

Overcoming early entrepreneurial challenges: the protective role of psychological capital

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Abstract

Purpose – This study investigates how early entrepreneurial challenges affect the firm performance of new ventures and explores the moderating role of Psychological Capital (PsyCap) in mitigating these effects. The research is conducted within the context of an emerging economy, Ecuador, where institutional voids and limited resources heighten entrepreneurial vulnerability.

Design/methodology/approach – Using a path dependence and cumulative disadvantage framework, the study applies ordinary least squares (OLS) regression models with heteroskedasticity-robust standard errors to a dataset of 417 entrepreneurs. Psychological Capital is measured across its four dimensions: self-efficacy, optimism, resilience, and hope. Control variables include gender, age, and family support.

Findings – Results show that early-stage challenges are negatively associated with business performance. However, elevated levels of Psychological Capital significantly buffer these effects, attenuating the magnitude of the negative association between early challenges and performance. Self-efficacy and resilience emerge as particularly strong moderators.

Research limitations/implications – The cross-sectional nature of the data and the self-reported design limit causal inference and generalizability. Future longitudinal studies could explore how psychological resources and entrepreneurial challenges interact over time and across institutional contexts.

Practical implications – The findings suggest that developing entrepreneurs’ psychological capacities can enhance resilience and performance in volatile environments. This has implications for entrepreneurship training programs, especially in emerging markets.

Originality/value – This study contributes to the entrepreneurship literature by integrating Conservation of Resources (COR) theory and Resource-Based View (RBV) theory to conceptualize Psychological Capital as both a buffering mechanism and an intangible resource associated with firm performance. The study expands upon recent research on resilience by providing evidence from a large sample in an emerging market like Ecuador.

Keywords Business launch, Psychological capital, Entrepreneurship, Developing countries, Small firms

Paper type Research article

1. Introduction

Entrepreneurship is crucial in fostering economic development, innovation, and job creation, particularly in emerging economies (Acs *et al.*, 2008). However, new ventures often face substantial challenges at their inception, including limited resources, lack of institutional support, and unstable market conditions (Amezcu *et al.*, 2013). Early-stage difficulties may



be systematically associated with subsequent performance differences, particularly when they constrain access to critical financial, institutional, and strategic resources.

Research has increasingly emphasized the importance of individual-level psychological factors in explaining entrepreneurial outcomes (Bockorny and Youssef-Morgan, 2019). Among these, psychological capital (PsyCap) – comprising self-efficacy, hope, resilience, and optimism – has emerged as a particularly important set of resources for managing adversity and enhancing business performance (Luthans and Youssef, 2007). Building on COR theory (Hobfoll, 1989) and the RBV (Barney, 1991), we conceptualize PsyCap not merely as an individual trait, but as a strategic resource that can be developed that shapes how entrepreneurs interpret, absorb, and respond to early-stage constraints.

While much of the existing literature on entrepreneurship has focused on tangible resources such as financial capital or institutional support, this study highlights the protective role of psychological resources, particularly PsyCap, in buffering the negative consequences of business launch. Drawing on path dependence logic (Arthur, 1994; Mahoney and Schensul, 2009), we argue that early entrepreneurial challenges may create self-reinforcing constraints that shape subsequent strategic options and performance patterns. Under such conditions, internal psychological resources become particularly consequential.

Similar to several Latin American countries, Ecuador presents several institutional gaps such as poor contract enforcement, limited access to formal financing, and volatile regulatory frameworks that restrict entrepreneurial activity and increase uncertainty (Andrews and Luiz, 2025; Doh *et al.*, 2017; Mingo, 2013; World Bank Group, 2018). Although policy initiatives have aimed to stimulate entrepreneurship in Latin America, research has focused predominantly on structural and financial determinants, leaving psychological mechanisms comparatively underexplored in emerging market contexts (Andrews and Luiz, 2025; Azam *et al.*, 2026). In such settings, where external buffers are weak or unreliable, entrepreneurs must rely more heavily on internal resources to sustain motivation, strategic orientation, and persistence. This raises the question of whether PsyCap may operate as a compensatory resource when formal institutional support is incomplete or unevenly distributed.

In Ecuador, where entrepreneurship is largely embedded in family businesses and dense relational networks (Estrada-Robles *et al.*, 2020), social capital often substitutes for missing formal institutions. However, reliance on informal networks may also generate unequal access to resources across demographic groups, particularly along gender and age lines (Webb *et al.*, 2019; Marlow and McAdam, 2013). Under such conditions, psychological resources such as resilience, optimism, and self-efficacy may become especially consequential for navigating uncertainty and sustaining entrepreneurial engagement. This makes Ecuador an important case study for examining how PsyCap operates under institutional and cultural constraints in emerging economies (Estrada-Robles *et al.*, 2020; Korber and McNaughton, 2018; Shahid *et al.*, 2022).

To investigate these dynamics, this study draws on a dataset collected in 2024 and 2025 through a web-based survey disseminated via institutional platforms of the Escuela Politécnica Nacional. The survey captured information on firm-level performance indicators—sales growth, market share growth, and employee growth—as well as individual-level psychological, demographic, and family-related characteristics. The final sample comprises 417 entrepreneurs, with a gender-balanced representation (52% women), a mean age of 38.6 years, and a high proportion of participants with at least a secondary education. Although cross-sectional, this sample size provides adequate statistical power for examining systematic associations between early challenges, PsyCap, and firm performance under controlled conditions. This empirical setting allows for the joint examination of structural constraints and psychological resources in shaping entrepreneurial outcomes—an approach that remains rare in studies from emerging markets.

This paper makes three specific contributions to entrepreneurship literature. First, drawing on path dependence logic (Arthur, 1994; Mahoney and Schensul 2009), it examines the association between early entrepreneurial challenges and firm performance heterogeneity.

Second, it advances COR theory (Hobfoll, 1989) by testing whether PsyCap moderates this association, thereby attenuating the negative relationship between early challenges and performance.

