

Bridging the Gender Gap in Entrepreneurship: A Cross-National Analysis of Cultural and Perceptual Determinants

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Abstract. This study examines the persistent gender gap in entrepreneurship endeavour by integrating individual entrepreneurial perceptions with national cultural dimensions across 41 countries. It addresses a high demand for a context-sensitive understanding of how cultural biases and institutional settings influence gendered entrepreneurial patterns. On the grounds of employing HAC-corrected Ordinary Least Squares regression for a cross-national dataset, the analysis quantifies connections between early-stage entrepreneurial activity, as measured by the female-to-male Total Entrepreneurial Activity ratio, and crucial perceptual variables alongside Hofstede's six cultural dimensions.

The results indicate that a greater perception of entrepreneurial opportunities correlates with a more equal gender balance. Conversely, high status recognition of successful entrepreneurs and hierarchical cultural values such as power distance significantly inhibit female participation. Interestingly, while uncertainty avoidance and long-term orientation play persuasive roles in shaping gender inequality, the effects of individualism

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and masculinity diverge from prior academic literature, revealing unexpected or context-specific dynamics. These findings enhance social role theory in the field of research on entrepreneurship by demonstrating that structural cultural mechanisms are primary barriers to achieving gender parity, even when individual attitudes are supportive. For policymakers, the results suggest that achieving gender equality in entrepreneurship (SDG 5) necessitates not only targeted economic interventions but also comprehensive institutional reforms that challenge the existing cultural status quo and promote future-oriented, risk-tolerant attitudes. Overall, this study provides empirical evidence and nuanced insights into the interplay between entrepreneurial behaviour and national culture in narrowing the gender gap.

Keywords: Entrepreneurship, Gender gap, Cultural dimensions, Perceptual determinants, Cross-national analysis.

1. Introduction

Entrepreneurship has traditionally focused on organizing resources for production and pursuing profit, shaped by industrial and trade-driven economies and often viewed through a masculine lens (Prince et al., 2021). In patriarchal societies, the economic and domestic roles of men and women are influenced by deeply embedded cultural norms and beliefs that typically position men as primary actors while relegating women to subordinate roles (Akpamah & Matko, 2023). This cultural context creates structural barriers for female entrepreneurs, limiting their access to education, financial independence, recognition, and restricting their opportunities for business creation and growth (Tlaiss & Kauser, 2019).

However, in recent decades, due to the rise of innovation-driven economies, globalization and rapid technological advancement, the definition and practice of entrepreneurship have considerably changed (Katjiteo, 2024; Pandey et al., 2024). Entrepreneurship now includes value creation, innovation and social impact, which opens new avenues for women's participation, extending far beyond the traditional sectors (Yousafzai et al., 2024). Although the number of women entrepreneurs has increased, difficulties in accessing resources, financing, networks and legitimacy persist (Wang et al., 2019). In addition, women's entrepreneurial activities are exacerbated by societal as well as cultural expectations and institutional practices (Salis & Flegl, 2021).

Despite technological advancements, female entrepreneurs continue to face considerable challenges in the contexts where masculine-coded traits such as assertiveness, competitiveness and autonomy are valued (Lingappa & Rodrigues, 2023; Mavlutova et al., 2025). These cultural biases not only influence individual aspirations and motivations but also affect institutional and policy environments that shape entrepreneurial opportunities (Sarihasan et al., 2024). Previous research has highlighted the importance of individual-level factors in entrepreneurial engagement (Aldreabi et al., 2025; Butkus et al., 2022). However, limited empirical attention has so far been paid to the interaction between entrepreneurial activity and broader cultural dimensions, particularly to those outlined in Hofstede's model (Wu & Li, 2020).

