

Understanding Female Entrepreneurs: Attitudinal Dimensions and Levels of Engagement

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ABSTRACT: Despite the growing body of research on female entrepreneurship, previous studies have predominantly focused on individual attitudinal variables rather than on their underlying structure in the context of business venture creation. This study aims to identify latent dimensions of entrepreneurial attitudes and to examine how these dimensions vary among non-entrepreneurs, individuals with entrepreneurial intentions, and active entrepreneurs. Using Global Entrepreneurship Monitor (GEM) Adult Population Survey data from Hungary (2021–2024), the analysis is based on a representative sample of 4,080 women. An exploratory Principal Component Analysis (PCA) was applied to identify underlying attitudinal dimensions. Subsequently, factor scores were compared across (1) non-entrepreneurs, (2) individuals with entrepreneurial intentions, and (3) entrepreneurs using one-way analysis of variance (ANOVA). The results reveal four latent factors – risk aversion, entrepreneurial environment perception, entrepreneurial self-perception, and perceived readiness – which explain 60.39% of the total variance. Significant differences are observed across the analysed groups, with non-entrepreneurs exhibiting higher risk aversion and lower levels of entrepreneurial self-perception and readiness. These findings highlight the relevance of examining attitudinal structures in understanding differences in entrepreneurial engagement among women.

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The results suggest that targeted interventions – particularly those aimed at reducing risk aversion and strengthening perceived capabilities – may support the development of entrepreneurial potential.

KEYWORDS: female entrepreneurship, Global Entrepreneurship Monitor, entrepreneurial attitudes

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1. Introduction

The imperative of continuous economic development makes women's participation in the labour market and broader economic roles indisputable. At the same time, the evolving role of women has raised numerous questions, many of which emerged during and after the “second-wave feminism” of the late 1970s and 1980s. This movement made a substantial contribution to the establishment and growth of women's and gender studies as an academic field. Over time, there has been an increasing focus on examining cultural practices (Richardson & Robinson 2020).

Among the various strands of feminist theory, social feminism emphasises the concept that women and men may inherently approach entrepreneurship in divergent ways due to the influence of socialisation processes (Yadav & Unni 2016). This observation has given rise to a dual research approach. While comparative studies between genders remain valuable, an in-depth understanding of women's entrepreneurial pathways may require research focused exclusively on female subjects. The Global Entrepreneurship Monitor has demonstrated that women are less inclined to embark on entrepreneurial endeavours than men (GEM 2023). Although the literature on female entrepreneurship continues to expand, studies examining the attitudes of female entrepreneurs remain relatively scarce. Furthermore, our literature review revealed a distinct lack of research that directly compares female entrepreneurs, women with entrepreneurial intentions, and non-entrepreneurial women. Existing studies typically limit their scope to comparing male and female entrepreneurs, or entrepreneurial and non-entrepreneurial women. This study extends the literature by examining female entrepreneurial attitudes in a Central and Eastern European context, thereby providing a basis for future cross-country comparisons.

Consequently, investigating the factors influencing women's entrepreneurial engagement is a particularly noteworthy research direction.

The objective of this study was to contribute to the body of knowledge on women's entrepreneurial engagement. The following research questions were formulated:

- Research question 1: Which factors characterise women's attitudes and perceptions towards entrepreneurship?
- Research question 2: How do attitudes and perceptions differ between women entrepreneurs, those with entrepreneurial intentions, and non-entrepreneurs?

This study contributes to the literature in several ways. First, it moves beyond the analysis of individual attitudinal variables by identifying latent attitudinal structures using exploratory principal component analysis based on the Hungarian GEM dataset of female respondents between the years 2021 and 2024. Second, it provides a comparative perspective by examining differences in these dimensions across women at different levels of entrepreneurial engagement (non-entrepreneurs, individuals with entrepreneurial intentions, and entrepreneurs). Third, by focusing on Hungarian GEM data, the paper offers empirical evidence from a Central and Eastern European context, which remains under-represented in the literature.