Third, integrating the RBV (Barney, 1991; Lockett and Thompson, 2001), the study conceptualizes PsyCap as a context-sensitive strategic resource whose value increases precisely when formal institutions are weak. Rather than positioning PsyCap as a universal performance enhancer, we argue that its protective role becomes particularly salient under conditions of constraint, where initial challenges may otherwise be associated with substantial performance differences. Importantly, given the cross-sectional design, findings are interpreted as relational associations rather than causal trajectories.

The remainder of the paper is structured as follows. Section 2 presents the theoretical framework and hypotheses. Section 3 outlines the research design and methods. Section 4 reports empirical results. Section 5 discusses theoretical and practical implications, and Section 6 concludes with limitations and directions for future research.

2. Theoretical background

Entrepreneurship is widely acknowledged as a complex and resource-intensive endeavor, particularly during the formative stages of venture creation. This phase is often marked by acute uncertainty, limited access to financial and human capital, and a lack of credibility among key stakeholders (Stinchcombe, 1965; Aldrich and Ruef, 2006). Entrepreneurs frequently encounter challenges such as assembling competent teams, navigating unproven markets, and managing operational inefficiencies with constrained resources. These initial obstacles may generate cumulative constraints that shape subsequent performance heterogeneity (Schoon and Duckworth, 2012). The startup phase thus represents a critical inflection point in which early conditions are systematically associated with later strategic positioning.

From a path dependence perspective, past events influence future strategic decisions (Arthur, 1994; Mahoney and Schensul, 2009). The foundational conditions under which a business is launched adversity plays a critical role in generating performance heterogeneity. For example, resource constraints at the founding stage can limit investment in innovation, talent acquisition, and scalable business models, leading to differences in company outcomes. Furthermore, entrepreneurial imprinting suggests that early adverse experiences influence cognitive frameworks, risk perceptions, and opportunity recognition (Mathias *et al.*, 2015; Ucbasaran *et al.*, 2013). Reinforcing the idea that early disadvantages can have heterogeneous effects on performance.

COR theory (Hobfoll, 1989) posits that individuals are motivated to acquire, protect, and invest resources to cope with demand and prevent losses. In entrepreneurship, resource loss—or the threat of it—is particularly salient during the venture creation phase, as entrepreneurs confront multiple stressors simultaneously, including financial constraints, institutional voids, competitive uncertainty, and weak social legitimacy. Under such conditions, resource depletion may initiate loss spirals that constrain adaptive capacity. Consequently, internal psychological resources become particularly relevant for coping with early-stage strain.

The (RBV) further complements this perspective by emphasizing the role of valuable, rare, and difficult-to-imitate internal resources in sustaining competitive advantage (Barney, 1991; Lockett and Thompson, 2001). Within this framework, PsyCap can be conceptualized as an intangible strategic resource that enhances entrepreneurs' ability to mobilize, recombine, and protect other organizational resources, especially in environments characterized by institutional voids.

Taken together, these perspectives suggest that early entrepreneurial hardship should not be viewed merely as isolated operational setbacks, but as structurally and psychologically consequential events. Absent adequate buffering mechanisms, initial challenges may be systematically associated with performance differences.

From these perspectives, PsyCap, a construct encompassing self-efficacy, optimism, resilience, and hope (Luthans and Youssef, 2007)—can be understood as a set of personal

resources that can be developed that enable entrepreneurs to withstand initial challenges and potentially transform constraints into learning opportunities. Importantly, PsyCap may function both as (1) a buffering mechanism that attenuates the negative association between early challenges and performance, consistent with COR theory, and (2) a strategic intangible resource aligned with RBV logic. This dual positioning—buffer and strategic resource—forms the theoretical foundation for the hypotheses.

2.1 Business launch in entrepreneurship

Entrepreneurship is inherently shaped by uncertainty, resource constraints, and environmental complexity, particularly during the venture creation phase. Empirical research suggests that early challenges faced during venture creation are systematically associated with subsequent performance heterogeneity, especially when these challenges are structural, financial, or market-related in nature (Porrás *et al.*, 2024; Ucbasaran *et al.*, 2013; Mathias *et al.*, 2015). These constraints may limit the accumulation of strategic capabilities and restrict experimentation, thereby narrowing subsequent growth opportunities.

Financial difficulties, such as constrained access to startup capital, poor credit conditions, or unstable cash flows, can delay critical investments in product development, marketing, talent acquisition, and technology infrastructure (Castrogiovanni *et al.*, 2006). Such constraints may limit the accumulation of strategic capabilities and restrict experimentation, thereby narrowing subsequent growth opportunities.

Regulatory and institutional constraints, including bureaucratic inefficiencies, legal uncertainty, or the absence of enabling public policy, further hinder early-stage formalization and growth. These barriers not only slow down administrative processes and deter compliance but also erode entrepreneurs' confidence in institutional support, leading to informal practices or early market withdrawal (Fong *et al.*, 2022). In emerging economies, such institutional voids may amplify perceptions of risk and legitimacy deficits, constraining access to funding, partnerships, and markets.

At the market level, product-market misalignment, pricing inefficiencies, and intense competitive pressures contribute to delayed customer acquisition, weak brand positioning, and loss of first-mover advantages (Magnusson *et al.*, 2009). Startups that fail to validate their value proposition during the formative stages often struggle to re-establish credibility or pivot effectively, especially in rapidly evolving or innovation-driven sectors. These conditions may constrain adaptive capacity and limit performance potential.

Taken together, these financial, institutional, and market constraints illustrate how initial challenges can generate disadvantages that extend well beyond the startup phase.

Beyond these external constraints, strategic and organizational deficiencies, such as the lack of a competent founding team, weak strategic planning, or inadequate market intelligence, compound the likelihood of lower overall performance. Although personal challenges may also arise, structural and market bottlenecks tend to exert stronger constraints on performance outcomes (Mustafa *et al.*, 2023). Nevertheless, individual-level psychological processes may interact with structural barriers, amplifying their negative effects.

