman, C., Van Praag, M., & Van Stel, A. (2014). The value of an educated population for individual's entrepreneurship success. *Journal of Business Venturing, 29*(5), 612–632.

Nelson, J. A. (2015). Are women really more risk-averse than men? A re-analysis of the literature using expanded methods. *Journal of Economic Surveys, 29*(3), 566–585.

Nicolaidis, C. S., & Kosta, G. C. (2011). Intrapreneurship as a unique competitive advantage. *World Academy of Science, Engineering and Technology, 59*(5), 1121–1125.

Orser, B., Spence, M., Riding, A., & Carrington, C. A. (2010). Gender and export propensity. *Entrepreneurship Theory and Practice, 34*(5), 933–958.

Østergaard, C. R., Timmermans, B., & Kristinsson, K. (2011). Does a different view create something new? The effect of employee diversity on innovation. *Research Policy, 40*(3), 500–509.

Parker, S. C. (2011). Intrapreneurship or entrepreneurship? *Journal of Business Venturing, 26*(1), 19–34.

Pettersson, K., Ahl, H., Berglund, K., & Tillmar, M. (2017). In the name of women? Feminist readings of policies for women's entrepreneurship in Scandinavia. *Scandinavian Journal of Management, 33*(1), 50–63.

Ramos-Rodriguez, A. R., Medina-Garrido, J. A., Lorenzo-Gómez, J. D., & Ruiz-Navarro, J. (2010). What you know or who you know? The role of intellectual and social capital in opportunity recognition. *International Small Business Journal, 28*(6), 566–582.

Robb, A. M., & Watson, J. (2012). Gender differences in firm performance: evidence from new ventures in the United States. *Journal of Business Venturing, 27*(5), 544–558.

Seibert, S. E., Kraimer, M. L., & Liden, R. C. (2001). A social capital theory of career success. *Academy of Management Journal, 44*(2), 219–237.

Shahriar, A. Z. M. (2018). Gender differences in entrepreneurial propensity: evidence from matrilineal and patriarchal societies. *Journal of Business Venturing, 33*(6), 762–779.

Shane, S. (1993). Cultural influences on national rates of innovation. *Journal of Business Venturing, 8*(1), 59–73.

Shinnar, R. S., Giacomin, O., & Janssen, F. (2012). Entrepreneurial perceptions and intentions: the role of gender and culture. *Entrepreneurship Theory and Practice, 36*(3), 465–493.

Simsek, Z., & Heavey, C. (2011). The mediating role of knowledge-based capital for corporate entrepreneurship effects on performance: a study of small-to medium-sized firms. *Strategic Entrepreneurship Journal, 5*(1), 81–100.

Stainback, K., Kleiner, S., & Skaggs, S. (2016). Women in power: undoing or redoing the gendered organization? *Gender & Society, 30*(1), 109–135.

Stam, E. (2013). Knowledge and entrepreneurial employees: a country-level analysis. *Small Business Economics, 41*(4), 887–898.

Sullivan, D., & Marvel, M. (2011). Ho entrepreneurs knowledge and network ties relate to the number of employees in new SMEs. *Journal of Small Business Management, 49*(2), 185–206.

Swaab, R. I., & Galinsky, A. D. (2015). Egalitarianism makes organizations stronger: cross-national variation in institutional and psychological equality predicts talent levels and the performance of national teams. *Organizational Behavior and Human Decision Processes, 129*, 80–92.

Taylor, M. Z., & Wilson, S. (2012). Does culture still matter?: the effects of individualism on national innovation rates. *Journal of Business Venturing, 27*(2), 234–247.

Thébaud, S. (2015). Business as plan B: Institutional foundations of gender inequality in entrepreneurship across 24 industrialized countries. *Administrative Science Quarterly, 60*(4), 671–711.

Turro, A., Noguera, M., & Urbano, D. (2020). Antecedents of entrepreneurial employee activity: does gender play a role? *International Journal of Entrepreneurial Behavior & Research, 26*(8), 1685–1706.

UNICEF (2017). Gender Equality. Glossary of terms and concepts. UNICEF Regional Office for South Asia Lainchaur, LekhnathMarg, Kathmandu, Nepal. Available at https://www.unicef.org/rosa/media/1761/file/Gender%20glossary%20of%20terms%20and%20concepts%20.pdf

Verheul, I., Stel, A. V., & Thurik, R. (2006). Explaining female and male entrepreneurship at the country level. *Entrepreneurship and Regional Development, 18*(2), 151–183.

Wagner, J. (2007). What a difference a Y makes-female and male nascent entrepreneurs in Germany. *Small Business Economics, 28*(1), 1–21.

Welter, F., & Smallbone, D. (2011). Institutional perspectives on entrepreneurial behavior in challenging environments. *Journal of Small Business Management, 49*(1), 107–125.

Wikhamn, B. R., & Knights, D. (2013). Open innovation, gender, and the infiltration of masculine discourses. *International Journal of Gender and Entrepreneurship, 5*(3), 275–297.

World Economic Forum (2021). Global Gender Gap Report 2021. Insight Report March 2021. World Economic Forum, Cologny/Geneva Switzerland. Available at https://reports.weforum.org/globalgender-gap-report-2021/dataexplorer

Yousafzai, S. Y., Saeed, S., & Muffatto, M. (2015). Institutional theory and contextual embeddedness women's entrepreneurial leadership: Evidence from 92 countries. *Journal of Small Business Management, 53*(3), 587–604.

Zuraik, A., Kelly, L., & Perkins, V. (2020). Gender differences in innovation: the role of ambidextrous leadership of the team leads. *Management Decision, 58*(7), 1475–1495.