The paper proceeds with a review of the relevant literature, followed by a presentation of the sample, the applied methodology, and the key findings. The paper concludes with a discussion, an outline of the study's limitations, and recommendations for future research directions.

2. Literature review

The Gender Gap Index, measured by the World Bank and the European Institute for Gender Equality (EIGE), has become a key source of information for examining differences in social roles, activities, and performance between women and men. These indices facilitate the monitoring of regional and temporal shifts in gender inequalities. Agenda 2030, adopted by the UN General Assembly as a framework for achieving sustainable development, along with the associated Sustainable Development Goals (SDGs), also includes the objective of "achieving gender equality and empowering all women and girls" (United Nations 2015). This has encouraged further research on gender disparities and the implementation of concrete actions to promote equality. The promotion of women's entrepreneurial activity is increasingly recognised as a possible solution to this issue, as outlined in the OECD publication *Closing the Gender Gap – Act Now* (OECD 2012).

In the international academic literature, the subfield focusing on women entrepreneurs within the broader domain of entrepreneurship emerged in the late 1970s. It gained real momentum in the late 1990s and early 2000s, when scholars began to challenge the prevailing assumption that male and female entrepreneurship did not differ significantly, and thus did not warrant separate investiga-

tion (Yadav & Unni 2016). The majority of publications in this field originate from the United States and the United Kingdom (Deng et al. 2024).

International studies on women's entrepreneurship can generally be grouped into six key thematic areas: (1) barriers to women's entrepreneurial activity, (2) the role of human and social capital in business growth, (3) culture and gender differences, (4) family support and the handling of motherhood, (5) the intersection of social entrepreneurship and women's involvement, and (6) feminist perspectives (Cardella et al. 2020).

Emerging research directions include exploring financing sources, the embeddedness of female entrepreneurial activity, its impact, and environmental factors (Deng et al. 2020). The literature also tends to focus on regional examinations of women's entrepreneurship, particularly in developing countries, with emphasis on Africa and Asia (Corrêa et al. 2021; 2022; Fauzi et al. 2023; Franzke et al. 2022; Ojong et al. 2021). The potential justification for conducting a regional-level investigation is as follows: while women in developed economies are more inclined to initiate opportunity-driven ventures, in emerging and developing economies they are predominantly driven by necessity (Brush & Cooper 2012). Solesvik et al. (2019) suggest that women often pursue entrepreneurial ventures to address social needs, placing less emphasis on traditional business objectives such as growth or profit. However, regional and contextual differences appear to significantly influence the underlying motivations for venture creation. For instance, in a comparative study involving emerging economies such as Russia and Ukraine and the developed economy of Norway, female entrepreneurs in Norway demonstrated a stronger inclination to contribute to societal well-being than their counterparts in emerging economies. This implies that the cultural and social environments of developed countries such as Norway may offer women greater opportunities for personal fulfilment in other spheres, thereby allowing them to prioritise societal impact in their entrepreneurial activities to a greater extent than is typically possible in emerging economies.

Focusing on Central and Eastern Europe (CEE), Rugina and Ahl (2023) conducted a discourse analysis of studies from the region. They concluded that, due to limited entrepreneurial activity during the socialist era, which also affected women's entrepreneurship, research on the topic is still relatively new internationally. Nevertheless, despite the region's distinct historical and economic development, the normative assumptions about female entrepreneurship in Western literature are also prevalent here. Based on the analysed studies, women entrepreneurs in CEE may play a crucial role in economic growth and addressing various societal challenges. However, the research suggests that these women often lack the necessary skills and require encouragement to pursue entrepreneurial activity. Women's entrepreneurial activity remains lower than men's (GEM

2023). Therefore, it is particularly important to examine the factors that influence women's decisions to become entrepreneurs.

Social cognitive career theory provides a useful framework for explaining why some women feel confident in pursuing entrepreneurship, while others do not (Wilson et al. 2007). In their cross-national study spanning 17 countries, Koellinger et al. (2013) found that women exhibit significantly lower levels of entrepreneurial activity, mainly due to their heightened fear of business failure. This anxiety acts as a critical psychological barrier, discouraging many women from pursuing entrepreneurial ventures despite possessing the necessary skills or resources.