Existing research has made considerable progress in elucidating the individual-level determinants of entrepreneurial activity, such as motivation, self-efficacy and job creation expectations. While the role of national culture in these processes is often neglected, Hof-

stede's cultural dimensions are frequently used to describe national differences (Stoker et al., 2024). However, these studies tend to aggregate cultural factors or focus on masculine and feminine traits without thoroughly examining their specific impacts on gender parity in entrepreneurship (Ditshwenyego Ndlovu et al., 2022). Comprehensive empirical approaches that examine the interplay between entrepreneurial behaviour and cultural mechanisms with individual perceptions, considering the gender dimension, remain rare.

The study explores cultural and entrepreneurial endeavour factors contributing to the persistent gender gap in entrepreneurship. Cross-national regression analysis, employed in the study, explains how the societal and cultural biases collectively shape the behaviour outcomes. By providing an integrated and context-sensitive understanding, the study aims to move beyond mere data and theoretical perspectives, ultimately generating practical insights for policy and institutional reform to understand underrepresented female entrepreneurs.

2. Literature Review

Social Role Theory and Cultural Dimensions in Explaining Gendered Entrepreneurship

Culture, as broadly defined by Hofstede (1980), encompasses a “set of shared values, beliefs, and expected behaviors” that significantly influence business practices within societies. These cultural values shape not only general business conduct but also gendered participation in entrepreneurial activities by either reinforcing or challenging traditional gender roles. According to Liñán et al. (2022), Hofstede's cultural dimensions related to entrepreneurship are often closely aligned with masculine stereotypes characterized by agentic traits; e.g., competitiveness, achievement orientation, and risk-taking. Hofstede's six-dimensional model comprising Power Distance, Individualism versus Collectivism, Masculinity vs. Femininity, Uncertainty Avoidance, Long-Term vs. Short-Term Normative Orientation, and Indulgence vs. Restraint provides a comprehensive framework for examining the gender gap in entrepreneurship, particularly through the prism of masculinity and femininity (Salis & Flegl, 2021).

In many cultural contexts, entrepreneurship is predominantly associated with masculine traits, including assertiveness and a strong drive for achievement (Ikechukwu et al., 2025). In environments where these cultural assumptions prevail, women often encounter significant barriers (Vracheva & Stoyneva, 2020) due to misalignment between the masculine-coded expectations of entrepreneurship and communal, nurturing roles traditionally ascribed to them (Adom & Anambane, 2020). Social Role Theory (Eagly, 1987) elucidates this dynamic by proposing that gender roles are socially constructed and perpetuated through cultural expectations that associate women with communal traits and men with agentic ones. These gendered expectations influence career choices and occupational segregation, manifesting themselves in the field of entrepreneurship (Schneider & Bos, 2019). Therefore, when national cultural values favour the traditionally masculine traits, women's contributions to entrepreneurship are often constrained, thus highlighting the deep cultural embeddedness of entrepreneurial activities (Lavoie, 2024).

Previous academic research has mostly focused on individual-level determinants such as perceived entrepreneurial capabilities and expectations regarding job creation (Aldaaja et al., 2025). However, there is a critical need for investigation of the interplay between these behavioural factors and national cultural values (Fleck et al., 2021). Although Hofstede's cultural dimensions are frequently used in research on cross-cultural entrepreneurship (see Table 1), empirical studies examining varying effects of cultural aspects on gender-specific entrepreneurial activities are lacking. Most existing research generalizes cultural values or narrowly focuses on masculinity and femininity (Weiss et al., 2023), without considering how distinct cultural factors reinforce perceptions of entrepreneurship and barriers to female participation.

Table 1. Theoretical Framework and Key Concepts

Theory/Concept	Main Themes
Social Role Theory (Eagly, 1987)	Gender roles are socially constructed; Women = communal; Men = agentic
Gender Role Norms (Eagly et al., 2004)	Women are expected to be nurturing/supportive; Men are expected to lead, compete, and take risks
Hofstede's Cultural Dimensions (Hofstede, 2011)	Power Distance; Masculinity vs. Femininity; Individualism vs. Collectivism; Uncertainty Avoidance, Long-Term vs. Short-Term Orientation, and Indulgence vs. Restraint
Gendered Access to Entrepreneurship (Kanze et al., 2018)	Masculine traits dominate perceptions; Women face barriers in visibility, funding, and recognition

Source: Prepared by the authors.

