



# Educating Entrepreneurs Without Intentions: Graduate Self-Efficacy and Entrepreneurship Education in Low and Middle-Income Countries (LMICs)

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**Abstract:** *Entrepreneurship education (EE) has been widely integrated into higher education in low- and middle-income countries (LMICs) as a policy response to graduate unemployment, including within nursing education. However, evidence suggests that exposure to EE does not consistently translate into entrepreneurial intentions (EIs) among graduates. This narrative literature review examines the relationship between entrepreneurship education, self-efficacy, and entrepreneurial intentions among nursing students and graduates in LMICs, with particular attention to the moderating role of self-efficacy. The review synthesises empirical, conceptual, and policy-oriented studies published between 1997 and 2025 and is guided by intention-based theories, particularly the Theory of Planned Behaviour. Findings indicate that while entrepreneurship education consistently improves entrepreneurial awareness and knowledge, its direct effect on entrepreneurial intentions is weak and inconsistent. In contrast, entrepreneurship education demonstrates a more reliable influence on entrepreneurial self-efficacy, especially when implemented through experiential and practice-oriented pedagogies. Crucially, the review shows that self-efficacy conditions the effectiveness of entrepreneurship education, such that EE is more likely to translate into entrepreneurial intentions when graduates perceive themselves as capable of entrepreneurial action. In contexts characterised by structural constraints, weak ecosystems, and risk-averse professional norms, low self-efficacy can suppress intention formation despite EE exposure. The study concludes that entrepreneurship education in LMIC nursing contexts must be designed and evaluated as a psychologically mediated and context-sensitive intervention. Strengthening self-efficacy is central to closing the persistent gap between entrepreneurship education and entrepreneurial intention outcomes in LMICs.*

**Keywords:** *Entrepreneurship education, Entrepreneurial intention, Self-efficacy, Nursing education, Low- and middle-income countries.*

## How to cite this work (APA):

Ahimbisibwe, E., Aluonzi, B., Ezra Francis Munyambonera, E. F. & Kaaya, S. (2026). Educating Entrepreneurs Without Intentions: Graduate Self-Efficacy and Entrepreneurship Education in LMICs. *Journal of Research Innovation and Implications in Education*, 10(1), 168 – 176. <https://doi.org/10.59765/dfir8v5>.

## 1. Introduction

Since the late 1990s, entrepreneurship education (EE) has been increasingly institutionalised within higher education systems as a strategic response to persistent graduate

unemployment and the limited absorptive capacity of formal labour markets, particularly in low- and middle-income countries (LMICs). From 1997 onwards, this shift coincided with the consolidation of entrepreneurial intention research, which established entrepreneurial

intentions (EIs) as the most reliable predictor of subsequent entrepreneurial behaviour (Ajzen, 1997; Krueger, Reilly, & Carsrud, 2000). Within this framework, EE was expected to stimulate graduates' intentions to engage in entrepreneurial activity, thereby contributing to employment creation and economic development. However, nearly three decades later, concerns persist regarding the extent to which EE has succeeded in building graduate entrepreneurial intentions in LMIC contexts. Between 1997 and the mid-2000s, the introduction of EE in LMICs largely focused on transmitting foundational knowledge related to small business management, self-employment, and enterprise creation (Kent, Sexton, & Vesper, 1982; Kuratko, 2005). Entrepreneurship courses were primarily located within business schools and later expanded across disciplines as compulsory or cross-cutting units. This expansion occurred alongside massification of higher education, public-sector retrenchment, and labour-market liberalisation, which intensified competition for wage employment among graduates (Naudé, 2010). As a result, EE became embedded not only as a pedagogical initiative but also as a policy instrument to address graduate unemployment.

From the mid-2000s to the early 2010s, EE expanded rapidly across LMIC higher education systems, often driven by national development strategies and donor-supported youth employment programmes. During this period, scholarly attention increasingly shifted from the presence of EE to its outcomes, particularly its influence on EIs. Empirical evidence, however, produced mixed and often contradictory findings. While some studies reported modest positive effects of EE on EIs, others found weak, insignificant, or even negative relationships (Oosterbeek, Van Praag, & Ijsselstein, 2010; Rauch & Hulsink, 2015). These inconsistencies raised questions about whether EE, as implemented, could motivate graduates to pursue entrepreneurial careers.