Moreover, initial challenges can reshape the cognitive and emotional frameworks of entrepreneurs, influencing how they perceive risk, interpret feedback, and make decisions under uncertainty. Repeated exposure to failure or financial stress may result in overly cautious behavior, avoidance of growth opportunities, and diminished entrepreneurial self-efficacy (Ahmed *et al.*, 2022). These dynamics are consistent with imprinting arguments suggesting that early adverse experiences may influence opportunity recognition and strategic framing (Mathias *et al.*, 2015).

While compensatory mechanisms such as mentoring, learning, and psychological resources may mitigate strain, structural constraints are unlikely to be fully neutralized.

Finally, a growing body of research highlights the path-dependent nature of entrepreneurial performance, whereby early disadvantages may self-reinforce over time through credibility gaps, reduced investor trust, and limited access to strategic networks (Castrogiovanni *et al.*,

2006). These dynamics further support the argument that initial challenges are systematically associated with subsequent performance differences. As such, the early-stage context must be treated as a focal point for both research and policy intervention:

- H1. The initial challenges faced by entrepreneurs at the time of business inception are negatively associated with firm performance.

2.2 Moderating role of psychological capital and initial business challenges

The moderating role of PsyCap in the entrepreneurial process is anchored in COR theory (Hobfoll, 1989), which suggests that individuals draw upon internal resources to cope with stress and prevent further losses. During venture creation, entrepreneurs face heightened exposure to resource depletion, making psychological resources particularly salient.

In such demanding contexts, PsyCap—comprising self-efficacy, optimism, resilience, and hope (Luthans and Youssef, 2007)—functions as a personal resource reservoir that supports goal persistence, adaptive coping, and emotional regulation. Entrepreneurs with higher PsyCap are better positioned to reinterpret initial challenges as manageable challenges rather than insurmountable threats.

From a COR perspective, PsyCap operates as a buffering resource that reduces the intensity of loss spirals and preserves adaptive capacity under strain. Rather than eliminating structural constraints, PsyCap may attenuate the strength of the negative association between early challenges and performance.

Empirical studies underscore this moderating role. Self-efficacy has been shown to enhance entrepreneurial persistence under uncertainty and increase the likelihood of opportunity exploitation (Hmieleski and Carr, 2008). Optimism and hope have been linked to enhanced creativity, goal setting, and performance recovery, especially in contexts characterized by high ambiguity (Lee and Wang, 2017). Resilience, in turn, enables entrepreneurs to rebound from failure, reorient strategies, and maintain engagement in the face of continuous pressure (Smith et al., 2022; Fuentelsaz et al., 2023). These findings suggest that PsyCap enhances coping effectiveness and strategic adaptation, particularly under conditions of uncertainty and resource scarcity.

Taken together, prior research suggests that the impact of early entrepreneurial challenges is not deterministic. Specifically, entrepreneurs with lower PsyCap may experience stronger negative performance associations following early challenges, whereas those with higher PsyCap may exhibit a weaker negative association between initial adversity and firm performance. Importantly, this perspective conceptualizes PsyCap as a moderating mechanism that conditions the strength of the association between structural constraints and performance, rather than as a direct substitute for institutional or financial support.

Consistent with this reasoning, we expect PsyCap to attenuate the negative relationship between early entrepreneurial challenges and subsequent firm performance:

- H2. PsyCap moderates the negative association between initial business challenges and firm performance, such that the negative association is weaker at higher levels of PsyCap.

3. Research design and methods

3.1 Data

This study utilizes data collected through a web survey conducted via Microsoft Forms in 2024 and 2025. The survey was distributed via email and institutional social media channels of the National Polytechnic School. It focuses on entrepreneurship in Ecuador, providing detailed information about business characteristics as well as personal, emotional, and family-related aspects of business owners. This mixed content allows for an integrated perspective on how

psychological, social, and structural factors jointly shape entrepreneurial behavior and outcomes. The questionnaire design was informed by prior empirical studies in entrepreneurship and psychology and was pilot tested to ensure clarity and reliability of the items. The pilot phase involved 20 participants and led to refinements in item wording and structure, thereby enhancing face validity and ensuring cultural relevance for the Ecuadorian context.

The survey began with an informed consent question. If participants did not agree to participate, the survey would automatically close. A non-probabilistic convenience sampling strategy was employed, relying on voluntary participation through institutional channels. While this approach does not allow statistical generalization to the full population of Ecuadorian entrepreneurs, it is frequently used in theory-testing research in contexts where comprehensive sampling frames are unavailable (Levin and Rubin, 1998). We explicitly acknowledge the potential for self-selection bias, as participation may attract more engaged or digitally connected entrepreneurs. Accordingly, results are interpreted as relational associations rather than population estimates. Despite these limitations, the sample exhibits substantial heterogeneity across age, gender, education levels, sectors, and stages of business development, which strengthens internal variation for hypothesis testing.

Moreover, the web-based format facilitated wide geographic coverage across urban and semi-urban regions, which is particularly important given the decentralized nature of entrepreneurial activity in Ecuador.

Based on this sampling approach and previous studies conducted in Japan and Arab countries, which obtained homogeneous samples of 101 and 116 responses respectively (Welsh *et al.*, 2014), the sample size of 417 entrepreneurs in the present study is considered adequate. For OLS estimation with interaction terms and multiple controls, this sample size provides sufficient statistical power to detect moderate effects while maintaining model stability.

Approximately 40% of the entrepreneurs have completed high school, while another 40% hold a bachelor's degree. The average age of respondents is 38.6 years, and 52% of them are women. This demographic diversity supports subgroup analyses and enhances the robustness of findings related to gender and age differences, while acknowledging the limits of external validity.

Because data were collected through self-reported measures at a single point in time, common method variance cannot be fully excluded (Podsakoff *et al.*, 2003). To mitigate this concern, questionnaire items were separated by thematic sections, anonymity was guaranteed, and validated measurement scales were employed. In addition, several procedural remedies were incorporated during the survey design to reduce respondents' evaluation apprehension and limit consistency motifs, including clear instructions, voluntary participation, and the absence of right or wrong answers. The questionnaire also combined different types of items related to psychological, demographic, family, and business characteristics, which helped reduce the likelihood that respondents would rely on a single response pattern throughout the survey.