This study aims to address gender gaps in entrepreneurship by integrating individual-level entrepreneurial perceptions with Hofstede's cultural framework. It seeks to examine the combined influence of cultural and psychological determinants on female-to-male entrepreneurship ratios across different nations. By taking this integrative approach, we aim to gain a deeper understanding of the cultural foundations underlying the gender gap in entrepreneurship.

Hypothesis Statements

H1: Higher perceived entrepreneurial opportunities among individuals are positively associated with a higher female-to-male entrepreneurship ratio (Brush et al., 2018).

H2: Higher status of successful entrepreneurs negatively affects the female-to-male entrepreneurship ratio, indicating potential gender disparities in growth aspirations (Rietveld & Patel, 2022).

H3: Higher national Power Distance values have a negative impact on female entrepreneurial participation, reinforcing hierarchical barriers (Emami et al., 2018; Gerke et al., 2023).

H4: National Individualism influences female entrepreneurial engagement by fostering independence and self-efficacy (Weiss et al., 2023).

H5: Greater cultural Masculinity values are negatively associated with women's entrepreneurship, as they align with traditional masculine traits and roles (Bullough et al., 2021).

H6: Higher Uncertainty Avoidance negatively impacts female entrepreneurship by discouraging risk-taking behaviour (Fernández Robin et al., 2019; Gimenez-Jimenez et al., 2020).

H7: Long-Term Orientation is positively correlated with female entrepreneurship, promoting persistence and future-oriented planning (Ferreira et al., 2019; Liñán et al., 2020).

H8: Indulgence positively affects female entrepreneurial activity by allowing for freer expression and the pursuit of personal desire (Çelikkol et al., 2019; Sweida et al., 2020).

3. Data and Methodology

Data Sources and Sampling

Cultural and perceptual factors contributing to the gender gap in entrepreneurship are examined by employing a cross-national quantitative research design. The dataset combines national-level indicators from credible sources, including the Global Entrepreneurship Monitor (GEM, 2025), based on the *Adult Population Survey* (APS). APS measures the motivations and ambitions of individuals starting businesses and their social attitudes towards entrepreneurship intentions.

The selection of 41 countries was based on the availability of complete the 2023 GEM ratios and data for all six Hofstede dimensions (*Hofstede Insights*, 2025). These countries represent approximately 85% of the global GDP and include a diverse range of income levels (18 high-income, 15 upper-middle-income, and 8 lower-middle-income) as well as all major cultural clusters (e.g., Anglo-Saxon, Germanic, and Latin European). This approach balances representativeness with data completeness.

The primary dependent variable, the Female-to-Male *Total Early-stage Entrepreneurial Activity* (TEA) ratio, is sourced from the GEM Global Reports. GEM perceptual indicators, such as Perceived Opportunities and the High Status attributed to Successful Entrepreneurs, are measured as percentages of the population aged 18 to 64 on a scale from 0 to 100, allowing for comparability across all countries. This indicator facilitates the comparative analysis of gender disparities in entrepreneurship across various countries and on the latest data available in 2023. Entrepreneur attitudes and behaviours are reflected by key selected independent variables of individual behavioural perceptions, including Perceived Opportunities and High Status to Successful Entrepreneurs, which are derived from GEM survey results, capturing individuals' self-reported entrepreneurial skills, motivations and ambitions to start their businesses towards future growth. National cultural contexts are defined by using Hofstede's six cultural dimensions, such as Power Distance, Individualism, Masculinity, Uncertainty Avoidance, Long and Short-term Orientation, and Indulgence. Each Hofstede dimension is presented as an index on a 0–120 scale, where 0 indicates the lowest and 120

refers to the highest level of the respective cultural characteristic, making these indices comparable across countries. These national metrics, obtained from Hofstede Insights, allow for comprehensive cross-cultural comparisons. The sample encompasses multiple countries representing diverse cultural profiles and stages of economic development.