From 2010 onwards, literature increasingly acknowledged that EE is not a uniform intervention and that its effectiveness depends on how it is designed, delivered, and assessed (Neck & Greene, 2011; Fayolle & Gailly, 2015). In many LMICs, EE implementation remained predominantly theory-driven, assessment-oriented, and detached from lived entrepreneurial practice. At the same time, graduate entrepreneurial outcomes remained modest, with many graduates continuing to prioritise salaried employment despite exposure to EE (Nabi et al., 2017). This persistent gap between educational investment and entrepreneurial intention outcomes became more pronounced as graduate unemployment intensified across LMICs.

A key explanation emerging from the literature is that EE often increases awareness and knowledge about

entrepreneurship without sufficiently strengthening graduates' confidence in their ability to engage successfully in entrepreneurial activity. Self-efficacy, defined as individuals' beliefs in their capability to perform specific tasks, has been consistently identified as a critical psychological determinant of EIs (Bandura, 1997; Liñán & Chen, 2009). However, many EE programmes have prioritised cognitive and technical content such as business planning and financial analysis while giving limited attention to mastery experiences, confidence-building, and progressive exposure to entrepreneurial action. Consequently, graduates may become more informed about the challenges and risks of entrepreneurship without developing the self-efficacy required to form strong entrepreneurial intentions.

From 2020 to 2025, the relevance of this issue has been further amplified by economic volatility, labour market disruption, and heightened youth unemployment in LMICs. Despite renewed policy emphasis on EE as a solution to graduate unemployment, evidence suggests that expanding EE alone is insufficient to generate entrepreneurial intentions at scale (World Bank, 2020). Recent studies increasingly suggest that self-efficacy may not simply influence EIs directly but may condition the extent to which EE translates into entrepreneurial intentions (Schlaegel & Koenig, 2014; Rauch & Hulsink, 2015). In contexts characterised by limited access to finance, weak institutional support, and high perceived risk, graduates with low self-efficacy are unlikely to develop entrepreneurial intentions even when exposed to EE.

Despite this growing recognition, much of the literature published between 1997 and 2025 has continued to emphasise direct relationships between EE and EIs, with limited attention to moderation mechanisms. As a result, the conditions under which EE is effective remain insufficiently clarified, particularly in LMIC settings. This gap has important policy implications, as continued investment in EE without understanding its conditional effectiveness risks producing symbolic rather than transformative outcomes.

The rationale for this study is therefore grounded in the need to examine entrepreneurship education, graduate entrepreneurial intentions, and self-efficacy as an interacting system rather than isolated constructs. By focusing on the moderating role of self-efficacy in the relationship between EE and graduate EIs over the period 1997–2025, this study directly aligns with the title and addresses a critical gap in both policy and practice. Understanding this moderation mechanism is essential for informing the design of EE that not only imparts knowledge but also builds confidence graduates in LMICs

need to develop entrepreneurial intentions and contribute meaningfully to employment creation.

## 1.1 Problem Statement

Entrepreneurship education (EE) has been adopted in many LMIC nursing schools to equip graduates for self-employment and health-service innovation amid tightening youth job markets (Ajzen, 1997; ILO, 2024). However, evidence across 1997–2025 shows that EE exposure does not consistently translate into entrepreneurial intentions (EIs). A meta-analytic review of 73 studies found only a small EE–EI association ( $r \approx 0.143$ ), implying modest average intention gains even when EE is delivered (Bae et al., 2014). Moreover, rigorous evaluation has reported that an EE programme’s effect on intention to become an entrepreneur can even be negative (Oosterbeek et al., 2010). In nursing education, entrepreneurship offerings have been described as relatively slow, and nursing undergraduates have been reported to show a lower entrepreneurial tendency and lower self-efficacy than students in other disciplines (Yu et al., 2025). Recent nursing-school evidence from Malaysia suggests that EE can be significant, yet intention formation varies across key TPB components, underscoring uneven translation of curricula into intentions (Zabidi & Abd Kadir, 2025). This creates a policy-relevant problem for LMIC nursing schools: graduates may complete EE modules without developing strong EIs needed to pursue nurse-led innovations, clinics, or health enterprises. One plausible explanation is self-efficacy; belief in one’s capability to perform entrepreneurial tasks which may condition whether EE strengthens EIs. Yet moderation evidence in LMIC nursing contexts is limited. Therefore, the problem is the unclear extent to which self-efficacy moderates the EE–EI relationship among nursing graduates in LMICs, constraining evidence-based curriculum reform and youth employment policy in practice.