Although these procedures do not eliminate the possibility of common method variance, they help reduce its potential influence on the observed relationships. Furthermore, the main variables were theoretically grounded and measured using established scales, which strengthens confidence that the findings reflect meaningful associations rather than only measurement artifacts. Future research could complement these results with longitudinal designs or multi-source data, such as objective business performance indicators or external evaluations of entrepreneurial behavior. Accordingly, the results should be interpreted as associative evidence, with appropriate caution regarding causal inference and potential common method bias.

3.2 Measurement

This section describes the measurement of key constructions in the study.

3.2.1 Dependent variable. Firm performance was measured using three indicators: sales growth, market share growth, growth in the number of employees. The internal consistency of this measure was satisfactory (Cronbach's $\alpha = 0.83$; McDonald's $\omega = 0.86$). The Average Variance Extracted (AVE = 0.67) exceeded the recommended threshold of 0.50, supporting convergent validity. This multi-indicator approach allows for a richer operationalization of performance, moving beyond profit metrics to incorporate growth-oriented outcomes.

3.2.2 Independent variable.

- (1) Initial Challenges (Obstacles): This variable was assessed by asking entrepreneurs: "What obstacles have you faced when starting and developing your business?" Responses were recorded as binary (Yes/No) for the following challenges: Financial difficulties, Lack of support or understanding from family and friends, Time management and work-life balance challenges. A composite indicator was constructed by summing the number of challenges reported by each entrepreneur. This unweighted additive index captures cumulative exposure to early-stage adversity. Consistent with prior research conceptualizing startup strain as cumulative burden rather than severity-weighted impact (Hobfoll, 1989; Schoon and Duckworth, 2012), each challenge was treated equally to reflect aggregate constraint exposure. To assess robustness, additional models were estimated separating structural (financial, legal, market) and personal challenges. Results remained substantively consistent, with coefficients that remain stable in both sign and magnitude across all specifications, supporting the validity of the cumulative index approach.
- (2) Legal or bureaucratic issues. A composite indicator was created by summing the number of challenges reported by each entrepreneur. This additive index captures the intensity of perceived adversity and has been used in previous entrepreneurship research as a proxy for cumulative strain.
- (3) Psychological Capital (PsyCap): PsyCap was measured using adapted scales from previous literature (Martínez *et al.*, 2021; Avey *et al.*, 2006; Luthans and Youssef, 2007; Luthans *et al.*, 2006; Norman *et al.*, 2010). Entrepreneurs rated four PsyCap components—self-efficacy, resilience, optimism, and hope—on a seven-point Likert scale. The following reliability coefficients were obtained for the Ecuadorian sample, based on prior use by Ochoa *et al.* (2022):
 - Self-efficacy: Cronbach's $\alpha = 0.94$, Average Variance Extracted = 0.93, McDonald's $\omega = 0.93$
 - Resilience: Cronbach's $\alpha = 0.86$, Average Variance Extracted = 0.60, McDonald's $\omega = 0.91$
 - Optimism: Cronbach's $\alpha = 0.91$, Average Variance Extracted = 0.91, McDonald's $\omega = 0.89$
 - Hope: Cronbach's $\alpha = 0.96$, Average Variance Extracted = 0.78, McDonald's $\omega = 0.94$

PsyCap was modeled as a higher-order construct comprising the four dimensions. The composite index demonstrated high internal consistency ($\alpha = 0.98$; $\omega = 0.98$). These indicators support the reliability of PsyCap as a unified construct representing entrepreneurs' psychological resource capacity.

3.2.3 Control variables.

- (1) Gender: coded as 1 for Female and 0 for Male.

- (2) Marital Status: coded as 1 for Married and 0 for Not Married.
- (3) Age: measured as the respondent's age in years.
- (4) Education Level: categorized as: 1 = Primary education, 2 = Secondary education, 3 = Undergraduate degree: and 4 = Graduate degree.

These demographic controls allow us to isolate the effects of PsyCap and early challenges on performance, ensuring that observed relationships are not confounded by individual-level background factors.

3.3 Descriptive statistics

Table 1 presents the correlations between key variables, providing insights into the relationships among variables associated with firm performance.

The correlation matrix reveals several important relationships among key variables. A significant positive correlation exists between firm performance and PsyCap, suggesting that higher levels of PsyCap are associated with improved business outcomes. Conversely, initial challenges show a significant negative correlation with performance, indicating that greater exposure to early challenges is associated with lower firm performance. The four dimensions of PsyCap - self-efficacy, resilience, optimism, and hope-are strongly inter-correlated, suggesting their interdependent nature in shaping entrepreneurs' psychological resources. Age exhibits a weak negative correlation with performance. Although modest, this association is consistent with prior research suggesting age-related heterogeneity in entrepreneurial growth dynamics. Finally, the correlation between initial challenges and PsyCap dimensions is low, indicating that exposure to early challenges is not mechanically associated with lower Psychological Capital levels. This pattern supports the conceptualization of PsyCap as a moderating resource rather than an outcome of initial challenges. This interpretation aligns with COR theory (Hobfoll, 1989), which views psychological resources as buffers against stressors rather than direct consequences of them. Collectively, these correlations offer preliminary support for our hypotheses regarding the effects of initial challenges and PsyCap on firm performance. However, given the cross-sectional nature of the data, these associations should be interpreted as relational rather than causal. The next section addresses this by deploying both ordinary least squares and robust regression techniques to test the hypotheses under statistically controlled conditions.

3.4 Methodology

To examine the relationships between independent and dependent variables, this study initially employed an ordinary least square regression model. Prior to interpreting the ordinary least square results, several diagnostic tests were conducted to validate the model's assumptions. The Variance Inflation Factor (VIF) for the model was 2.36, which is below the commonly accepted threshold of 5 or 10, indicating that multicollinearity is not a significant concern in our model. This suggests that the independent variables included in the model are sufficiently distinct and not excessively correlated with each other, allowing for more reliable coefficient estimates. Accordingly, the explanatory variables, though conceptually related, do not distort the estimation due to redundancy, preserving the reliability of the coefficient interpretations.