Variables and Measurement

Dependent Variable (DV):

- The Female/Male TEA (F/M TEA) ratio is a continuous variable measuring gender equality in early-stage entrepreneurial activity. F/M TEA is the proportion of female individuals, aged 18–64, who are either nascent entrepreneurs or owner-managers of new businesses, compared to the same proportion of their male counterparts. DV values closer to 1 indicate greater gender equality in entrepreneurship.

Independent Variables (IDVs):

Entrepreneur attitudes and behaviours are represented by the following indicators:

- *Perceived Opportunities* (PO) is measured as the share of population aged 18 to 64, excluding those who are already engaged in entrepreneurial activities and report seeing good opportunities to start a firm in their local area. This metrics is presented on a scale from 0 to 100, with higher values indicating a larger share of individuals who perceive entrepreneurial opportunities.
- *High Status of Successful Entrepreneurs* (HSSE) is quantified by the percentage of individuals aged 18 to 64 who perceive that successful entrepreneurs hold a high status in their country. This measurement is represented on a scale from 0 to 100, with higher values indicating a greater proportion of respondents who view successful entrepreneurs as enjoying an elevated status.

In addition, Hofstede's cultural dimensions for each country are represented as indices on a common scale of 0 to 100 (approximately 0 to 120). Lower scores indicate a weaker presence of a particular cultural characteristic, while higher scores indicate a stronger presence. This index scale is consistently applied to all countries in the sample.

- The *Power Distance Index* (PDI) reflects the extent to which lower-power members accept unequal power distribution. Lower scores show that societies emphasize equality, decentralized decision-making and open communication, where authority is questioned, and power gaps are minimized (Denmark, Austria). Higher scores indicate that societies accept a hierarchical order and unequal power distribution, where subordinates defer to superiors, and decision-making is centralized (Guatemala, Malaysia).
- *Individualism vs. Collectivism* (IDV) refers to the degree to which people are integrated into groups. Lower scores show more collectivist cultures that value loyalty, group cohesion, and shared responsibility, where individuals prioritize family or community over themselves (Hong Kong, Malaysia). Higher scores reflect more individualistic cultures that promote independence, personal achievement, and self-reliance, with personal goals prioritized over group interests (USA, UK, Australia).

- *Masculinity vs. Femininity* (MAS) measures the balance between achievement-oriented values and care- and quality-of-life-oriented values in different cultures. Lower scores indicate more feminine cultures that prioritize cooperation, modesty, care for the vulnerable, and consensus-building, while emphasizing the quality of life and relationships, e.g., Sweden and Norway. Conversely, countries with higher MAS scores emphasize achievement, assertiveness, competitiveness, and material success, along with more defined gender roles, such as in Japan and Hungary.
- *Uncertainty Avoidance Index* (UAI) reflects society's tolerance for uncertainty and ambiguity. Countries with lower UAI scores tolerate ambiguity, risk, and change, where the rules are more flexible, and innovation is more readily welcomed (Denmark, Sweden). Higher scores indicate cultures that prefer stability and predictability, with stricter rules and procedures being implemented to manage uncertainty (Belgium, Greece).
- *Long-Term Orientation* (LTO) refers to the balance between long-term future rewards versus short-term gratification. Lower scores indicate societies that place more emphasis on tradition, the maintenance of established norms, and short-term achievements (USA, UK). Higher scores indicate societies that prioritize future planning, perseverance, thrift, and sustained progress (South Korea, Japan).
- *Indulgence vs. Restraint* (IVR) indicates the degree of freedom to enjoy life versus restraint by social norms. Lower scores show restrained cultures suppressing gratification of needs, regulating desires, and emphasizing strict societal norms (East Asia, Eastern Europe). Higher scores indicate more indulgent cultures that value free expression and enjoyment of life, where individuals feel lower constraint imposed by societal norms (Latin America, Nordic Europe).

