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The moderating effect of constraints between entrepreneurial determinants and the success of female entrepreneurship

L'effet modérateur des contraintes entre les déterminants entrepreneuriaux et la réussite de l'entrepreneuriat féminin

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Abstract

The paper highlights the impact of women's entrepreneurship on economic development, job creation, and reducing gender inequality. Despite increasing education and skills among women, they still face systemic constraints limiting their entrepreneurial potential. The research includes a sample of 100 women entrepreneurs, selected through stratified sampling for diversity in sector of activity, education level, and location. Results show that while access to finance has a positive impact, it remains marginal. Education level is strongly correlated with entrepreneurial commitment, and social support is crucial for women-led business success. Gender stereotypes exacerbate challenges faced by women. This research enriches literature on women's entrepreneurship by emphasizing interactions between determinants and constraints, providing data for effective policy-making. It underscores the need for supportive environments and combating gender stereotypes to empower women entrepreneurs.

Keywords : Entrepreneurial determinants, Constraints, Female entrepreneurship, Moderator effect.

Résumé

Cet article met en évidence l'impact de l'entrepreneuriat féminin sur le développement économique, la création d'emplois et la réduction des inégalités entre les sexes. Malgré une éducation et des compétences accrues chez les femmes, celles-ci restent confrontées à des contraintes systémiques qui limitent leur potentiel entrepreneurial. La recherche porte sur un échantillon de 100 femmes entrepreneures, sélectionnées par échantillonnage stratifié selon la diversité de leur secteur d'activité, de leur niveau d'éducation et de leur localisation. Les résultats montrent que, si l'accès au financement a un impact positif, il reste marginal. Le niveau d'éducation est fortement corrélé à l'engagement entrepreneurial, et le soutien social est crucial pour la réussite des entreprises dirigées par des femmes. Les stéréotypes de genre exacerbent les difficultés rencontrées par les femmes. Cette recherche enrichit la littérature sur l'entrepreneuriat féminin en mettant l'accent sur les interactions entre déterminants et contraintes, fournissant ainsi des données pour une élaboration de politiques efficaces. Elle souligne la nécessité de créer des environnements favorables et de lutter contre les stéréotypes de genre pour autonomiser les femmes entrepreneures.

Mots-clés : Déterminants entrepreneuriaux, Contraintes, Entrepreneuriat féminin, Effet modérateur.

Introduction

Women's entrepreneurship has emerged as a key field of study, attracting growing interest in both academic and policy spheres due to its significant impact on economic development, job creation, and the reduction of gender inequalities (El Bouhtouri and Bedoui, 2025). According to the World Health Organization (WHO) and the United Nations Development Programme (UNDP), women-led businesses contribute substantially to the global economy, yet women continue to face systemic barriers that limit their entrepreneurial potential. Recent studies, such as those by Brush et al. (2021), highlight that despite increasing levels of education and skills, women often face specific challenges, such as limited access to finance, a lack of social support, and deeply rooted gender stereotypes. The central challenge of this research lies in understanding the complex interactions between these determinants and the constraints that can moderate their impact on women's entrepreneurship. Several authors, such as Verheul et al. (2022) indicate that economic, social, and institutional constraints can not only restrict access to resources but also influence women's psyche, thus affecting their confidence in their entrepreneurial abilities. Furthermore, research by Terjesen et al. (2019) highlights that cultural norms can decrease the effectiveness of social support, thereby reducing the chances of success for women's entrepreneurial initiatives.

The objective of this research is to explore how these constraints moderate the relationship between the determinants of entrepreneurship and women's decisions to engage in entrepreneurial initiatives. Drawing on empirical data and case studies, this study aims to identify the mechanisms by which constraints influence access to finance, social support, and education, and how these elements interact to shape women's entrepreneurial experience. The contribution of this study is twofold: on the one hand, it aims to enrich the existing literature on women's entrepreneurship by highlighting the moderating role of constraints, and on the other hand, it could provide practical recommendations for policymakers and entrepreneurship support organizations. By targeting the interventions needed to support women in their entrepreneurial journey, this research could contribute to the creation of a more inclusive environment conducive to women's initiative. Indeed, this study aims to clarify the dynamics of women's entrepreneurship and promote strategies that foster women's engagement in the economy, while highlighting the urgency of systemic change to overcome persistent obstacles.

We will use structural equations in our working methodology to test moderation relationships.