This study also assessed the presence of heteroskedasticity using the Breusch-Pagan/Cook-Weisberg test. The results of this test were $\chi^2(1) = 2.67$, $\text{Prob} > \chi^2 = 0.01026$. This p -value is below the conventional significance level of 0.05, suggesting the presence of heteroskedasticity in the error terms of our ordinary least squares model. Such variance instability is common in entrepreneurial research due to heterogeneity in firm size, sector, and growth firm growth. Variance heterogeneity across firms justifies the use of robust estimation procedures.

To assess the normality of residuals, the Shapiro-Wilk test was conducted. The resulting p -value (0.17504) exceeded the conventional significance level, suggesting that the residuals

Table 1. Mean and correlation matrix

	Mean	Std. Dev	1	2	3	4	5	6	7	8
1. Performance	14.1223	4.501272	1							
2. Initial challenges	1.697842	0.9066104	−0.1777*	1						
3. PsychCap	116.9089	25.73536	0.3885*	−0.0422	1					
4. Self-efficacy	29.27338	6.761179	0.3702*	−0.032	0.9574*	1				
5. Resilience	29.03597	6.646728	0.3737*	−0.0676	0.9652*	0.8854*	1			
6. Optimism	19.7482	4.391469	0.3505*	−0.059	0.9400*	0.8718*	0.8927*	1		
7. Hope	38.85132	8.893167	0.3796*	−0.0181	0.9804*	0.9181*	0.9317*	0.8965*	1	
8. Age	38.09353	12.7322	−0.0892	−0.1042*	0.0777	0.0701	0.0603	0.0886	0.0826	1

Note(s): * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

do not significantly deviate from normality. While normality assumptions were reasonably met, the detection of heteroskedasticity warranted an adjustment in the estimation strategy.

Given the violation of the homoskedasticity assumption identified by the Breusch-Pagan/Cook-Weisberg test, this study re-estimated all models using heteroskedasticity-robust standard errors. This approach yields consistent statistical inference by correcting the estimated standard errors in the presence of heteroskedasticity, while preserving the OLS coefficient estimates. This methodological choice enhances the reliability of statistical inference, particularly for evaluating the significance of independent variables in the presence of potential variance instability across observations. Using robust standard errors reduces the risk of biased hypothesis testing that may arise from underestimated or inflated standard errors, which is especially relevant in studies involving psychological and demographic constructs that may vary across firm types and sectors.

The estimated robust regression model can be represented as follows:

$$\begin{aligned} \text{Performance} = & \beta_0 + \beta_1 \text{self} - \text{efficacy} + \beta_2 \text{resilience} + \beta_3 \text{optimism} + \beta_4 \text{hope} \\ & + \beta_5 \text{PsychCap} + \beta_6 X + \epsilon \end{aligned}$$

Where: Performance represents the dependent variable, measuring business outcomes, Initial Challenges represents the measure of difficulties faced at business inception, PsychCap represents entrepreneurial psychological capital, X is a matrix of control variables including whether the firm is family-owned, gender, marital status, education level, and age, β_0 is the intercept of the model, β_1 , β_2 , β_3 are the coefficients associated with the independent and interaction variables, ϵ is the error term.

This specification allows us to estimate (1) the direct association between initial challenges and firm performance, (2) the direct association between PsyCap and performance, and (3) the moderating role of PsyCap in attenuating the negative association between challenges and performance. Marginal effects were interpreted by examining the conditional slope of Challenges at varying levels of PsyCap. The inclusion of relevant control variables helps reduce confounding influences related to demographic and structural characteristics.

This approach aligns with the theoretical expectation from COR theory (Hobfoll, 1989) that resource-rich individuals are more capable of mitigating the effects of external stressors. While no causal claims are made, the analysis highlights systematic associations consistent with this theoretical framework. The use of robust regression is especially justified in entrepreneurial research where heterogeneity in firm characteristics and performance levels often challenges standard econometric assumptions.

4. Results

The regression results are presented in Table 2. All models are estimated using ordinary least squares with heteroskedasticity-robust standard errors.

The findings from the ordinary least squares regression highlight significant effects of initial entrepreneurial challenges and psychological capital (PsyCap) on firm performance. Across model specifications, initial challenges are negatively associated with firm performance, while higher levels of PsyCap are associated with better performance outcomes. Moreover, the interaction terms suggest that PsyCap attenuates the negative association between early challenges and performance. These patterns are consistent with prior research showing that early resource constraints are associated with weaker performance (Amezcuca *et al.*, 2013) and that psychological resources are positively related to entrepreneurial outcomes (Luthans and Youssef, 2007).

The results provide strong support for H1. The coefficient for Initial Challenges is consistently negative and statistically significant across all models. These estimates indicate that entrepreneurs reporting a higher number of challenges at business inception also report