## 1.2 Objectives

1. To examine the effect of entrepreneurship education on graduate entrepreneurial intentions in low- and middle-income countries.
2. To assess the influence of entrepreneurship education on graduate self-efficacy in low- and middle-income countries.
3. To determine whether self-efficacy moderates the relationship between entrepreneurship education and graduate entrepreneurial intentions in low- and middle-income countries.

## 2. Literature Review

This literature review synthesises evidence on entrepreneurship education, entrepreneurial intentions, and self-efficacy with a specific focus on nursing institutions and graduates in low- and middle-income countries. Guided by intention-based theories, the review examines how entrepreneurship education influences entrepreneurial intentions among nursing graduates and whether self-efficacy conditions this relationship. The review is organised by objectives, critically analysing (i) entrepreneurship education and entrepreneurial intentions, (ii) entrepreneurship education and self-efficacy, and (iii) the moderating role of self-efficacy in explaining entrepreneurial intention outcomes.

### 2.1 Entrepreneurship Education and Entrepreneurial Intentions among Nursing Graduates in LMICs

Entrepreneurial intention (EI) has been widely recognised as the most reliable predictor of entrepreneurial behaviour since the consolidation of intention-based models in the late 1990s (Ajzen, 1997; Krueger et al., 2000). In nursing education, EE has increasingly been introduced to prepare graduates for private practice, nurse-led clinics, and health innovation, particularly in LMICs facing constraints on health workforce absorption (Kuratko, 2005; Naudé, 2010). Despite this policy shift, studies indicate that nursing graduates often exhibit low entrepreneurial intentions even after exposure to EE (Rauch & Hulsink, 2015; Nabi et al., 2017). This suggests that EE alone may be insufficient to motivate entrepreneurial career pathways among nurses. Recent evidence from LMIC nursing schools shows that while students value EE conceptually, few intend to start enterprises after graduation (ILO, 2024). Thus, the direct EE–EI relationship among nursing graduates remains weak and inconsistent across contexts.

Empirical studies in health and nursing education highlight that EE tends to improve knowledge of business concepts without necessarily influencing career intentions (Oosterbeek et al., 2010; Martin et al., 2013). Nursing curricula in LMICs often frame entrepreneurship as supplementary rather than integral to professional identity, limiting its motivational impact (Neck & Greene, 2011; Fayolle & Gailly, 2015). As a result, nursing graduates frequently continue to prioritise salaried hospital employment over entrepreneurial ventures, even in settings with limited public-sector opportunities (World Bank, 2020). This pattern mirrors broader EE research, which shows modest average effects on EI across disciplines (Bae et al., 2014). Recent nursing-focused studies further report that intention–outcome relationships are particularly weak

when EE is theory-driven and detached from clinical practice (Yu et al., 2025). These findings underscore the fragility of the EE–EI link in nursing institutions.

From a policy perspective, the limited impact of EE on nursing graduates' EIs is concerning, given the growing emphasis on nurse entrepreneurship for health system resilience in LMICs (African Union, 2017; WHO, 2023). Nursing schools have expanded EE in response to unemployment and underemployment, yet the formation of intentions remains uneven (Nabi et al., 2017). This suggests that evaluating EE effectiveness solely on the basis of curricular presence is inadequate. Instead, attention must be paid to the psychological mechanisms through which EE influences intention. Without understanding these mechanisms, EE risks remaining a symbolic reform within nursing education. This limitation necessitates examining intervening and conditioning variables, particularly self-efficacy.

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## 2.2 Entrepreneurship Education and Self-Efficacy among Nursing Graduates in LMICs

Self-efficacy, defined as individuals' beliefs in their capability to perform specific tasks, has been central to entrepreneurial intention research since the late 1990s (Bandura, 1997; Ajzen, 1997). In nursing education, self-efficacy is especially salient because clinical training traditionally emphasises compliance, risk avoidance, and hierarchical decision-making, which may conflict with entrepreneurial confidence (Krueger et al., 2000; Liñán & Chen, 2009). EE is expected to enhance entrepreneurial self-efficacy by providing mastery experiences and exposure to opportunity recognition. However, evidence suggests that many nursing EE programmes fail to substantially build such confidence (Fayolle & Gailly, 2015). Consequently, nursing graduates may understand entrepreneurship conceptually while doubting their ability to practice it. This gap is particularly evident in LMIC nursing institutions.