While general demographic surveys suggest lower entrepreneurial intent among women due to increased anxiety surrounding business failure (Onyusheva & Meyer 2020; Prabha et al. 2025), more focused analyses indicate that women who engage in entrepreneurship tend to exhibit less fear of failure and higher risk tolerance than non-entrepreneurs; in fact, when isolating individuals who have successfully launched ventures, the traditional gender-based gap in risk propensity becomes statistically insignificant (Chochoiek & Rosendahl Huber 2024; Dawson et al. 2011). Conversely, the psychological profile of female non-entrepreneurs is heavily characterised by structural anxiety and feasibility doubts rather than opportunity recognition. For example, female undergraduates who choose not to pursue business ownership consistently highlight perceived structural inhibitors, citing beliefs that managing a firm is inherently too difficult, alongside acute concerns regarding weak access to proprietary business information, stringent financial constraints, and a foundational lack of technical skills or practical experience (Emnet Negash 2015). Behavioural divergence is also evident in how social capital is leveraged. Female entrepreneurs demonstrate a markedly more positive and strategic attitude toward professional networking, particularly once their ventures have successfully transitioned past the initial launch phase (Chochoiek & Rosendahl Huber 2024; Dawson et al. 2011).

A central question in entrepreneurship research concerns the differences between active entrepreneurs and non-entrepreneurs, as several studies have identified important psychological and behavioural distinctions between these groups. Empirical research highlights the role of individual-level factors, including risk perception. Earlier studies also suggest that female entrepreneurs tend to exhibit more proactive attitudes and differ from non-entrepreneurs in their orientation towards business activities and professional roles (Watton 1999). Despite these insights, existing studies typically examine these factors individually, rather than considering how they may be structured into broader attitudinal dimensions. This limitation is particularly relevant in the context of female entrepreneurship, where research has predominantly focused on motivations and structural barriers, while the internal configuration of attitudes and perceptions remains less explored. Accordingly, analysing how different attitudes

combine into latent structures may provide deeper insight into the mechanisms underlying women's entrepreneurial engagement. The present study addresses this gap by identifying latent dimensions of entrepreneurial attitudes and examining how these dimensions differ among entrepreneurs, individuals with entrepreneurial intentions, and non-entrepreneurs. The interpretation is also supported by evidence from the Hungarian GUESSS (Global University Entrepreneurial Spirit Students' Survey), based on a sample of university students. Empirical results indicate that demographic characteristics, such as gender, may show significant relationships with entrepreneurial career intentions; however, their explanatory power becomes negligible when factors such as attitude, self-efficacy, subjective norms, perceived university environment, and entrepreneurial family background are included in the model. This suggests that demographic effects are likely to influence entrepreneurial intentions only indirectly through these individual-level factors (Gubik 2021).

Fear of failure, especially in crisis situations, can also arise among women-owned businesses that are already operating, particularly during broader crises such as the COVID-19 pandemic. In such cases, resilience is crucial, and digitalisation can play a key role in its development (Gergely et al. 2024). Related evidence from Slovenia also indicates differences between male and female entrepreneurs in the psychological motivational factors and dimensions of social capital, while not identifying substantial differences in human capital (Širec & Močnik 2012). Research in business and management consistently emphasises that female entrepreneurs do not constitute a homogeneous group, as their attitudes, motivations, and behavioural patterns vary considerably across contexts (Sarri & Trihopoulou 2005). Women's transition into entrepreneurship is often driven by a combination of structural push factors and intrinsic pull factors.

