Research Paper

Validity and Reliability of an Indonesian Entrepreneurial Intention Instrument for Vocational Students

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Abstract

This study aims to validate an entrepreneurial intention questionnaire adapted for vocational (SMK) students in Indonesia. Using quantitative methods involving 150 students in Malang, Confirmatory Factor Analysis demonstrated a satisfactory model fit (RMSEA=0.03; CFI/TLI>0.95) and acceptable reliability ($\alpha/\omega \geq 0.6$). However, items related to perceived behavioral control showed negative correlations and require revision. The findings emphasize the importance of cultural adaptation, particularly incorporating aspects such as family support and access to capital, when localizing international assessment tools. Although the instrument is suitable for exploratory studies, refinement of certain subscales is recommended. The study also encourages the development of entrepreneurship programs that are culturally responsive and recommends further validation across more diverse student populations.

Keywords: *Entrepreneur Intention, Instrument Validity, Students' Vocation.*

INTRODUCTION

Entrepreneurship education in Vocational High Schools (SMK) serves as a strategic foundation for preparing a self-reliant and competitive younger generation in Indonesia (Heriansyah et al., 2025). The Indonesian government has placed significant emphasis on entrepreneurship development in SMKs, recognizing its potential to address both employment challenges and economic growth. Data from Kementerian Pendidikan dan Kebudayaan RI (2019) indicate that 60% of SMK graduates are expected to create employment opportunities through entrepreneurship, aligning with the *link and match* program and the SMK Revitalization policy (Suhartanto, 2024). These initiatives aim to bridge the gap between education and industry needs while fostering an entrepreneurial mindset among students. However, despite these efforts, research by Rochani & Suharsono (2023) reveals that only a small percentage of SMK students exhibit strong entrepreneurial intentions post-graduation, highlighting the need to strengthen psychological and practical aspects within the curriculum. This gap suggests that current entrepreneurship education may lack sufficient focus on cultivating long-term entrepreneurial commitment, which is essential for sustainable business creation (Blesia et al., 2021).

The importance of entrepreneurship extends beyond individual career development; it plays a crucial role in national economic stability. Entrepreneurship not only supports national economic growth but also reduces youth open unemployment, which reached 1.84 million individuals in 2024 (Badan Pusat Statistik, 2025). This figure underscores the urgency of developing effective strategies to encourage youth entrepreneurship, particularly in vocational education settings. SMKs, with their focus on practical skills and industry readiness, are uniquely positioned to nurture future entrepreneurs (Ruga, 2024). However, the transition from education to entrepreneurship requires more than just technical training; it demands a holistic approach that includes mindset development, risk-taking ability, and access to entrepreneurial resources (Suryana, 2020). Thus,

internalizing entrepreneurial attitudes early in SMK education is critical to Indonesia's socioeconomic transformation, ensuring that students are not only job-ready but also capable of creating jobs for others.

Entrepreneurial career planning offers tangible benefits, both economically and psychologically. Economically, SMK students engaged in entrepreneurship have the potential to increase household income and generate employment (Supriana et al., 2020). A compelling example comes from a study by Abidah et al. (2023) in East Java, where SMK alumni successfully improved family income through entrepreneurship, demonstrating the multiplier effect of small-scale businesses in local communities. These findings align with global research showing that youth-led enterprises contribute significantly to local economies, particularly in regions with limited formal employment opportunities (Biney, 2023). From a psychological perspective, Wardana et al. (2020) found that students with entrepreneurial plans exhibit higher levels of self-efficacy and life satisfaction compared to their peers. This psychological resilience is particularly valuable in Indonesia's dynamic and often unpredictable job market, where adaptability is key to long-term success.

Additionally, entrepreneurial engagement can alleviate future-oriented anxiety caused by labor market uncertainties (He & Fang, 2023; Liang, 2023). Many SMK students face pressure to secure stable employment immediately after graduation, leading to stress and diminished career aspirations. Entrepreneurship provides an alternative pathway, empowering students to take control of their economic futures. Research further suggests that students who participate in school-based entrepreneurship programs report lower levels of anxiety about unemployment, as they develop tangible skills and confidence in their ability to create income-generating activities. Consequently, this career path fosters not only economic independence but also students' mental well-being, making it a vital component of holistic education (Roffey, 2015).