Studies indicate that EE strengthens self-efficacy primarily when it incorporates experiential, practice-based learning (Souitaris et al., 2007; Neck & Greene, 2011). In nursing schools, however, EE is often delivered through lectures and written assessments, with limited real-world entrepreneurial engagement (Oosterbeek et al., 2010; Rauch & Hulsink, 2015). Such approaches may inadvertently increase awareness of business risks without enhancing perceived capability. Research among nursing students shows that low entrepreneurial self-efficacy is associated with reluctance to pursue private practice or innovation-based careers (Martin et al., 2013; Yu et al., 2025). Recent LMIC studies reveal that nursing students report lower entrepreneurial self-efficacy compared to

peers in business or engineering disciplines (ILO, 2024). These patterns suggest structural weaknesses in the implementation of EE within nursing education.

Contextual factors in LMICs further complicate the development of self-efficacy among nursing graduates. Limited access to start-up capital, weak mentorship structures, and regulatory barriers to nurse-led enterprises constrain the formation of confidence (Naudé, 2010; World Bank, 2020). Even when EE is present, these contextual constraints may suppress self-efficacy gains (Nabi et al., 2017). Nursing graduates may therefore perceive entrepreneurship as desirable but unattainable. Recent policy-oriented studies highlight that without deliberate confidence-building strategies, EE has minimal impact on self-efficacy in health professions education (WHO, 2023; Yu et al., 2025). This underscores the importance of examining self-efficacy not merely as an outcome of EE but as a conditioning factor in intention formation.

### **2.3 Moderating Role of Self-Efficacy in the Relationship between Entrepreneurship Education and Entrepreneurial Intentions among Nursing Graduates in LMICs**

Intention-based theories propose that educational interventions influence entrepreneurial intentions indirectly through psychological mechanisms, rather than through exposure alone (Ajzen, 1997; Krueger et al., 2000). Self-efficacy is consistently identified as a key mechanism linking learning experiences to intention formation (Bandura, 1997; Liñán & Chen, 2009). In nursing education, this implies that EE may only translate into EIs when graduates believe they are capable of entrepreneurial action. Empirical studies across disciplines show that EE effects on EI are stronger among individuals with high self-efficacy (Schlaegel & Koenig, 2014; Rauch & Hulsink, 2015). However, nursing-specific evidence remains limited, particularly in LMIC contexts. This creates uncertainty among nursing graduates about how EE operates.

Mediation and moderation studies demonstrate that weak direct effects of EE on EI often mask strong conditional relationships (Zhao et al., 2010; Hayes, 2017). In nursing education, where professional identity and risk perceptions are salient, self-efficacy may moderate whether EE strengthens or weakens EIs. Nursing graduates with low self-efficacy may interpret EE as highlighting barriers rather than opportunities, thereby suppressing intention (Oosterbeek et al., 2010; Fayolle & Gailly, 2015). Conversely, those with higher self-efficacy may leverage EE to envision viable entrepreneurial pathways such as private clinics or consultancy (Souitaris et al., 2007; Yu et

al., 2025). This conditional logic is particularly relevant in LMICs where contextual risks are pronounced. Yet, few studies explicitly test moderation models within nursing populations.

The absence of moderation-focused research has important policy implications. Without understanding how self-efficacy conditions EE outcomes, nursing schools may continue implementing EE programmes that fail to produce entrepreneurial graduates (Nabi et al., 2017; World Bank, 2020). Recent calls in global health and nursing policy emphasise the need for nurse-led innovation and enterprise to strengthen health systems (WHO, 2023). However, achieving this goal requires more than simply including EE in the curriculum. It requires evidence on when and for whom EE works. Examining self-efficacy as a moderator, therefore, provides a critical lens for understanding the persistent intention gap among nursing graduates in LMICs and for guiding effective curriculum and policy reform.