Methodology

The study employs HAC-corrected OLS (*Ordinary Least Squares*) regression to provide robust standard error estimates in the presence of heteroskedasticity, which is a common issue in cross-national datasets. Multiple models are constructed, with each of them incrementally incorporating a set of cultural dimensions alongside core perceptual predictors. The explanatory power of the models is assessed by using R-squared, F-statistics and the magnitudes of the coefficients, with the most comprehensive model incorporating all cultural dimensions yielding the highest explanatory value for the gender gap in entrepreneurship. Analyses are performed in *Gretl* to ensure replicability. The results detail coefficients for each predictor, illustrating the direction and magnitude of their relationships with the dependent variable test.

In summary, HAC OLS is selected to enhance the reliability of inferences related to their precision. This approach leads to more dependable conclusions in empirical research. HAC OLS validates standard errors in the presence of unequal variance, addresses issues of serial or cluster correlation, and ensures robust inference across varied samples (Newey & West, 2014). The model incorporates several culturally related dimensions and perceptual indicators; therefore, we conducted diagnostics for multicollinearity by calculating *Variance Inflation Factors* (VIFs) for all independent variables in each model specification.

The generic multiple linear regression formula that summarizes the models in this study is as follows:

$$F/MTEA_i = \beta_0 + \beta_1 PO_i + \beta_2 HSSE_i + \beta_3 PDI_i + \beta_4 IDV_i + \beta_5 MAS_i + \beta_6 UAI_i + \beta_7 LTO_i + \beta_8 IVR_i + \epsilon_i \quad (1)$$

Where: Female/Male TEA is the dependent variable of Female to Male Total Early-stage Entrepreneurial Activity ratio for country i . β_0 is the intercept. $\beta_1, \beta_2, \dots, \beta_8$ are coefficients for independent variables (IDVs). ϵ_i is the error term.

Model Specifications

Model 1 includes independent variables such as Perceived Opportunities and High Status for Successful Entrepreneurs. Model 2 builds on Model 1 by adding the original Hofstede's framework (Hofstede, 1980). Model 3 is further expanded by incorporating the Long-Term and Short-Term Orientation dimension. Model 4 represents a complete model, which includes all six IDVs from Hofstede's cultural dimensions (Hofstede, 2011) listed above. Each model incorporates selected behavioural perceptions to analyse their impact on the gender gap in entrepreneurial activities.

4. Results

Table 2 presents descriptive statistics, e.g., the mean, median, standard deviation (Std. Dev), minimum, maximum, skewness and kurtosis for variables used across the models, based on the provided data:

Table 2. Descriptive statistics of DV and IDVs

Variable	Mean	Median	Minimum	Maximum	Std. Dev	Skewness	Excess kurtosis
Female/Male TEA	0.768	0.780	0.520	1.260	0.181	0.864	0.414
Perceived Opportunities (PC)	54.623	58.070	17.190	93.210	16.813	-0.350	-0.076
High Status to Successful Entrepreneurs (HSSE)	74.557	77.500	51.760	95.360	12.615	-0.311	-1.091
Power Distance (PDI)	67.958	68.410	38.390	95.720	14.733	-0.244	-0.619
Individualism (IDV)	46.882	47.000	6	91	24.662	0.045	-1.121
Masculinity (MAS)	60.088	61.500	13	104	21.984	-0.025	-0.755
Uncertainty Avoidance (UAI)	50.765	49.500	5	110	23.297	0.193	0.259
Long Term Orientation (LTO)	69.912	76.000	29	112	21.113	-0.293	-0.788
Indulgence (IVR)	47.635	48.111	0	100	24.997	0.098	-0.681

Note: Std. Dev – standard deviation.

Source: Authors' estimations based on GEM (2023) and Hofstede Insights (2025) data.

Table 2 summarizes the variability of the key *Dependent Variable* (DV) and *Independent Variables* (IV) used in regression models. These descriptive statistics highlight cross-country differences in entrepreneurial activities and cultural factors. The spread and shape indicators underscore why a robust modelling technique (such as HAC-corrected OLS) is necessary to ensure reliable comparisons and effect estimation in the analysis.