Women may enter self-employment for a wide range of reasons that can be broadly categorised along a continuum of *push* and *pull* factors. On the one hand, *pull* factors reflect positive motivations, whereby women are attracted to entrepreneurship by opportunities such as personal fulfilment, independence, financial gain, or the pursuit of a desired lifestyle. On the other hand, *push* factors involve external pressures or constraints that compel women to engage in entrepreneurial activity, such as unemployment, job dissatisfaction, limited career advancement, or family responsibilities. The widely recognised Push-Pull model offers a valuable framework for understanding the diverse motivational drivers influencing women's entrepreneurial decisions, highlighting the complex interplay between individual aspirations and external circumstances (Uhlaner & Thurik 2007; Verheul et al. 2006). Empirical studies suggest that these motivations rarely operate in isolation, but rather reflect a combination of personal aspirations and contextual influences (Lingappa & Rodrigues 2023). Push factors may include unemployment, job dissatisfaction, discrimination, and

work–family conflict, while pull factors relate to independence, flexibility, and self-realisation (Orhan & Scott 2001). Organisational constraints, such as limited career advancement opportunities or the “glass ceiling,” may also act as push factors (Maziriri et al. 2019). Some studies indicate that women enter entrepreneurship from diverse professional backgrounds, often outside managerial roles (Onyusheva & Meyer 2020). Women entrepreneurs may also face structural barriers, including gender discrimination and restricted access to finance (Maziriri et al. 2019; Prabha et al. 2025). In addition, women-led businesses are more frequently found in service-oriented sectors and less represented in capital-intensive industries (Onyusheva & Meyer 2020; Prabha et al. 2025).

From a theoretical perspective, human capital theory emphasises the role of education, skills, and experience in shaping entrepreneurial entry and performance (Becker 1994). Brush et al. (2009) extended the classical 3M model (Market, Money, Management) by adding two additional dimensions – motherhood and the meso/macro environment – to offer a more holistic understanding of women’s entrepreneurship. The motherhood metaphor represents the family and household context of female entrepreneurs, which often has a greater impact on them than on men. The meso/macro environment includes factors beyond the market, such as societal expectations and cultural norms (macro), as well as intermediate institutional and structural influences (meso). The strength of this model lies in its ability to provide a complex theoretical framework for studying women entrepreneurs. Gendered life course trajectories also shape women’s entry into entrepreneurship and their entrepreneurial journeys. In addition, life-course perspectives suggest that entrepreneurial decisions may be influenced by role transitions and family-related considerations, which can contribute to non-linear entrepreneurial pathways among women (Jennings & McDougald 2007). In other words, work-family tensions and caregiving responsibilities may influence women’s entrepreneurial decisions, both as motivating factors and as ongoing constraints in entrepreneurial activity (Santos et al. 2018; Zhang & Zhou 2021). Furthermore, throughout their careers, women may encounter barriers such as the glass ceiling, glass cliff, and career labyrinth, all of which can influence their decision to pursue entrepreneurship (Carli 2018; Glass & Cook 2018; Mattis 2004).

Taken together, these perspectives suggest that women’s entrepreneurial engagement is shaped by the interaction of motivational, structural, and attitudinal factors.

3. Methodology

The study used a quantitative approach, drawing on Global Entrepreneurship Monitor Adult Population Survey (APS) data. GEM – a consortium of national

teams, including top academic institutions – has collected data on entrepreneurship directly from entrepreneurs since 1999 and has thus become the foremost study of entrepreneurship (gemconsortium.org, n.d.). The APS is a representative survey of the active-age population, comprising responses from at least 2,000 people in each country, and provides insights into public attitudes towards entrepreneurship and key attributes of both actual and potential entrepreneurs.

Female entrepreneurship is one of the key topics of the GEM consortium, and accordingly, it publishes special reports regularly on the state of female entrepreneurs (e.g., GEM 2023). Our analysis is based on the Hungarian APS data for women from 2021 to 2024, comprising 4,080 responses and representing the active-age female population of each year.

The paper aims to shed light on the factors that may influence women's decisions to become entrepreneurs. Therefore, we selected variables available for the total female population to reveal patterns that differentiate women who are entrepreneurs or expect to be entrepreneurs within three years from those who are not. Accordingly, questions related to the evaluation of the entrepreneurial climate and attitudes toward entrepreneurship are included in the analysis (see Table 1).