## **3. Methodology**

### **3.1 Study Design**

This study adopted a narrative review design to synthesise existing empirical, conceptual, and policy-oriented evidence on entrepreneurship education (EE), entrepreneurial intentions (EIs), and self-efficacy among nursing students and graduates in low- and middle-income countries (LMICs). A narrative review was considered appropriate because the study sought to explain mechanisms and conditional relationships, particularly the moderating role of self-efficacy, rather than to estimate pooled effect sizes. The design allows for an interpretive examination of how entrepreneurship education has been implemented and how it relates to the formation of entrepreneurial intention within nursing education over an extended period. The review was theoretically informed by intention-based models, especially the Theory of Planned Behaviour, which positions psychological factors as central to intention formation.

### **3.2 Data Sources and Search Strategy**

Relevant literature was identified through structured searches of Google Scholar, Scopus, Web of Science, ERIC, and PubMed, supplemented by policy and institutional reports from international organisations concerned with education, employment, and health workforce development. The search covered studies published between 1997 and 2025, reflecting the period during which entrepreneurial intention theory and entrepreneurship education research became firmly established. Search terms included combinations of

entrepreneurship education, entrepreneurial intentions, self-efficacy, nursing education, nursing students, health professions, graduates, and low- and middle-income countries. The reference lists of key articles were manually reviewed to identify additional relevant studies via backward citation tracking.

### 3.3 Eligibility Criteria

Studies were included if they:

- (i) were published between 1997 and 2025
- (ii) examined entrepreneurship education or entrepreneurial learning in higher or professional education;
- (iii) addressed entrepreneurial intentions, self-efficacy, or intention-based mechanisms;
- (iv) focused on nursing education, nursing students, nursing graduates, or closely related health professions; and
- (v) adopted empirical, conceptual, review-based, or policy-oriented approaches.

Studies were excluded if they:

- (i) focused on entrepreneurship outcomes without reference to education;
- (ii) examined primary or secondary education only
- (iii) addressed employability or labour-market outcomes without engaging entrepreneurial intentions; or
- (iv) lacked sufficient analytical or theoretical depth to support narrative synthesis.

### 3.4 Ethical Considerations

This study was based exclusively on secondary analysis of publicly available literature and did not involve human participants, primary data collection, or identifiable personal information. As a result, formal ethical approval was not required. Ethical standards were upheld through accurate citation, faithful representation of original authors' findings, and adherence to principles of academic integrity and responsible scholarship.

### 3.5 Data Analysis and Synthesis

Data analysis followed a thematic narrative synthesis approach. Relevant information was extracted from included studies and organised according to the study objectives: (i) entrepreneurship education and entrepreneurial intentions, (ii) entrepreneurship education and self-efficacy, and (iii) the moderating role of self-efficacy in the EE–EI relationship. The synthesis focused on identifying recurring patterns, inconsistencies, and explanatory mechanisms across nursing education contexts in LMICs. Particular attention was paid to how self-efficacy was conceptualised and whether it conditioned the relationship between entrepreneurship education and

entrepreneurial intentions. This approach enabled an integrated interpretation of why entrepreneurship education often fails to generate strong entrepreneurial intentions among nursing graduates despite sustained curricular implementation.

## 4. Results and Discussion

This section presents and interprets the findings of the narrative synthesis in line with the study objectives. Results are discussed objectively by objective, integrating empirical patterns, theoretical explanations, and contextual evidence from LMIC nursing education.

### 4.1 Effect of Entrepreneurship Education on Graduate Entrepreneurial Intentions in LMICs

The synthesis shows that entrepreneurship education (EE) has a weak and inconsistent direct effect on graduate entrepreneurial intentions (EIs) in LMICs. Across the reviewed studies, EE consistently improves entrepreneurial awareness and cognitive understanding but does not reliably translate into an intention to start a business or pursue an entrepreneurial career (Ajzen, 1997; Krueger et al., 2000; Martin et al., 2013; Rauch & Hulsink, 2015). This pattern is particularly evident in nursing and health-related programmes, where graduates often continue to prioritise salaried employment despite EE exposure.

Interpreted through intention-based theory, this finding suggests that exposure to EE alone is insufficient to trigger intention formation. The Theory of Planned Behaviour posits that intentions arise from evaluative beliefs rather than information acquisition per se (Ajzen, 1997). As such, EE, which is largely theory-driven, assessment-oriented, and detached from professional practice, does not activate the motivational mechanisms necessary for intention formation.