The female-to-male TEA (F/M TEA) ratio averages at 0.768, thus indicating a significant gender disparity in entrepreneurial activity. However, some countries are approaching parity with values close to 1. Perceived Opportunities show a high mean of 54.62, accompanied by standard deviation values (S.D. =16.81), which suggests considerable national variance in entrepreneurial optimism. Additionally, the indices for Power Distance and Masculinity are relatively high, exhibiting moderate variation and a mild negative skew. This result reflects a broad distribution while indicating a cultural tendency towards hierarchical and masculine structures in the sampled countries. Furthermore, Individualism, Uncertainty Avoidance, Long-Term Orientation, and Indulgence display substantial variability across nations, as evidenced by high standard deviations and inconsistent skewness and kurtosis.

Regression analysis in Table 3 addresses the issue how cultural and perceptual determinants affect the gender gap in entrepreneurship, providing results interpreted in light of the study's hypotheses and academic literature.

Table 3. Regression Results for DV and IDVs

DV: Female/Male TEA	Model 1	Model 2	Model 3	Model 4
Constants	0.9611 (5.503)***	1.9917 (10.42)***	1.9174 (11.14)***	2.1792 (8.021)***
Perceived Opportunities (PO)	0.0046 (2.536)**	0.0041 (3.499)***	0.0055 (3.987)***	0.0057 (4.271)***
High Status to Successful Entrepreneurs (HSSE)	-0.0062 (-2.319)**	-0.0104 (-5.865)***	-0.0116 (-5.983)***	-0.0123 (-6.137)***
Power Distance Index (PDI)		-0.0023 (-2.193)**	-0.0033 (-3.228)***	-0.0043 (-3.339)***
Individualism vs. Collectivism (IDV))		-0.0065 (-5.686)***	-0.0074 (-5.545)***	-0.0086 (-5.563)***
Masculinity vs. Femininity (MAS)		0.0009 (0.993)	0.0013 (1.429)	0.0018 (1.754)*
Uncertainty Avoidance (UAI)		-0.0036 (-7.431)***	-0.0033 (-7.663)***	-0.0036 (-6.064)***
Long vs Short Term Orientation (LTO)			0.0032 (2.456)**	0.0020 (1.198)
Indulgence vs Restraint (IVR)				-0.0011 (-1.311)
Model statistics				
R ²	0.2094	0.8951	0.9535	0.9833
Adj. R ²	0.1567	0.8581	0.9331	0.9744
F-statistics	3.972	24.17	46.82	110.58
P values of F statistics	0.0295	1.95E-07	1.76E-09	6.25E-12
S.E. of Regression	1.6238	1.3785	1.3588	1.324
max(VIF)	0.936	2.541	2.181	3.009
Countries	41	31		

Note: Coefficients in parentheses are standard errors. Asterisk (*) indicates statistical significance at $p < 0.05$. The maximum VIF values reported for Models 1–4 range from 0.936 to 3.009, which are well below the conventional thresholds (e.g., 5 or 10) (Kim, 2019), indicating that multicollinearity is not severe and does not threaten the stability or interpretability of the estimated coefficients.

Source: Authors' estimations based on GEM (2023) and Hofstede Insights (2025) data.

The regression coefficient for PO is significantly positive across all models (Models 1–4), supporting Hypothesis 1 (H1), which postulates that a higher perception of opportunities correlates with an increased female-to-male (F/M TEA) entrepreneurship ratio. This finding aligns with previous research emphasising the crucial role of opportunity recognition and optimism in promoting women's early engagement in entrepreneurship (Venkatesh et al., 2017). The high status to successful entrepreneurship (HSSE) coefficient is significantly negative, thus confirming Hypothesis 2 (H2). This result indicates that higher perceptions of status are linked to a lower female-to-male TEA ratio. This observation reflects the existing literature illustrating how status hierarchies can exacerbate gender disparities in aspirations and recognition (Kanze et al., 2018).