Table 1. Variables included in the exploratory principal component analysis

Question number	Variable name	Question	Included in the final model
i1	KNOWENT	How many people do you know personally who have started a business or become self-employed in the past 2 years? Would it be none, one, few or many people?	yes
i2	OPPORT	In the next six months, there will be good opportunities for starting a business in the area where you live.	yes
i3	SUSKILL	You personally have the knowledge, skill and experience required to start a new business.	yes
i4	FEARFAIL	You would not start a business for fear it might fail.	yes
i5	EQUALINC	In your country, most people would prefer that everyone had a similar standard of living.	no
i6	NBGOODC	In your country, most people consider starting a new business a desirable career choice.	no
i7	NBSTATUS	In your country, those successful at starting a new business have a high level of status and respect.	no

Question number	Variable name	Question	Included in the final model
i8	NBMEDIA	In your country, you will often see stories in the public media and/or internet about successful new businesses.	no
i9	EASYSSTART	In your country, it is easy to start a business.	yes
i10	NBSOCENT	In your country, you will often see businesses that primarily aim to solve social problems.	no
i11	OPPISM	You rarely see business opportunities, even if you are very knowledgeable in the area.	yes
i12	PROACT	Even when you spot a profitable opportunity, you rarely act on it.	yes
i13	CREATIV	Other people think you are highly innovative.	yes
i14	VISION	Every decision you make is part of your long-term career plan.	yes

Source: authors, based on GEM definitions.

First, explorative Principal Component Analysis was conducted. In entrepreneurship research, PCA is often employed to identify latent factors that influence entrepreneurial intentions, motives, or success factors. PCA transforms a set of possibly correlated variables into a smaller set of uncorrelated components, revealing the data's underlying structure while preserving as much variance as possible. The suitability of data for PCA is typically assessed using the Kaiser-Meyer-Olkin (KMO) measure and Bartlett's Test of Sphericity, where a KMO value above 0.6 and a significant Bartlett's test indicate that factor analysis is appropriate. Since some of the 14 variables in the APS survey correspond to similar concepts, this method seemed a viable tool for dimension reduction.

Then, factor scores were compared (Table 3) among (1) non-entrepreneurs, (2) those with entrepreneurial intentions, and (3) entrepreneurs. Individuals were categorised according to their most entrepreneurial responses, i.e. entrepreneurs with an intention to start a new venture were considered entrepreneurs. In this respect, the phases of entrepreneurship, as defined by GEM (e.g., nascent, new, established), were not taken into account. As expected, the vast majority of the individuals in the sample are non-entrepreneurs (82.8%), while 5.5% intend to start a new business within three years and 11.7% are already entrepreneurs. For comparison, 8.2% and 20.8% of men intend to start a new business and become entrepreneurs, respectively.

As three categories were considered, ANOVA was conducted with Bonferroni and Tamhane post hoc tests, depending on whether the groups' variances were equal or unequal, respectively. All analyses were conducted using SPSS 30.

Table 2. Variables used to analyse entrepreneurial state

Variable name	Definition
FUTSUP	Alone or with others, expecting to start a new business, including any type of self-employment, within the next three years?
ANYBUSOW	Entrepreneur, regardless of its phase (nascent, new, established)

Source: authors, based on GEM definitions.

4. Results

During the PCA, three goals were defined: (1) the prerequisites of the analysis should be met (i.e. KMO value higher than 0.7, p-value of Bartlett's test is significant), (2) a high proportion of variance should be explained, (3) the factor structure should be interpretable. Therefore, we ran the analysis iteratively and re-estimated the model after each step, excluding variables that did not meet predefined quality criteria. Variables were excluded based on multiple criteria, including low communalities (typically below 0.40), low measure of sampling adequacy ($MSA < 0.65$), and lack of factor specificity reflected in cross-loadings in the rotated component matrix. These statistical criteria were complemented by considerations of conceptual coherence. These variables are mainly related to the evaluation of entrepreneurs in the country and to social entrepreneurship. In the latter case (i10), the initial communalities were extremely low (0.329), and the item also showed weak factor differentiation in the initial solution, supporting its exclusion.