When contextualised within the broader literature, this finding aligns with meta-analytic and systematic reviews reporting small average EE–EI effects and substantial heterogeneity (Bae et al., 2014; Nabi et al., 2017). In some cases, EE has been found to reduce entrepreneurial intention, as increased realism about risks and constraints dampens motivation (Oosterbeek et al., 2010; von Graevenitz et al., 2010). In LMIC nursing contexts, structural constraints such as regulatory barriers, limited start-up capital, and strong professional norms further weaken the translation of EE into intention (Naudé, 2010; World Bank, 2020).

These results imply that the effectiveness of EE should not be judged solely by its presence in curricula or by direct EI outcomes. A key limitation in the literature is the dominance of cross-sectional designs, which restrict causal inference. Longitudinal and mechanism-focused studies are needed to clarify how intentions evolve after graduation and under different implementation conditions.

## 4.2 Influence of Entrepreneurship Education on Graduate Self-Efficacy in LMICs

The second objective examined the relationship between EE and graduate self-efficacy. The review indicates that EE has a more consistent, though conditional, positive influence on entrepreneurial self-efficacy than on entrepreneurial intention. Programmes that incorporate experiential learning, role modelling, and practice-based activities are more likely to strengthen graduates' confidence in their entrepreneurial capabilities (Bandura, 1997; Souitaris et al., 2007; Neck & Greene, 2011).

From an interpretive perspective, self-efficacy emerges as a proximal psychological outcome of EE, particularly when learners are exposed to mastery experiences and iterative engagement with entrepreneurial tasks. However, in nursing education, EE is often delivered through lectures and written examinations, thereby limiting opportunities for building confidence (Oosterbeek et al., 2010; Fayolle & Gailly, 2015). As a result, graduates may gain knowledge about entrepreneurship while remaining uncertain about their ability to practice it.

Within the existing evidence, this finding is consistent with research showing that self-efficacy is sensitive to pedagogical design rather than to curricular inclusion alone (Liñán & Chen, 2009; Rauch & Hulsink, 2015). Nursing students in LMICs frequently report lower entrepreneurial self-efficacy than peers in business or engineering disciplines, reflecting both pedagogical limitations and contextual barriers (ILO, 2024; Yu et al., 2025).

Contextual factors further moderate self-efficacy outcomes. Limited access to finance, weak mentorship structures, and restrictive regulatory environments undermine confidence even when EE is present (Naudé, 2010; World Bank, 2020). Consequently, EE in LMIC nursing schools often results in only partial psychological readiness. Graduates may value entrepreneurship but doubt their feasibility of success.

The implication is that EE implementation must deliberately target the development of self-efficacy. A limitation of the reviewed literature is the inconsistent operationalisation of entrepreneurial self-efficacy. Future

research should adopt standardised measures and examine self-efficacy trajectories beyond graduation.

## 4.3 Moderating Role of Self-Efficacy in the Relationship Between Entrepreneurship Education and Entrepreneurial Intentions

The third objective addressed whether self-efficacy moderates the EE–EI relationship. The synthesis provides strong conceptual and empirical support for the conclusion that self-efficacy conditions the extent to which EE translates into entrepreneurial intention. Studies grounded in intention-based and conditional process models demonstrate that EE effects on EI are significantly stronger among individuals with higher self-efficacy (Schlaegel & Koenig, 2014; Rauch & Hulsink, 2015).

Interpreted through moderation logic, this finding explains why direct EE–EI relationships appear weak or inconsistent. When self-efficacy is low, EE may increase awareness of constraints and risks, thereby suppressing intention (Oosterbeek et al., 2010; Fayolle & Gailly, 2015). Conversely, when self-efficacy is high, the same educational content can strengthen intention by enhancing perceived feasibility and control (Bandura, 1997; Liñán & Chen, 2009).

This interpretation is consistent with methodological scholarship showing that failure to model moderation or mediation masks conditional effects (Zhao et al., 2010; Hayes, 2017). In nursing education, where professional identity, risk aversion, and hierarchical norms are salient, self-efficacy plays a particularly critical role in conditioning. Graduates with higher confidence are more likely to interpret EE as enabling nurse-led clinics, consultancies, or health enterprises, while those with lower confidence disengage from entrepreneurial pathways (Souitaris et al., 2007; Yu et al., 2025).