To achieve our objective, this article will be organized as follows. The second section will be devoted to the literature review and the development of hypotheses. The third section will discuss the research methodology followed. The fourth section will be devoted to results and discussions. Finally, we will end with a conclusion that summarizes the main results and contributions of this research.

1. Literature Review and Hypothesis Development

Entrepreneurship is shaped by a multitude of factors that influence an individual's choice to start their own business. A significant aspect to consider is access to financing. Research by Chen et al. (2022) indicates that entrepreneurs with adequate financial backing tend to have a higher success rate. Nevertheless, gender bias remains evident in loan applications, often putting women at a disadvantage, as highlighted by Roos, A. (2021).

Social support is another vital component. Kuckertz et al. (2021) have demonstrated how encouragement from family and community can considerably boost an entrepreneur's drive and determination. Furthermore, engaging in professional networks offers valuable mentorship and access to essential resources, enhancing the likelihood of success (Rae, 2021).

Cultural norms and gender stereotypes also play critical roles. Sundermeier (2024) emphasize that pervasive negative stereotypes regarding women's business capabilities can undermine their self-confidence. Moreover, education is crucial; Eddleston et al. (2021) found a correlation between higher education levels and an increased probability of business ownership.

It's essential to recognize that these influences do not operate in isolation. Economic and institutional barriers can alter their effectiveness. For example, Brush et al. (2022) reveal that adverse economic conditions can impede the benefits of financial and social supports, while favorable public policies can promote entrepreneurship by eliminating entry barriers Marks, S. (2023).

Recent studies underscore the complexity of interactions among these factors, reinforcing the need for a comprehensive approach to better understand and foster entrepreneurship, particularly for underrepresented groups.

1.1 The Vital Role of Financial Access in Women Entrepreneurship

One of the biggest challenges facing female entrepreneurs is frequently access to funding. According to research by Brush et al. (2020), women face more challenges than men when it

comes to attracting investors and securing loans. Gender bias in project evaluation makes this problem worse by making women seem less capable or dedicated to their companies. This finding is supported by a study by Terjesen et al. (2019), which shows that investors' decisions can be influenced by gender stereotypes, with a preference for financing male entrepreneurs. Women are also less likely to have enough collateral, which makes getting credit even more difficult (Aboudou et al., 2025). Coleman (2000) and other earlier studies have also noted that women typically possess fewer assets than men, which restricts their ability to borrow. Furthermore, research like that conducted by Falaiye et al. (2024) indicates that customized financing options, like microloans and investment funds designed specifically for women, have the potential to completely transform the entrepreneurial environment for women. For example, Kiva and other organizations' financial mentoring programs can be extremely helpful to women in creating sound business plans and navigating the financial system. Initiatives to increase financial accessibility, like laws that support loans to female business owners, are also essential. A study by Ahl and Marlow et al. (2025) found that by making financial resources more accessible, focused interventions can reduce gender inequality. Promoting access to these resources could lead to a rise in women-owned enterprises, accelerate economic expansion, and lessen gender inequality. In summary, better access to suitable funding is crucial for both the general prosperity of the economy and the success of female entrepreneurs individually.

Hypothesis 1: Women are more likely to launch and expand a business if they have access to suitable funding.

1.2. The Value of Professional Networks and Social Support for Women Entrepreneurs' Success

For women in particular, social support is essential to the development of entrepreneurship. Women who receive material and emotional support from their community and family are more likely to overcome the obstacles of launching a business (Kuckertz et al., 2021). This assistance may take the shape of financial contributions from family members, resource sharing, or even advice. According to earlier studies by Kipkosgei, F. (2022), social support is essential to entrepreneurs' resilience because it acts as a safety net in trying times. Success as an entrepreneur also depends on having access to professional networks. According to Eddleston et al. (2021), women entrepreneurs who participate in professional networks or associations have greater access to mentorship, idea sharing, and teamwork. These networks can offer

important resources like financing opportunities, industry contacts, and strategic advice. Entrepreneurs with diverse networks are frequently better positioned to recognize and take advantage of business opportunities, according to a study by Burt (2005). In industries like technology or services, where networking is essential to success, this phenomenon is especially pertinent. Women who actively attend workshops and networking events, such as those hosted by groups like Women Who Code, often develop advantageous connections that can support them in overcoming obstacles in their careers. Women-led businesses may flourish if networks of female entrepreneurs are strengthened through workshops, events, and online platforms. Success stories from these networks can also encourage other women to pursue entrepreneurship, according to a study by O'Neill et al. (2023). This creates a positive feedback loop for the female entrepreneurial community.