Table 2. Results of ordinary least square estimation

	(1) Desem	(2) Desem	(3) Desem	(4) Desem	(5) Desem
Initial challenges	−0.824*** [0.200]	−0.848*** [0.201]	−0.765*** [0.204]	−0.787*** [0.207]	−0.881*** [0.199]
PsychCap	0.0846*** [0.008]				
Gender	−1.313*** [0.372]	−1.268*** [0.380]	−1.370*** [0.375]	−1.316*** [0.380]	−1.290*** [0.372]
Age	−0.0499*** [0.0171]	−0.0463*** [0.0175]	−0.0469*** [0.0172]	−0.0520*** [0.0176]	−0.0514*** [0.0170]
Education = high school	0.33 [0.922]	0.429 [0.891]	0.335 [0.930]	0.947 [1.016]	0.109 [0.943]
Education = bachelor	0.524 [0.925]	0.453 [0.898]	0.674 [0.928]	1.15 [1.015]	0.298 [0.943]
Education = master	0.213 [1.031]	0.246 [1.016]	0.433 [1.029]	0.779 [1.107]	0.00152 [1.049]
Marital status	0.272 [0.447]	0.0813 [0.459]	0.359 [0.448]	0.415 [0.448]	0.25 [0.452]
Family	0.691 [0.446]	0.817* [0.456]	0.727 [0.445]	0.707 [0.459]	0.746* [0.446]
Self-efficacy		0.307*** [0.0319]			
Resilience			0.315*** [0.0314]		
Optimism				0.458*** [0.0482]	
Hope					0.242*** [0.0238]
c. Ichal#cPsychCap					
c. Ichal#cSelf-efficacy					
c. Ichal#c.resilience					
c. Ichal#c.optimism					
c. Ichal#c.hope					
_cons	7.233*** [1.464]	8.006*** [1.455]	7.624*** [1.454]	7.429*** [1.608]	8.029*** [1.446]
N	417	417	417	417	417
R ²	0.3106	0.2927	0.2937	0.277	0.3063
F	22.55***	20.88***	20.20***	18.13***	21.15***
	(6) Desem	(7) Desem	(8) Desem	(9) Desem	(10) Desem
Initial challenges	−1.211*** [0.510]	−0.607* [0.348]	−1.776* [0.976]	−1.557* [0.544]	−0.967* [0.374]
PsychCap	0.113*** [0.01]				
Gender	−1.336*** [0.371]	−1.290*** [0.380]	−1.388*** [0.374]	−1.321*** [0.380]	−1.321*** [0.370]
Age	−0.0535*** [0.0171]	−0.0486*** [0.0175]	−0.0527*** [0.0171]	−0.0561*** [0.0175]	−0.0543*** [0.0171]
Education = high school	0.388 [0.935]	0.461 [0.898]	0.477 [0.934]	0.952 [1.031]	0.155 [0.957]
Education = bachelor	0.542 [0.940]	0.461 [0.907]	0.761 [0.934]	1.092 [1.033]	0.315 [0.960]

(continued)

Table 2. Continued

	(6) Desem	(7) Desem	(8) Desem	(9) Desem	(10) Desem
Education = master	0.245 [1.036]	0.259 [1.020]	0.527 [1.024]	0.787 [1.116]	0.0154 [1.055]
Marital status	0.303 [0.445]	0.112 [0.460]	0.407 [0.444]	0.47 [0.448]	0.26 [0.448]
Family	0.727 [0.447]	0.828* [0.456]	0.786* [0.444]	0.761* [0.459]	0.775* [0.447]
Self-efficacy		0.390*** [0.0685]			
Resilience			0.459*** [0.0635]		
Optimism				0.658*** [0.0947]	
Hope					0.319*** [0.0489]
c. Ichal#cPsychCap	0.0175** [0.00823]				
c. Ichal#cSelf-efficacy		0.0500* [0.0218]			
c. Ichal#c.resilience			0.0881*** [0.0328]		
c. Ichal#c.optimism				0.120** [0.0469]	
c. Ichal#c.hope					0.0476* [0.0243]
_cons	3.984* [2.222]	5.650** [2.252]	3.504 [2.181]	3.599 [2.296]	5.120** [2.191]
N	417	417	417	417	417
R ²	0.3183	0.297	0.3067	0.2884	0.3131
F	19.90***	18.63***	18.63***	16.41***	18.71***

Note(s): Standard errors in brackets

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

lower levels of firm performance. This finding is consistent with previous studies emphasizing the association between early-stage difficulties and business sustainability (Isyaku, 2014). Consistent with the cross-sectional design, these results are interpreted as relational associations rather than causal effects. Given the observed range of the performance index, these coefficients represent a substantively meaningful decline in reported performance levels, suggesting that cumulative initial challenges are not only statistically significant but also economically relevant.

The moderating effect of PsyCap is also supported by the results. Psychological Capital itself is positively associated with firm performance, and interaction terms between Initial Challenges and various PsyCap dimensions are significant. Specifically, the interaction terms for Self-efficacy, Resilience, Optimism, and Hope indicate that higher levels of PsyCap weaken the negative association between early challenges and performance. This finding aligns with studies highlighting the role of psychological resilience in overcoming entrepreneurial adversity (Hartmann *et al.*, 2022). A closer inspection of coefficient magnitudes reveals that Optimism exhibits the largest moderating coefficient, while Resilience displays the strongest statistical robustness. This pattern suggests that positive future-oriented expectations and the capacity to recover from setbacks may be particularly performance-relevant under conditions of sustained uncertainty. In contrast, although Self-efficacy and Hope are significant moderators, their comparatively smaller coefficients indicate

a more modest buffering magnitude. These differences provide additional nuance to the composite PsyCap construct and highlight the differentiated contribution of its underlying dimensions.

Several control variables exhibit significant relationships with business performance. Gender consistently shows a negative effect, with female entrepreneurs experiencing lower performance outcomes. This pattern is consistent with prior evidence on gendered constraints in entrepreneurship and may reflect differential access to financial resources, networks, and institutional support rather than differences in individual capability (Lanchimba *et al.*, 2024). Age also has a negative effect, suggesting that older entrepreneurs face more difficulties in achieving higher business performance (Kautonen *et al.*, 2014). Family Support positively influences performance in some models, reinforcing the role of social capital in entrepreneurship (Lanchimba *et al.*, 2024). These demographic results emphasize the importance of accounting for heterogeneity in entrepreneurial experiences, where institutional and societal conditions may shape both the challenges encountered and the efficacy of internal psychological resources. Education and marital status, however, do not exhibit consistently significant effects. This inconsistency may reflect the complex, context-dependent influence of formal education and personal circumstances on business performance, suggesting that such variables alone may be insufficient indicators of entrepreneurial preparedness or resilience.