While the initial model comprised all 14 variables, four consecutive refinement steps removed variables that did not meet predefined statistical and conceptual criteria. The final model compressed nine variables (indicated in Table 1) into four factors and explains 60.342 per cent of the total variance. The individual KMO values for the variables range from 0.675 to 0.744, with an overall KMO of 0.704. Bartlett's test of sphericity is also significant ($p < 0.001$). The communalities range between 0.488 and 0.742. In the final solution, each variable exhibits a clear dominant loading, and no substantial cross-loading issues remain. Although analysis of the scree plot (see Figure 1) suggests that only three factors should be created, considering the fourth factor's eigenvalue (0.958), the explanatory power could be maximised by including this latter factor as well.

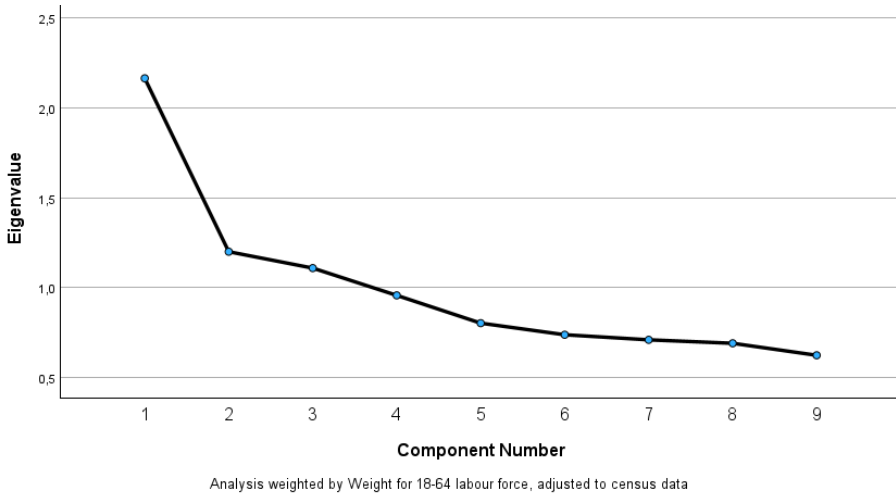


Figure 1. Scree plot

Source: authors.

The final factor loadings were enhanced by Varimax rotation with Kaiser normalisation (see Table 3). Following this, the four factors that were obtained are as follows: (1) risk aversion, (2) entrepreneurial environment perception, (3) entrepreneurial self-perception, and (4) perceived readiness. Given the exploratory nature of the analysis, the factors are interpreted as empirically derived dimensions rather than predefined theoretical constructs. Nevertheless, the identified dimensions can be meaningfully related to established constructs in the entrepreneurship literature.

Risk aversion corresponds to attitudes that discourage the exploitation of business opportunities, especially fear of possible venture failure and a tendency not to act on a spotted profitable opportunity. Furthermore, this factor is characterised by the lowest value for entrepreneurial knowledge and skills. This factor is closely related to the fear of failure construct, but extends it by incorporating behavioural hesitation and inaction in response to perceived opportunities. In contrast, the second factor, entrepreneurial environment perception, reflects favourable perceptions of the external entrepreneurial environment, particularly in terms of perceived opportunity availability and ease of starting a business. This dimension reflects favourable perceptions of the entrepreneurial environment, combining opportunity availability and perceived ease of start-up, and can be interpreted as a general perception of the entrepreneurial climate. This mindset is not specifically related to entrepreneurship, but it can help with success in the job market. The third factor concerns optimistic attitudes toward starting a new business, attributed to high expectations for future busi-

ness opportunities and the perceived ease of starting a new venture. In contrast to the negatively loaded items associated with risk aversion and fear of failure, this factor reflects a more proactive attitude. This factor captures elements of entrepreneurial self-concept, including creativity and forward-looking orientation, which are associated with the ability to recognise and act upon opportunities. The fourth factor, called perceived readiness, is characterised by a high level of knowing people who started a business in the last two years. This factor is also associated with the highest level of entrepreneurial knowledge and skills, while fear of possible failure has a modest negative value. This dimension combines elements of self-efficacy and entrepreneurial exposure, reflecting both perceived capability and embeddedness in entrepreneurial networks.