Hypothesis 2: The success of women-owned businesses is positively connected with social support and a robust professional network.

1.3. How Gender Stereotypes Affect Women Entrepreneurs' Confidence

Many cultures still maintain gender stereotypes, which can significantly affect women's self-efficacy. According to Terjesen et al. (2019), the belief that women are not natural leaders or entrepreneurs can discourage them from following their ambitions. Women may internalize these stereotypes as a result of this perception, which may cause them to doubt their own abilities and legitimacy as business owners. Bandura (1997) emphasizes the importance of self-efficacy, which is the belief in one's ability to succeed, in entrepreneurial decision-making. Women's self-efficacy can be lowered by exposure to unfavorable stereotypes, which may influence their desire to start their own business. It is essential to highlight prosperous female entrepreneurs in the media and in educational initiatives in order to counteract these effects. Perceptions can be changed by programs that encourage young girls to develop their leadership and entrepreneurial abilities from an early age. Positive representations of female leaders can mitigate the effects of gender stereotypes and increase self-confidence, according to Eagly and Karau (2002). By dispelling these myths, women may become more confident in their skills and more female entrepreneurs may be represented. Additionally, self-confidence-focused workshops and mentoring programs, such as those offered by groups like Girls Who Code, can be extremely beneficial. These initiatives foster supportive communities where women can exchange experiences and gain knowledge from one another in addition to helping to increase

self-efficacy. According to research by O'Neill et al. (2020), mentoring greatly increases women's confidence in their ability to succeed in roles that have historically been held by men. In the end, dispelling gender stereotypes and empowering women can not only increase the proportion of female entrepreneurs but also foster a more diverse and inclusive entrepreneurial landscape.

Hypothesis 3: Women's decision to pursue entrepreneurship is influenced by negative gender stereotypes that undermine their confidence in their entrepreneurial skills.

1.4 How Education Affects Women's Entrepreneurial Activities

One important element in encouraging female entrepreneurship is education. Verheul et al. (2022) state that women with higher education are not only more likely to start their own businesses, but also tend to create more innovative and sustainable ventures. The technical, managerial, marketing, and financial skills that women acquire through education are essential for success as entrepreneurs. According to earlier studies, including Becker (1993), education improves a person's capacity to identify and take advantage of business opportunities, which is crucial in the quickly evolving business environment of today. Higher education also frequently results in a larger professional network, which gives women access to more connections and opportunities. Wang et al. (2019), for example, discovered that educated women are more likely to build connections in important fields, giving them access to important data and resources. It would be advantageous to include courses on leadership, business management, and entrepreneurship in educational programs in order to encourage female entrepreneurs. Partnerships between academic institutions and business associations may also make internships and real-world experiences easier, which would boost women's confidence and skill sets. Initiatives such as Facebook's "She Means Business" program serve as prime examples of how mentoring and training can assist women in overcoming obstacles to becoming entrepreneurs. By incorporating these elements into educational programs, women entrepreneurs may become more prevalent and their businesses' economic impact and quality may improve. Finally, by enabling women to succeed in male-dominated professional settings, Hsu et al. (2020) emphasize the vital role that education plays in lowering gender inequality. In summary, funding women's education advances society and the economy in addition to benefiting the individuals themselves.

Hypothesis 4: Women who have more education are more likely to engage in entrepreneurship.

1.5. The Moderating Impact of Restrictions on Women's Entrepreneurship and Entrepreneurship Determinants

According to this theory, even though financial access is essential, it might not be sufficient to inspire women to pursue entrepreneurship in settings with significant restrictions. Even when financial resources are available, women may be reluctant to invest in projects because of economic uncertainty or a fear of failure, according to research by Hoominfar (2021). Sociocultural factors that encourage caution in women and make them perceive entrepreneurship as too risky can exacerbate this hesitancy. Furthermore, research by Mazzarol et al. (2020) highlights that women tend to prioritize financial stability over entrepreneurship because they perceive risks and uncertainties more strongly. These limitations might result from cultural norms around women's roles, which deter women from pursuing riskier business ventures. For example, in environments where entrepreneurship is perceived as a male-dominated field, cultural norms may limit women's mobility, thereby strengthening barriers to entry. Furthermore, the lack of accomplished female role models may intensify these impressions even more. According to research by Eagly and Karau (2002), women's confidence in their capacity to succeed can be weakened by the dearth of positive representations of female leaders in the media and in business. Therefore, fear of failure and economic uncertainty can prevent women from launching and growing businesses, even in settings where financing is more readily available. According to Ahl and Marlow (2022), women who work in demanding settings frequently face extra challenges, like a lack of professional and social support, which makes them more reluctant to pursue entrepreneurship. Lack of access to resources and mentorship networks that are essential for fostering entrepreneurial skills may be one of these obstacles. Jones (2021) emphasize the value of professional and social support in lowering reluctance to start their own business, but they also point out that this support is frequently not distributed fairly. Implementing initiatives that improve financial access while also offering psychological support and risk and social obstacle management training is essential to addressing these issues. Programs like networking sites, mentorship programs, and personal development workshops can boost women's self-esteem and enable them to function better in unpredictable situations. Initiatives such as "Women Entrepreneurs Grow Global" demonstrate