Developing valid and reliable instruments to measure SMK students' entrepreneurial intentions is a critical step in designing evidence-based interventions. Globally recognized tools such as the Entrepreneurial Intention Questionnaire (EIQ) by Liñán & Chen (2009) have been widely adopted, yet their adaptation to the Indonesian context remains limited. The EIQ, which measures factors like personal attitude, subjective norms, and perceived behavioral control, provides a robust framework for assessing entrepreneurial intentions. However, Pratama and Susanto (2024) study highlights the influence of cultural factors such as collective norms and familial support on Indonesian students' entrepreneurial intentions, necessitating modifications to international instruments. For instance, in Indonesia, family expectations and societal perceptions of entrepreneurship can significantly impact students' career decisions, factors that are not fully captured in the original EIQ.

Without contextually appropriate measurement tools, schools and policymakers struggle to identify specific areas for entrepreneurial development. Current assessments often rely on generic surveys that fail to account for the unique challenges and motivations of SMK students, such as their hands-on learning preferences or socioeconomic backgrounds (Anggadwita et al., 2021). Validating such instruments also supports the evaluation of SMK entrepreneurship programs, which are often assessed subjectively. For example, many schools measure program success based on the number of student businesses launched, without considering long-term sustainability or the qualitative aspects of entrepreneurial mindset development. A validated instrument would enable more nuanced evaluations, helping educators refine curricula to better meet students' needs.

Although numerous studies examine entrepreneurial intentions, the adaptation of the Indonesian version of the EIQ remains underexplored, particularly for SMK populations. Prior research, such as Fajrini's work, focuses on university students, whereas SMK students' socioeconomic characteristics and motivations differ significantly. SMK students often come from

diverse economic backgrounds, with many viewing entrepreneurship as a necessity rather than a choice (Hidayah & Ghofur, 2023). This pragmatic perspective influences their entrepreneurial intentions in ways that may not be reflected in instruments designed for university students, who typically have greater access to resources and networks. Furthermore, the COVID-19 pandemic has altered perceptions of behavioral control and subjective norms toward entrepreneurship, which existing instruments fail to address. The pandemic exacerbated economic vulnerabilities, making entrepreneurship an increasingly attractive option for SMK students seeking financial stability (Badan Pusat Statistik, 2025).

This study addresses these gaps by rigorously adapting the Entrepreneurial Intention Questionnaire (EIQ) for Indonesian SMK contexts. Through psychometric validation with students, identify culture-specific item misfits (particularly in behavioral control and subjective norms subscales), propose modified indicators, and establish benchmarks for post-pandemic intention entrepeneur measurement.

This study aims to examine the validity and reliability of an adapted Liñán and Chen (2009) entrepreneurial intention instrument within the Indonesian SMK context. By incorporating culturally relevant items and addressing post-pandemic realities, the adapted instrument will provide a more accurate measure of SMK students' entrepreneurial intentions. The findings are expected to provide an empirical basis for developing targeted, student-responsive entrepreneurship programs. For instance, if the instrument reveals that perceived behavioral control is a major barrier, schools might integrate more hands-on business simulations into the curriculum. Ultimately, this research seeks to bridge the gap between theory and practice, ensuring that SMK entrepreneurship education is both measurable and impactful.

LITERATURE REVIEW
Career Entrepreneurship

Career entrepreneurship refers to the process of planning and developing one's career in entrepreneurship as a long-term professional choice (Muridan et al., 2023). This concept goes beyond mere business creation it involves a continuous commitment to identifying opportunities, managing risks, and building networks that ensure enterprise sustainability (Oguezue et al., 2023). For Vocational High School (SMK) students, career entrepreneurship is particularly critical, as their education is designed to bridge technical skills with real-world applications. However, success in this field requires more than technical proficiency it demands proactive attitudes, creativity, and adaptability to ever-changing market dynamics (Anggadwita et al., 2021).