The negative and significant coefficient for PDI across relevant models lends support to Hypothesis 3 (H3), which is consistent with cross-cultural studies revealing that national hierarchies may restrict women's entrepreneurial participation (Adom & Anambane, 2020; Hechavarria & Ingram, 2016). Contrary to certain theoretical expectations, higher values of individualism are associated with a lower F/M TEA ratio, partially contradicting Hypothesis 4 (H4). From the perspective of social role theory, highly individualistic environments can encourage entrepreneurial independence while also reinforcing gendered expectations that women take on primary caregiving and unpaid care roles. When institutional support for childcare, social protection, and family assistance is lacking, the risks associated with entrepreneurship can disproportionately impact women, making it especially difficult for them. As a result, even in cultures with a stronger emphasis on individualism, improvements in overall entrepreneurial independence do not necessarily lead to proportional increases in women's participation. Higher individualism scores indicate environments where entrepreneurial risks are viewed as solely the individual's responsibility, and success is closely linked to self-reliance. While individualism is typically regarded as a promoter of independence, other studies indicate that strong individualistic norms may not necessarily support female entrepreneurship, particularly in contexts lacking social safety nets or communal support systems (Stoker et al., 2024).

The masculinity index (MAS) shows a small ($p > 0.05$), and positive coefficient that is statistically insignificant across all model specifications, which means that there is no empirical support for Hypothesis 5 (H5). This result indicates that the overall masculinity-femininity scores do not have a strong impact on the female-to-male TEA ratio when other cultural and perceptual factors are accounted for. One possible explanation for this finding is that the MAS reflects broad attitudes of achievement and competition for both genders. In contrast, gender-specific norms regarding sector appropriateness, growth expectations, and access to finance are more complex and not fully captured by the MAS index.

This nuance finding is echoed in emerging literature, where the relationship between masculinity and female entrepreneurship is found to be context-specific (Hailemariam et al., 2019). The findings suggest that generic cultural masculinity does not inherently result in reduced levels of female entrepreneurial activity. In certain countries, even high masculinity scores may align with policy narratives that promote entrepreneurship as a

viable avenue for women's economic success, potentially counteracting traditional gender stereotypes (Ferrari, 2025).

Higher uncertainty avoidance (UAI) is significantly associated with a lower F/M TEA ratio, thereby supporting Hypothesis 6 (H6) and the statement that those cultures that are resistant to ambiguity may particularly inhibit women's risk-taking and business entry (Hofstede, 1980). LTO is positive and significant in one extended model (Model 4), thus supporting Hypothesis 7 (H7) while stating that future-oriented cultures foster women's entrepreneurial participation, as seen in East Asian contexts valuing perseverance and long-term planning (Ferreira et al., 2019). The coefficient for indulgence (IVR) is negative but statistically insignificant, providing no empirical support for Hypothesis 8 (H8) in this sample. This result is consistent with ambiguous findings in the literature regarding the link between indulgence to entrepreneurship (Yıldırım et al., 2016).

Overall, the results strengthen the importance of various cultural and perceptual factors in explaining gender gaps in entrepreneurship activities, also revealing areas where current theory may benefit from greater contextualization. The mixture of high adjusted R^2 with highly significant F-statistics, low variance inflation factors (VIFs) and robust HAC-corrected estimates confirms that the model statistics are not only statistically sound but also well-suited for policy and theoretical interpretation in the context of cross-national gender gap analysis in entrepreneurship.

5. Conclusion and Recommendations

The primary objective of this study is to investigate how individual entrepreneurial perceptions and national cultural dimensions influence the gender gap in early-stage entrepreneurship. This research aims to provide new insights into the cultural foundations of gender disparities in entrepreneurial activities. The impacts of perceived opportunities, high-status recognition and cultural dimensions on early-stage entrepreneurship from a gender equality perspective, considering that country-level variations were examined by using the cross-national HAC-corrected OLS regression analysis.