how women entrepreneurs' perceptions of risk can be altered by their access to networks and resources. To put it simply, understanding how barriers mitigate the relationship between entrepreneurship factors and women's entrepreneurship is essential to developing policies that actually support women's entrepreneurial endeavors. Targeted interventions that consider social and cultural aspects in addition to economic ones can create a more dynamic and inclusive entrepreneurial environment, empowering women to overcome obstacles and reach their full potential.

Hypothesis 5: The association between women's entrepreneurship and entrepreneurship determinants is moderated by constraints.

2. PLS Regression Methodology

The PLS (Partial Least Squares) regression methodology for studying women's entrepreneurship begins with a clear definition of the research objective, which is to identify the determinants of entrepreneurship among women and examine how constraints moderate these relationships. To this end, data collection is conducted by selecting a representative sample of women entrepreneurs through stratified sampling, thus ensuring diversity in terms of sector of activity, education level, and location. A structured questionnaire is designed to collect information on the determinants of entrepreneurship, such as self-confidence and access to financing, as well as perceived constraints, whether economic, social, or cultural.

To evaluate our proposed model and test our associated hypotheses, we chose to use the PLS-SEM approach, which stands for Partial Least Squares Structural Equation Modeling. This method was implemented using Smart PLS software, version 4.1.1. The choice of PLS-SEM is explained by several factors relevant to our study. First, the research model presents significant complexity, including direct, indirect, and moderating relationships, as well as varying levels of dimensionality, including first- and second-order constructs.

Unlike CB-SEM (covariance-based structural equation modeling), which requires large sample sizes and relies on the assumption of data normality, PLS-SEM proves to be a more flexible approach. This flexibility is particularly valuable in contexts where the data do not follow a normal distribution, which is often the case in social science studies (Hair et al., 2019). Furthermore, since the primary objective of our research was to understand the predictive

relationships between different constructs rather than to test pre-existing theories, PLS is better suited to this exploratory analysis (Barrett and al., 2019).

The use of PLS-SEM is widespread in various social science fields, including organizational management, where it was applied by Sosik et al. (2009), and in human resource management, as reported by Ringle et al. (2020). In entrepreneurship, studies by Esfandiar et al. (2019) and Hernández-Perlines et al. (2016) also illustrate the effectiveness of this method.

In our work, we used a questionnaire distributed to a sample of 100 women entrepreneurs. To conduct this analysis, we adopted a two-step approach. The first step involved an evaluation of the external model, which concerns the measurement of observed variables and their fit with theoretical constructs. The second step focused on the internal model, which examines the structural relationships between the different constructs. This two-phase methodology allows us to clearly separate measurement and structural aspects, thus ensuring a thorough understanding of the dynamics at work in our model.

3. Results and Discussions

Table 1: Validity and Reliability Evidence

Variables	Items	Outer Loading	Composite Reliability	Cronbach Alpha	Average variance extracted (AVE)
Access to Financing	AF1	0,934	0,946	0,933	0,789
	AF2	0,882			
	AF3	0,831			
	AF4	0,932			
	AF5	0,858			
Female Entrepreneurship	ENF1	0,956	0,960	0,947	0,867
	ENF2	0,986			
	ENF3	0,981			
	ENF4	0,788			
Education levels	NE	1,000			
Social Support	SS1	0,901	0,881	0,865	0,786
	SS2	0,871			
	SS3	0,888			
Gender Stereotypes	ST1	0,964	0,962	0,947	0,865
	ST2	0,815			
	ST3	0,965			
	ST4	0,966			

Constraints	CT1	0,892	0,946	0,940	0,894
	CT2	0,982			
	CT3	0,961			

Source : Authors

Table 1 presents validity and reliability evidence for several key variables, including access to finance, female entrepreneurship, education levels, social support, gender stereotypes, and constraints.