To facilitate interpretation of the interaction term, Figure 1 presents the predicted values of firm performance across levels of initial entrepreneurial challenges for low (mean – 1 SD), average, and high (mean + 1 SD) levels of PsyCap. The figure shows that predicted firm performance decreases as the level of initial challenges increases. However, this negative slope is less steep for entrepreneurs with higher PsyCap. Entrepreneurs with high PsyCap (mean + 1

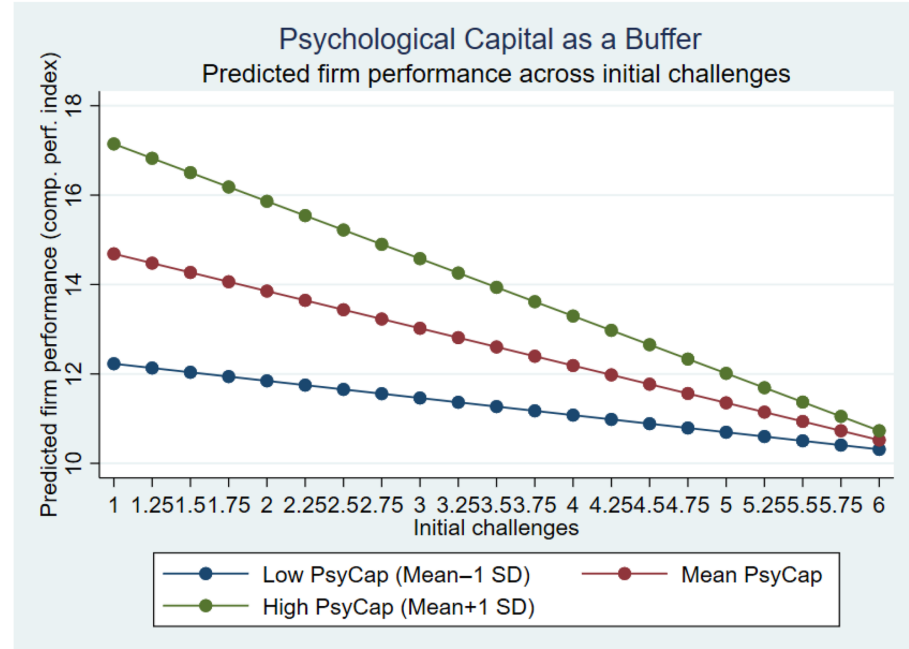


Figure 1. Psychological capital and initial challenges. Note: Predicted firm performance at all levels of initial challenges at low, mean, and high levels of psychological capital. Shows that the negative association between initial challenges and performance is weaker at higher levels of psychological capital, illustrating its buffering role

SD) experience a smaller decline in predicted performance as challenges increase compared to those with low PsyCap (mean – 1 SD), illustrating the buffering effect proposed in H2.

Overall, the results are consistent with the study's hypotheses. Initial business challenges are negatively associated with firm performance, while PsyCap moderates this relationship. These findings suggest that psychological resources are systematically associated with how entrepreneurs experience and respond to initial challenges. While causal inferences cannot be drawn due to the cross-sectional design, the results underscore the relevance of PsyCap as a potentially important factor in entrepreneurial resilience, particularly in contexts characterized by institutional constraints and limited external support.

5. Discussion

This study examined the association between early entrepreneurial challenges and firm performance, as well as the moderating role of PsyCap. The results provide support for the proposed hypotheses and offer several theoretical and practical insights. By situating psychological resources at the center of entrepreneurial outcomes, this research contributes to a growing body of work that emphasizes the importance of internal capacities in navigating external uncertainty. Rather than replacing structural explanations, this perspective complements institutional and structural approaches by demonstrating how internal psychological resources condition the strength of adversity–performance associations.

5.1 Discussion of hypotheses

This study proposed that early-stage entrepreneurial challenges are negatively associated with firm performance, and that PsyCap serves as a moderating variable that buffers this effect. The empirical evidence supports the [First Hypothesis](#), showing that entrepreneurs who encounter severe obstacles in the startup phase, such as limited funding, regulatory hurdles, and institutional inefficiencies, tend to report lower levels of firm performance. These results align with previous research indicating that early-stage disadvantages may have systematic associations with business sustainability and growth outcomes ([Isyaku, 2014](#); [Amezcuca et al., 2013](#)). Consistent with the cross-sectional design, these findings are interpreted as relational associations rather than causal effects. The results suggest that early constraints are meaningfully associated with reduced performance levels, potentially through their influence on capability accumulation and strategic flexibility.

The [Second Hypothesis](#) is also supported. Entrepreneurs with higher levels of PsyCap, particularly in terms of hope, resilience, optimism, and self-efficacy, exhibit higher reported performance, and experience a weaker negative association between early challenges and performance. This finding substantiates the theoretical proposition from COR Theory ([Hobfoll, 1989](#)), which emphasizes the role of psychological resources in navigating adversity.

The observed moderating role of PsyCap suggests that internal psychological strengths serve as protective mechanisms that facilitate perseverance, adaptability, and goal-directed behavior under difficult conditions ([Luthans and Youssef, 2007](#); [Hartmann et al., 2022](#)). This buffering effect appears particularly relevant in volatile and resource-constrained environments, where limited access to tangible resources increases reliance on internal capacities.

Moreover, gender and age emerged as significant factors in the regression analysis, indicating that women and older entrepreneurs are more negatively affected by early-stage difficulties. These findings align with literature highlighting structural and sociocultural barriers that disadvantage these groups ([Kautonen et al., 2014](#)). Gender and age may exacerbate initial challenges through unequal access to funding, networks, legitimacy, and time resources, especially in institutional voids ([Webb et al., 2019](#)). Women may face limited performance not due to reduced ability but due to socioeconomic gender conditions ([Marlow and McAdam, 2013](#)), while age may constrain access to digital channels, time horizons, and

role expectations (Mousa *et al.*, 2025; Zhang *et al.*, 2022; Gielnik *et al.*, 2018; Laguía *et al.*, 2022; Hamdani *et al.*, 2023).

Stereotype based expectations and legitimacy deficits may further intensify the psychological burden. Women may experience heightened performance pressure in male-dominated sectors (Laguía *et al.*, 2022), while unequal integration into funding and mentorship networks limits access to compensatory resources (Webb *et al.*, 2019). For older entrepreneurs, digital exposure gaps and shorter time horizons may restrict engagement with innovation-driven markets (Zhang *et al.*, 2022), compounding early barriers.

Overall, initial challenges appear to interact with structural inequalities, underscoring the need for context-sensitive and intersectional approaches. Evidence on older women entrepreneurs suggests that negative age effects may reflect barriers rather than lower entrepreneurial potential (Haataja *et al.*, 2025).