Table 3. Variables included in the analysis

	1 – Risk aversion	2 – Entrepreneurial environment perception	3 – Entrepreneurial self-perception	4 – Perceived readiness
PROACT	0.754	-0.110	0.165	
OPPISM	0.726		-0.260	
FEARFAIL	0.621		-0.109	-0.285
OPPORT		0.800		
EASYSTART		0.722		0.144
CREATIV		0.149	0.788	
VISION			0.732	0.238
KNOWENT				0.860
SUSKILL	-0.232	0.296	0.158	0.611

Note: Only loadings above the threshold of 0.10 are presented

Source: authors.

The variances of three factors are equal regardless of whether the mean, trimmed mean, or median is used. However, for perceived readiness, variances differed across the three analysed groups, so the Tamhane test was applied.

ANOVA results indicate that the means of at least one group significantly differ from the others ($p < 0.001$) for (1) risk aversion, (2) entrepreneurial environment perception, and (3) entrepreneurial self-perception. To further explore these differences, Bonferroni post hoc tests were conducted for pairwise comparisons.

- Risk aversion significantly differs across all group pairs. It is highest among non-entrepreneurs, lower among individuals with entrepreneurial intentions, and the lowest among entrepreneurs.

- For entrepreneurial environment perception, entrepreneurs score significantly higher than non-entrepreneurs ($p < 0.001$). However, individuals with entrepreneurial intentions do not differ significantly from either non-entrepreneurs ($p = 0.527$) or entrepreneurs ($p = 0.868$).
- Regarding entrepreneurial self-perception, non-entrepreneurs score significantly lower than both aspiring entrepreneurs ($p < 0.001$) and entrepreneurs ($p < 0.001$), while no significant difference is observed between the latter two groups ($p = 0.297$).

Finally, the Tamhane test results show that perceived readiness scores differ significantly across all groups ($p < 0.001$), with entrepreneurs reporting the highest levels, followed by aspiring entrepreneurs, and non-entrepreneurs reporting the lowest levels.

5. Conclusions

The study described here explored the relationship between women's attitudes and perceptions of entrepreneurship and their entrepreneurial engagement. Specifically, it examined whether these psychological factors are associated with becoming an entrepreneur and whether significant differences exist between women who are (1) already entrepreneurs, (2) intend to be entrepreneurs within three years, and (3) non-entrepreneurs. The findings offer insights into the attitudinal dimensions that may shape or reflect women's entrepreneurial behaviour.

For this purpose, the Hungarian Adult Population Survey datasets from the Global Entrepreneurship Monitor were used for 2021-2024. Our findings show that four latent factors underlie the nine questions related to attitudes towards entrepreneurship and assessment of entrepreneurial climate: (1) risk aversion, (2) entrepreneurial environment perception, (3) entrepreneurial self-perception, and (4) perceived readiness. These findings are consistent with attitude-based approaches in entrepreneurship research, where perceptions of risk, opportunity, and personal capability are considered central to entrepreneurial engagement. Notably, variables concerning social aspects, such as (1) "most people would prefer that everyone had a similar standard of living" (EQUALINC) and (2) "often seeing social enterprises" (NBSOCENT), had to be excluded from the analysis due to their low communalities. Similarly, all three variables assessing entrepreneurship (NBGOODC, NBSTATUS, NBMEDIA) were also excluded. This means that opinions related to social issues and positive perceptions of entrepreneurs were not adequately captured by the model. In other words, these aspects either do not belong to the latent factors that were identified or cannot be used to create another factor.