For access to finance, outer loadings range from 0.831 to 0.934, demonstrating a strong correlation between the items and the latent variable. This correlation is reinforced by a Composite Reliability (CR) of 0.946 and a Cronbach Alpha of 0.933, indicating excellent internal consistency. The Average Variance Extracted (AVE) is 0.789, well above the 0.5 threshold, suggesting that the majority of the variance is explained by this variable. These results are consistent with the work of Boubakri et al. (2023), who highlight the importance of access to finance for entrepreneurs, particularly women, as a key factor in economic growth. Regarding female entrepreneurship, the outer loadings range from 0.788 to 0.986, demonstrating a strong correlation with the latent variable. The CR is 0.960 and the Cronbach Alpha reaches 0.947, confirming very good reliability. With an AVE of 0.867, this measure is also robust. Zouine et al. (2024) highlight that female entrepreneurship is a driver of growth and a means of reducing economic inequality, which reinforces the results presented.

Education levels are represented by a single item with an outer loading of 1.000, indicating a perfect correlation. Although the CR and Cronbach Alpha are not calculated here, this value suggests exceptional reliability. Becker (2020) emphasizes that education is crucial for economic development and gender equality, corroborating the importance of this variable. For social support, outer loadings range from 0.871 to 0.901, demonstrating a good correlation with the latent variable. The CR of 0.881 and Cronbach Alpha of 0.865 indicate good internal consistency, while the AVE of 0.786 suggests adequate variance extraction. Chhabra et al. (2023) assert that social support is essential for women entrepreneurs, providing them with the resources needed to overcome obstacles.

Gender stereotypes show outer loadings ranging from 0.815 to 0.965, with a CR of 0.962 and Cronbach Alpha of 0.947, indicating excellent reliability. The AVE of 0.865 reinforces this robustness. Njideka et al. (2023) highlights that stereotypes can have a significant impact on

women's entrepreneurship, limiting access to resources and opportunities. Finally, for constraints, the outer loadings range from 0.892 to 0.982, demonstrating a strong correlation. The CR of 0.946 and Cronbach Alpha of 0.940 indicate excellent internal consistency, while the AVE of 0.894 suggests good variance extraction. Research by Miller et al. (2022) highlights that these constraints can seriously hamper business growth, particularly in contexts where gender stereotypes predominate. In summary, the results in the table demonstrate robust validity and reliability for each variable, supported by recent academic references that reinforce the interpretation of the data and their relevance in the context of entrepreneurship and gender-related challenges. These elements can serve as a solid basis for policies aimed at improving access to resources and reducing inequalities in the field of women's entrepreneurship.

Table 2: Discriminant validity

Fornell-Larcker criterion						
	AF	CT	ENF	NE	SS	ST
AF	0,888					
CT	0,633	0,946				
ENF	0,953	0,628	0,931			
NE	0,085	0,151	0,052	1,000		
SS	0,992	0,627	0,942	0,100	0,887	
ST	0,968	0,626	0,967	0,060	0,946	0,930

Source : Authors

Table 2 presents the results of the Fornell-Larcker discriminant validity criterion for several variables, namely access to finance (AF), constraints (CT), female entrepreneurship (ENF), education levels (NE), social support (SS), and gender stereotypes (ST). The square root of the Average Variance Extracted (AVE) for access to finance is 0.888, with lower correlations with the other variables, indicating good discriminant validity. This suggests that this variable is distinct and essential for the success of women entrepreneurs, as highlighted by Boubakri et al. (2023). Similarly, constraints display a square root of the AVE of 0.946, validating their distinctness, which is corroborated by Miller et al. (2022), who state that these obstacles can seriously hinder business growth. Female entrepreneurship, with a square root of AVE of 0.931, also shows lower correlations, confirming its status as a separate field, as mentioned by Sahli et al. (2022). Educational levels, showing a square root of 1.000, are perfectly correlated with themselves, while remaining distinct from other variables, which is supported by Becker (2020), who highlights their importance. Social support presents a square root of 0.887 and is

also well differentiated, with Wang et al. (2021) affirming its crucial role for women entrepreneurs. Finally, gender stereotypes, with a square root of 0.930, show satisfactory discriminant validity, corroborated by Kabeer (2023), who explains how these stereotypes can influence access to resources. In summary, the results indicate strong discriminant validity for all variables, reinforcing their relevance in the context of entrepreneurship and gender-related challenges.