The strength of this research lies in its integrative approach, merging entrepreneurial behaviour with Hofstede's cultural indicators across diverse national contexts, thereby transcending traditional single-level analyses. The main findings of the study reveal that (a) a higher perception of opportunities among individuals is consistently associated with a more equitable female-to-male entrepreneurship ratio; (b) hierarchical and status-oriented cultures substantially hinder women's participation in entrepreneurship; and (c) cultural factors such as power distance, uncertainty avoidance and long-term orientation exert a greater influence than previously recognized, while individualism and masculinity display context-dependent or unexpected effects.

The theoretical implications improve social role theory by emphasising the interplay between cultural environments and gendered entrepreneurship participations. The findings reveal that national-level cultural biases collectively shape entrepreneurial behaviours, extending beyond individual aspirations. Methodologically, the application of HAC-corrected

models enhances reliability for policy interpretation, while ensuring robust inferences even in the presence of heteroskedasticity and serial correlation.

The practical implication for policymakers is that closing the gender gap in entrepreneurship requires interventions that overcome economic barriers to directly address cultural and institutional constraints. Strategic reforms should prioritise mechanisms that enhance women's opportunity recognition, dismantle hierarchical barriers, and cultivate risk-tolerant, future-oriented entrepreneurial ecosystems (Soni et al., 2025). This study strengthens coherence with SDG 5 (Gender Equality), while accentuating that equalization of entrepreneurial opportunities depends on sustainable cultural transformation supported by responsive and inclusive institutional frameworks (Iizuka & Hane, 2021).

Higher priority initiatives align with SDG5 should focus on hierarchical (PDI) and risk-averse (UAI) cultures by implementing institutional reforms. These reforms should aim to reduce status barriers and promote risk-tolerant entrepreneurship training specifically for women. The improvement of perceptual factors by expanding campaigns can enhance women's ability to recognize opportunities and counteract biases associated with a high-status stereotype effect. The future-oriented norms (LTO) through education that connects entrepreneurship with qualities such as perseverance and thrift can support the long-term perspectives.

Institutional reforms are also needed to support gender-inclusive ecosystems. Implementing gender quotas in advisory boards, incubators, and funding bodies alongside standardised gender-disaggregated data collection strengthens evidence-based policymaking and accountability (Máté et al., 2025). Cross-ministerial collaboration among economic, educational, and women's affairs authorities can result in integrated strategies addressing both structural and perceptual barriers (Becsky-Nagy & Fazekas, 2025).

Despite the contributions made, several limitations must be acknowledged. First, the sample of 41 countries includes various cultural groups and different levels of development. This diversity enhances the external validity for middle- and high-income contexts. However, the underrepresentation of low-income African and Asian countries restricts the generalizability of the findings to subsistence entrepreneurship settings, thus highlighting the need for region-specific adaptations. Second, the cross-sectional design and the use of aggregate indicators restrict our ability to make causal inferences and consider the nuances within countries. Future research should integrate qualitative insights into the lived experiences of gender norms and employ longitudinal data to enhance the theoretical implications. Third, mixed-methods approaches could help us understand why individualism appears to suppress female entrepreneurial intention and why masculinity does not predict it in our models. However, comprehensive cultural controls and HAC standard errors have been employed to mitigate omitted variable bias, while panel studies could further address the endogeneity issues.

In conclusion, this study presents an integrated and context-sensitive perspective on the factors contributing to mitigating the gender gap in entrepreneurship. It establishes crucial groundwork for both academic development and sustainable policy reform, aimed at empowering women entrepreneurs across various cultural contexts.

Author Contributions

István Hágén Zsombor: formal analysis, writing – original draft.

Imran Sarihasan: conceptualisation, investigation, writing – original draft.

Jolita Vveinhardt: writing - review and editing, visualisation.

Domicián Máté: conceptualisation, methodology, formal analysis, writing – original draft.

Data Availability Statement

Full dataset is available in Online Supplementary Materials or upon reasonable request from the corresponding author.

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