Factor scores were compared among (1) non-entrepreneurs, (2) those with entrepreneurial intentions, and (3) entrepreneurs. Our findings reveal significant differences among entrepreneurs, aspiring entrepreneurs, and non-entrepreneurs in terms of risk aversion, entrepreneurial environment perception, entrepreneurial self-perception, and perceived readiness. Entrepreneurs consistently scored more favourably, with lower risk aversion and higher perceptions of opportunity and readiness. Aspiring entrepreneurs showed intermediate levels, while non-entrepreneurs scored lowest across most dimensions, highlighting distinct attitudinal profiles. This means that even aspiring entrepreneurs tend to exhibit more entrepreneurial attitudes than non-entrepreneurs. However, understanding the key psychological factors that mitigate latent entrepreneurial intentions can help identify potential female entrepreneurs. Then, more targeted and tailored curricula can be developed to support the realisation of those entrepreneurial ideas.

Women entrepreneurs represent a highly heterogeneous group, differing substantially in their current life situations, personality traits, knowledge, experience, and motivations. These individual factors play a crucial role in shaping their pathways into entrepreneurship. It is therefore essential to reject any monolithic perception of women entrepreneurs. Instead, policies and support programmes must be grounded in a nuanced understanding of their personal characteristics and underlying motives.

The findings of this study corroborate the stance of those who emphasise the need to support women in the nascent stages of entrepreneurship (Maziriri et al. 2019; Onyusheva & Meyer 2020). The results show higher risk aversion among women planning to start a business than among those already engaged in entrepreneurial activity. Addressing this fear through targeted interventions, such as confidence-building initiatives, mentorship programmes, and supportive policy frameworks, is essential to fostering greater female participation in entrepreneurial activities on a global scale.

Women entrepreneurs have been found to demonstrate a higher level of career awareness and entrepreneurial self-perception than women planning to start a business or women not currently engaged in entrepreneurial activities. The characteristics identified in this study may be further developed through education and targeted training. Consequently, their development is particularly relevant among younger individuals, who may currently exhibit lower levels in these dimensions but are also more receptive to developing them. These findings are consistent with evidence that mentoring interventions can strengthen entrepreneurial motivation and early-stage engagement among female participants, while knowledge transfer and competence development within university environments can further support the formation of entrepreneurial mindsets (Huszák & Jáki 2022; Huszák & Oborni 2022).

Prabha et al. (2025) highlight the persistent challenges faced by women entrepreneurs, despite their increasingly significant contributions in recent years. Gender discrimination remains a substantial barrier to the growth of women-led enterprises in both developed and developing countries. In this context, the promotion of women's education and the stimulation of rural women's entrepreneurship emerge as critical drivers of sustainable economic development. Addressing these structural impediments is essential for fully leveraging the economic potential of women entrepreneurs and fostering inclusive growth.

The paper's main limitation is its focus on Hungarian data. However, the most recent GEM data are available only for national teams, while international datasets are accessible three years after data collection. Furthermore, national GEM teams can opt out of using some of the questions involved in our analysis. As a methodological limitation, it is worth noting that the KMO figure and explained variance of the final exploratory principal component analysis model suggest that the proposed model provides only a moderate fit. This suggests that more sophisticated statistical methods should be employed to provide a more effective solution.

The paper focuses on Hungarian data. Therefore, an international comparison is proposed as a possible future research direction. This may highlight regional differences in the factors influencing female entrepreneurship. We also argue that these factors can be used to develop a predictive model. Together, these research directions can deepen understanding of the drivers of female entrepreneurship and support more targeted policy incentives. Another potential direction for further investigation is conducting segmented research on women entrepreneurs, a strategy that could yield fruitful results in the future. As demonstrated by the findings of this study, there are notable discrepancies between the characteristics and needs of women who are planning to start a business and those who are already entrepreneurs. Consequently, it would be worthwhile to examine women's entrepreneurship according to age or the life-cycle stage of the enterprise.

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Declaration of generative AI usage

During the preparation of this paper, the authors used Microsoft Copilot to improve the conciseness, readability, and narrative flow of the manuscript, and to review the presentation and consistency of the reported results. Grammarly Pro was used to assist with language editing and proofreading. After using these tools, the authors reviewed and edited all content as needed and take full responsibility for the content of the publication.

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