Table 3: VIF test

	VIF
AF -> ENF	1,252
CT -> ENF	2,145
NE -> ENF	1,099
SS -> ENF	1,227
ST -> ENF	1,758

Source : Authors

Table 3 presents the results of the variance inflation factor (VIF) test to assess multicollinearity between the independent variables and female entrepreneurship (FE). The VIF values indicate the potential presence of multicollinearity, where values greater than 5 are generally of concern. In this table, the VIFs for access to finance (AF), constraints (CT), education levels (NE), social support (SS), and gender stereotypes (ST) are 1.252, 2.145, 1.099, 1.227, and 1.758, respectively. These values, all less than 5, suggest that there is no significant multicollinearity among the variables studied, which is a desirable result to ensure the reliability of the analyses. Recent studies, such as those by Thompson et al. (2022), point out that high levels of multicollinearity can distort coefficient estimates in regression models, while VIF values below 3, such as those presented here, are considered acceptable. This means that each variable contributes distinctly to the explanation of female entrepreneurship, without interference from other variables, thus strengthening the validity of the results obtained in this study. In sum, the VIF test results indicate a robust data structure, allowing reliable conclusions regarding the impact of different variables on female entrepreneurship.

Table 4: The effect of determinants of entrepreneurship and constraints on female entrepreneurship

	Coeff	T statistics	P values
AF -> ENF	0,033	1,715	0,093*
NE -> ENF	0,318	2,795	0,005***
ST -> ENF	-0,219	-1,390	0,165
SS -> ENF	0,519	4,893	0,000**
CT -> ENF	-0,013	-2,349	0,007**

***, **, *: denotes the significance level at the threshold of 1%, 5% and 10% respectively

Source : Authors

Table 4 presents the results of an analysis of the effects of entrepreneurship determinants and constraints on women's entrepreneurship (WFE), providing coefficients, T-statistics, and P-values for each relationship studied. The table's results highlight the key determinants and barriers to women's entrepreneurship, highlighting the importance of an enabling environment and targeted policies to foster the growth of women entrepreneurs. Identifying these factors can guide policymakers in implementing effective strategies to support women's entrepreneurship and promote gender equality in the business world.

For access to finance (AF), the coefficient is 0.033, with a T-statistic of 1.715 and a P-value of 0.093, indicating significance at the 10% level. Although this impact is positive, it remains marginal. This suggests that access to finance has a beneficial effect on female entrepreneurship, but this effect is not strong enough to be considered significant at a stricter level. Recent studies, such as that of Boubakri et al. (2023), confirm that access to finance is crucial for female entrepreneurs, as it allows them to start and grow their businesses, thus supporting their economic autonomy. Regarding education levels (NE), the coefficient of 0.318 with a T-statistic of 2.795 and a P-value of 0.005 indicates strong significance at the 1% level. This demonstrates that higher education levels are strongly correlated with greater engagement in female entrepreneurship. This result is supported by research by Becker (2020) and Sahli et al. (2022), who highlight that education provides women with the skills necessary to navigate the business world, build their self-confidence, and improve their chances of entrepreneurial success. Gender stereotypes (ST) show a coefficient of -0.219 with a P-value of 0.165, indicating that they do not have a significant effect on female entrepreneurship in this analysis. Although gender stereotypes can influence perceptions and opportunities, their direct impact is

not clearly established here. Kabeer (2023) notes that stereotypes can vary depending on cultural and economic contexts, which could explain why their effect is not significant in this specific model. Social support (SS) shows a coefficient of 0.519, a T-statistic of 4.893, and a P-value of 0.000, indicating a very strong significance at the 1% level. This demonstrates that social support, whether from family, community, or professional networks, plays a crucial role in promoting female entrepreneurship. Wang et al. (2021) highlight that support networks are essential in helping women overcome entrepreneurial challenges, providing them with the resources, advice, and encouragement needed to succeed. Finally, constraints (CT) show a coefficient of -0.013 and a P-value of 0.007, indicating a significant negative impact on female entrepreneurship at 5%. This suggests that constraints, whether financial, regulatory, or cultural, limit opportunities for women entrepreneurs. Miller et al. (2022) highlight that these barriers may include difficulties accessing capital, unfavorable regulations, and restrictive societal expectations, further complicating their entrepreneurial journey.