In LMIC contexts, the moderating effect of self-efficacy is amplified by structural constraints. Weak entrepreneurial ecosystems reduce perceived feasibility, making self-efficacy a decisive factor in intention formation (Nabi et al., 2017; World Bank, 2020). Despite this, few nursing-focused studies explicitly test moderation models, representing a major empirical gap.

The implication is that EE effectiveness depends on who it reaches and under what psychological conditions. A key limitation of the literature is the dominance of direct-effect models. Future studies should employ moderation and longitudinal designs to capture the conditional pathways through which EE influences entrepreneurial intentions in

nursing and health professions education. Overall, the results demonstrate that entrepreneurship education alone does not reliably generate entrepreneurial intentions among nursing graduates in LMICs. Its influence operates primarily through self-efficacy, which conditions whether EE strengthens or suppresses intention. These findings reinforce the study's central argument that entrepreneurship education must be evaluated and redesigned as a psychologically mediated, context-dependent intervention rather than a standalone curricular solution to graduate unemployment.

## 5. Conclusion and Recommendations

### 5.1 Conclusions

This study examined why entrepreneurship education (EE) has not consistently translated into entrepreneurial intentions (EIs) among nursing graduates in low- and middle-income countries (LMICs), with particular attention to the role of self-efficacy. Drawing on literature published between 1997 and 2025, the review concludes that EE implementation has a weak and inconsistent direct effect on entrepreneurial intentions, despite its widespread adoption in higher education. This finding challenges the policy assumption that curricular inclusion of EE alone is sufficient to stimulate entrepreneurial career pathways among graduates.

The review further concludes that EE demonstrates a more consistent influence on entrepreneurial self-efficacy, particularly when delivered through experiential, practice-oriented pedagogies. However, in many nursing institutions, EE remains largely theory-driven and assessment-focused, limiting its capacity to build the confidence required for entrepreneurial action. As a result, graduates may become more informed about entrepreneurship while remaining uncertain about their ability to engage successfully in it.

Most critically, the study concludes that self-efficacy conditions the effectiveness of entrepreneurship education. Where self-efficacy is low, EE may inadvertently suppress entrepreneurial intention by increasing awareness of risk and structural barriers. Conversely, where self-efficacy is strong, EE is more likely to translate into positive entrepreneurial intentions. This moderating mechanism explains much of the inconsistency observed in the EE–EI relationship across LMIC nursing contexts.

Overall, the study concludes that the persistent intention gap is not primarily a failure of entrepreneurship education as a concept, but a consequence of implementation approaches that insufficiently prioritise psychological readiness and contextual feasibility. Without deliberate

alignment of EE toward self-efficacy development within constrained socio-economic environments, entrepreneurship education is unlikely to generate sustained entrepreneurial intentions among nursing graduates.

### 5.2 Recommendations

To address the multi-level factors shaping the relationship between entrepreneurship education, self-efficacy, and entrepreneurial intentions, the following recommendations are proposed.

1. Entrepreneurship education should explicitly prioritise entrepreneurial self-efficacy through reflective learning, mastery experiences, and assessment approaches that reward confidence-building and adaptive problem-solving.
2. Educators should adopt experiential and relational pedagogies, including mentorship and role modelling by nurse entrepreneurs, to strengthen entrepreneurial attitudes and perceived behavioural control.
3. Higher education institutions should ensure implementation fidelity by aligning entrepreneurship education learning outcomes, pedagogy, and assessment with attitudinal and self-efficacy development rather than symbolic curriculum inclusion.
4. Entrepreneurship education should be embedded within supportive entrepreneurial ecosystems, including incubation centres, industry partnerships, and seed funding, to enhance feasibility perceptions among nursing graduates.
5. Policymakers should integrate entrepreneurship education with employment, health-sector, and enterprise-support policies to address structural barriers limiting entrepreneurial intention formation in LMIC nursing contexts.
6. Future research should employ longitudinal, mediation- and moderation-focused designs to examine how self-efficacy conditions entrepreneurship education effects on entrepreneurial intentions over time.

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