5.2 Findings

The empirical analysis indicates that early entrepreneurial challenges are negatively associated with firm performance, and that PsyCap significantly moderates this relationship. Entrepreneurs with higher PsyCap experience a smaller performance decline associated with initial challenges. PsyCap emerges as a valuable intangible resource that enhances the entrepreneur's capacity to absorb shocks, maintain motivation, and persist despite uncertainty. Furthermore, the identification of gender and age effects underscores the differentiated nature of entrepreneurial experiences, demonstrating that demographic factors can shape exposure to constraints and access to compensatory mechanisms. In the Ecuadorian context, where informality is widespread and entrepreneurs often rely on family and community networks, psychological resources may play a particularly salient role in sustaining entrepreneurial engagement.

These results support the view that internal capacities condition the strength of the association between external constraints and firm performance. In practical terms, this means that two entrepreneurs facing similar initial challenges may diverge significantly in outcomes based on their psychological profiles. PsyCap thus operates not as a substitute for external support, but as a critical complement that enhances the entrepreneur's ability to leverage or withstand environmental conditions.

5.3 Relevant implications

Theoretically, the study contributes to a better understanding of how PsyCap functions as both a buffer and a strategic asset in entrepreneurship. Within the framework of COR theory, PsyCap represents a durable psychological resource that helps entrepreneurs navigate the complexities of early-stage business development. This insight adds to the literature on entrepreneurial resilience by demonstrating that PsyCap can play a stabilizing role in environments characterized by volatility and scarcity (Hobfoll, 1989; Luthans and Youssef, 2007). By empirically examining these relationships in an emerging economy, the study extends existing research that has largely focused on developed contexts.

In addition, the study contributes to the RBV by identifying PsyCap as an intangible resource associated with firm performance. Psychological Capital PsyCap exhibits characteristics associated with strategic intangible resources within the RBV framework, particularly in contexts where access to external resources is constrained (Barney, 1991; Lockett and Thompson, 2001). Rather than treating PsyCap as a generic performance enhancer, the findings position it as a context-sensitive capability whose relevance increases under institutional fragility.

The demographic disparities revealed in the findings also have theoretical relevance. They suggest that psychological resources do not operate in isolation but are likely mediated by social identity factors such as gender and age. These intersecting influences highlight the importance of contextualizing PsyCap within broader institutional and societal frameworks,

thereby calling for greater attention to inclusivity in the design of entrepreneurial ecosystems. Rather than shifting the focus away from structural enablers, these findings suggest that internal psychological capacities complement external resources in shaping entrepreneurial outcomes. Recognizing that PsyCap may not develop equally across populations and may be constrained by unequal access to role models, education, or support networks, reinforces the need for differentiated policy approaches that promote psychological equity as well as financial and technical support.

Policies that combine structural inclusion (e.g. funding access, digital integration, network expansion) with psychological capacity development may be particularly effective in reducing performance disparities across gender and age groups. Such integrated approaches acknowledge that resilience emerges from the interaction between internal capacities and institutional opportunity structures.

6. Conclusions

This study has examined the association between early entrepreneurial challenges and firm performance, focusing on the moderating role of PsyCap. The results indicate that early-stage adversity is negatively associated with performance outcomes, while entrepreneurs with higher levels of PsyCap report a greater capacity to mitigate this association. Taken together, these findings suggest that psychological resources function as a context-sensitive strategic resource whose value increases when institutions are weak, constituting an important dimension of entrepreneurial resilience, particularly in contexts characterized by resource scarcity and institutional volatility.

The contribution to knowledge achieved by this study lies in its integration of two theoretical frameworks to explain the buffering and performance-relevant roles of PsyCap. By empirically examining PsyCap as a psychological resource associated with performance, the study advances the conceptual understanding of entrepreneurial resilience. It extends COR theory by showing how psychological resources mitigate the effects of stressors arising from early business challenges, and it strengthens RBV theory by positioning Psychological Capital PsyCap as an internal capability linked to sustained performance differences, particularly in resource-constrained environments (Luthans and Youssef, 2007; Hartmann *et al.*, 2022; Hobfoll, 1989; Bass *et al.*, 2024)). Furthermore, the study identifies demographic heterogeneity in performance associations, contributing nuance to discussions of entrepreneurial inequality and opportunity access.

The implications for policy and practice are multifaceted. Policymakers and entrepreneurship development organizations may consider integrating PsyCap enhancement into the design of training, mentoring, and support programs. Interventions aimed at strengthening psychological capacities have demonstrated positive effects on entrepreneurial performance and personal well-being (Norman *et al.*, 2010).

In resource-constrained environments, integrating psychological capacity-building modules into existing entrepreneurial support programs may complement financial and technical assistance. Such initiatives could focus on goal setting, confidence-building, adaptive coping strategies, and resilience development (Tisu *et al.*, 2023). Importantly, these interventions should be framed as complements—not substitutes—for structural support mechanisms.

Moreover, the empirical confirmation of gender and age disparities implies that policy interventions must be sensitive to these dimensions. Targeted initiatives that address both structural barriers and psychological resources may contribute to more inclusive entrepreneurial environments for women and older entrepreneurs (Kautonen *et al.*, 2014; Shamieh and Bastian, 2025).

Several limitations of the study must be acknowledged. The use of cross-sectional data restricts the ability to draw causal inferences or to observe how PsyCap and firm performance evolve over time. Longitudinal designs would enable a more dynamic understanding of the

interactions between psychological resources and entrepreneurial challenges. The national scope of the study, while contextually informative, limits generalizability to other institutional settings. Comparative studies across different countries or regions would offer a richer perspective on how contextual factors interact with PsyCap. Additionally, the study relies on self-reported data, which may introduce biases related to memory recall or social desirability. Future research could benefit from combining self-reported measures with observational or behavioral indicators. Finally, while the moderating role of PsyCap is supported, the specific mechanisms through which it operates remain underexplored. Qualitative and mixed-methods approaches could further illuminate how entrepreneurs mobilize psychological resources in practice, including their influence on emotional regulation, cognitive framing, and decision-making under uncertainty.

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