Table 5: The moderating effect of constraints between the determinants of entrepreneurship and female entrepreneurship

	Coeff	T statistics	P values
AF -> ENF	-0,307	0,351	0,726
CT -> ENF	0,013	0,349	0,727
NE -> ENF	-0,011	0,567	0,570
SS -> ENF	0,436	0,636	0,525
ST -> ENF	0,838	3,140	0,002***
CT x AF -> ENF	0,590	1,067	0,286
CT x NE -> ENF	0,021	0,714	0,475
CT x SS -> ENF	-0,510	1,192	0,233
CT x ST -> ENF	-0,065	0,391	0,696

***, **, *: denotes the significance level at the threshold of 1%, 5% and 10% respectively

Source : Authors

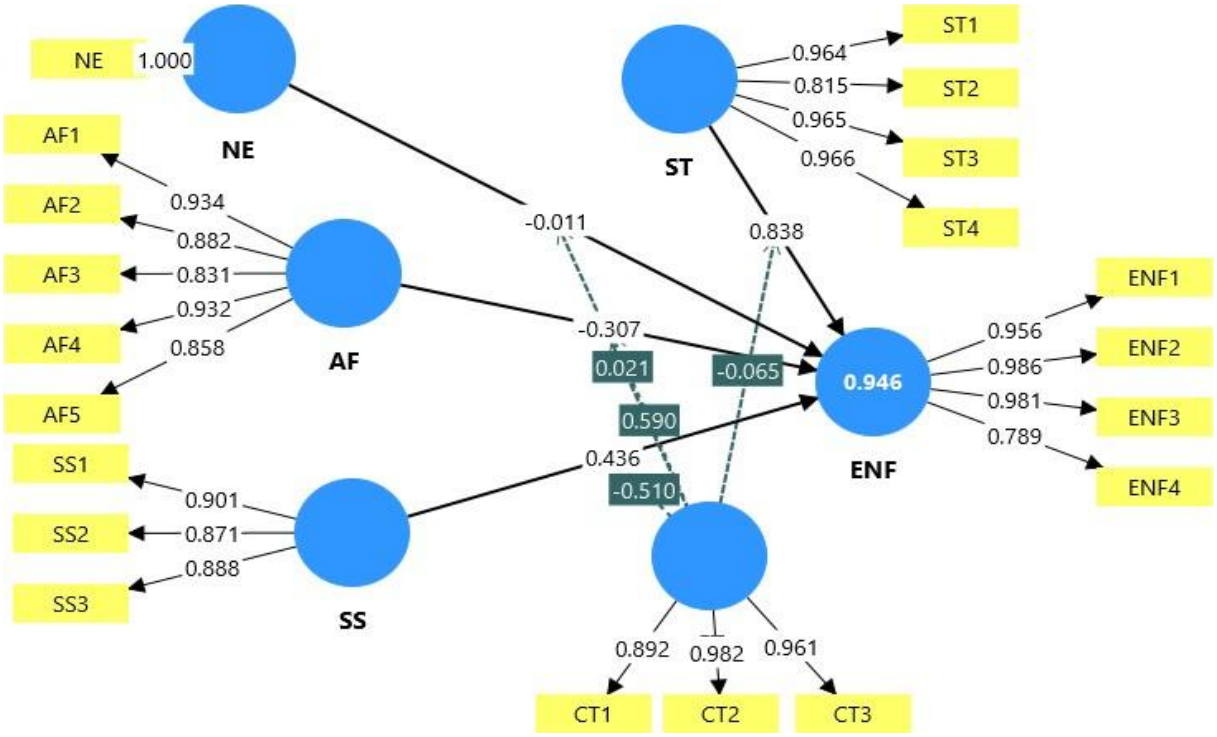
The moderating effect of constraints on female entrepreneurship reveals complex and significant obstacles that women encounter in their entrepreneurial journey. In the previous table, access to finance (AF) presents a positive coefficient of 0.033 with a P-value of 0.093, indicating that it has a beneficial impact on female entrepreneurship, although this effect is marginal. However, when constraints are introduced as moderators, the coefficient becomes -0.307 with a P-value of 0.726. This shows that constraints diminish this positive effect,

suggesting that even with potential access to finance, women may encounter difficulties in fully benefiting from it due to factors such as restrictive cultural norms or biases in the credit granting process. This observation is supported by Boubakri et al. (2023), who emphasize that structural and sociocultural barriers can seriously hinder women's access to the financial resources needed to start and grow their businesses. Regarding education levels (EL), the table shows a coefficient of 0.318 and a P-value of 0.005, indicating a strong positive correlation between education and female entrepreneurship. However, the moderating effect of constraints on this relationship is insignificant, with a coefficient of -0.011 and a P-value of 0.570. This suggests that, although education is a key determinant for women's entrepreneurial engagement, constraints can still create an unfavorable environment that limits their ability to apply this knowledge in an entrepreneurial context. Becker (2020) reinforces this idea by stating that education can improve skills, but it is not enough to overcome the systemic barriers that women face, including societal expectations and challenges related to access to resources. For social support (SS), which displays a coefficient of 0.519 and a P-value of 0.000, it is clear that this factor plays an important and significant role. However, when considering constraints as moderators, the coefficient becomes 0.436 with a P value of 0.525, indicating that constraints do not significantly affect this relationship. This could suggest that, despite the challenges, a good support network can mitigate the adverse effects of constraints on women's entrepreneurship. Wang et al. (2021) highlight the importance of support networks, stating that they are essential in helping women navigate often hostile environments, providing them with valuable resources, advice, and encouragement. Finally, gender stereotypes (ST) display a coefficient of 0.838 with a P value of 0.002, indicating a significant moderating effect. This means that gender stereotypes may interact with other variables to amplify the challenges women face in entrepreneurship. This finding is corroborated by Kabeer (2023), who notes that stereotypes can create psychological and social barriers, making entrepreneurial initiative more difficult. Women may feel discouraged or undervalued due to societal perceptions that minimize their ability to succeed in traditional, often male-dominated roles.

Indeed, we can conclude that our findings indicate that constraints are not mere obstacles, but factors that significantly alter the dynamics between the determinants of entrepreneurship and women's engagement. Recognizing these interactions is essential to developing policies and programs that truly support women entrepreneurs, integrating approaches that address the systemic and cultural challenges they face. An integrated approach that combines education,

social support, and strategies to overcome gender stereotypes could be key to fostering a more egalitarian and inclusive entrepreneurial environment.

Figure 1: The moderating effect of constraints between entrepreneurial determinants and the success of female entrepreneurship



Source : Authors

The diagram illustrates the moderating effect of constraints on the relationship between entrepreneurial attitudes and female entrepreneurial success. It highlights several key factors, such as education level, job satisfaction, entrepreneurial attitudes, and social satisfaction, that influence women's entrepreneurial success. Higher education and strong job satisfaction are associated with increased entrepreneurial success, while positive entrepreneurial attitudes also play a significant role. However, constraints, such as those identified in the diagram, can reduce these positive attitudes, thus negatively impacting success. This underscores the importance of creating a supportive environment to overcome these constraints and foster the growth of women entrepreneurs.

Conclusion

The study of women's entrepreneurship is critically important in a context where gender equality and women's economic empowerment are becoming global priorities. This article examined the effects of entrepreneurship determinants and constraints on women's engagement in entrepreneurship, with a particular focus on the moderating effect of constraints. The methodology adopted for this research is based on quantitative data analysis, allowing for the assessment of relationships between different variables using coefficients, t-statistics, and p-values.

The main findings reveal that, while some determinants such as education and social support have a significant impact on women's entrepreneurship, constraints often act as major obstacles that limit these effects. In particular, the analysis showed that access to finance, while important, is largely hampered by sociocultural and structural constraints. Furthermore, gender stereotypes were found to have a significant moderating effect, exacerbating the challenges women face.

This research makes several contributions. On the one hand, it contributes theoretical insights by enriching the literature on women's entrepreneurship and highlighting the complex interactions between determinants and barriers. On the other hand, empirically, it provides concrete data that can guide policymakers and practitioners in developing effective policies to support women entrepreneurs.

From a managerial perspective, the results highlight the need for companies and organizations to create favorable environments, providing resources and support networks for women, while combating gender stereotypes. However, this study has certain limitations, notably its focus on a specific sample that may not be representative of all geographical or cultural situations.

Future research would benefit from exploring qualitative approaches to complement quantitative analyses, as well as examining the effects of public policies on women's entrepreneurship in different contexts. Furthermore, a longitudinal study could provide insights into the evolution of entrepreneurial dynamics over time. Overall, this research paves the way for a deeper understanding of the challenges and opportunities for women in entrepreneurship, calling for concerted action to foster their success.

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