The development of career entrepreneurship among SMK students is influenced by multiple factors. A study by Mabrur et al. (2024) emphasizes the role of environmental support, such as family encouragement and access to entrepreneurial mentors, in shaping students' aspirations. Additionally, pedagogical approaches play a pivotal role. For instance, project-based learning and industrial internship programs have been shown to deepen students' practical understanding of entrepreneurial careers, exposing them to real challenges and solutions Suseno et al. (2022). Meanwhile, institutional support, such as school partnerships with local businesses, can further enhance students' confidence in pursuing entrepreneurship (Bezerra et al., 2017). Thus, career entrepreneurship for SMK students emerges from the interplay of individual competencies, motivational drivers, and a supportive ecosystem.

The sociocultural context profoundly shapes SMK students' entrepreneurial career trajectories. In Indonesia, where communal values and family businesses dominate the economic landscape, students often perceive entrepreneurship through the lens of intergenerational legacy and social responsibility (Anggadwita et al., 2020). Research demonstrates that Javanese SMK students, for instance, exhibit stronger entrepreneurial intentions when their career choices align

with local *gotong royong* (mutual cooperation) principles, compared to purely profit-driven motives (Prianto et al., 2018). This cultural embeddedness creates unique challenges in career planning, as students must navigate traditional expectations while innovating in competitive markets. Gender dynamics further complicate this picture, with female SMK students facing additional societal barriers in accessing capital and mentorship for technology-based ventures (Arulmani, 2014). These findings underscore the need for entrepreneurship education that addresses sociocultural dimensions alongside business competencies.

The rapid digitalization of Indonesia's economy has redefined essential competencies for entrepreneurial careers. SMK students now require hybrid skill sets combining vocational expertise (e.g., automotive repair, culinary arts) with digital literacy in e-commerce platforms, social media marketing, and financial technology applications (Zhang & Zhang, 2024). A 2023 study of SMK graduates revealed that students who received integrated training in both their technical field (e.g., tourism) and digital entrepreneurship tools achieved higher business survival rates post-graduation (Marrero, 2023). However, infrastructure disparities persist, with urban SMKs having greater access to digital resources than their rural counterparts. This digital divide necessitates context-sensitive curriculum adaptations, where career entrepreneurship frameworks incorporate scalable digital skill development while accounting for regional resource availability. Emerging technologies like AI-assisted business planning tools present both opportunities and ethical considerations that future-ready entrepreneurship education must address.

Entrepreneurship Intention

Entrepreneurship intention (*niat berwirausaha*) is defined as an individual's psychological desire to initiate a new venture, shaped by attitudinal factors, subjective norms, and perceived behavioral control (Liñán & Chen, 2009). In Indonesia, this intention among SMK students is driven by a unique blend of economic needs and socio-cultural values. Beyond financial motives, many students view entrepreneurship as a means to contribute to community development and overcome the stigma of unemployment (Effendi et al., 2023). This perspective reflects the growing recognition of entrepreneurship as a tool for social empowerment, particularly in regions with limited formal job opportunities (Rauf et al., 2021).

However, the path to entrepreneurial action is often hindered by psychological and structural barriers. Research by Hidayah & Ghofur (2023) notes that while the COVID-19 pandemic increased SMK students' awareness of entrepreneurship as a career alternative, many still face skill gaps that fuel anxiety about failure. Measurement tools like the Entrepreneurial Intention Questionnaire (EIQ) (Liñán & Chen, 2009) have been widely adapted in Indonesian studies, but their applicability to SMK students requires careful reevaluation. Cultural factors, such as collectivist decision-making and varying levels of psychological maturity, may affect how intentions translate into actions (Fajrini, 2022; Kuzior et al., 2022).

The Role of Education and Self-Efficacy

Educational interventions play a critical role in bridging the gap between intention and action. Studies suggest that entrepreneurship education programs in SMK, particularly those incorporating experiential learning and mentorship, can significantly enhance students' self-efficacy and reduce perceived barriers (Njau et al., 2022). Self-efficacy, or the belief in one's ability to succeed, is a key predictor of entrepreneurial intention (Bandura, 1977). For SMK students, practical training (e.g., business simulations or market-day projects) not only builds technical skills but also reinforces confidence in navigating uncertainties, thereby solidifying their entrepreneurial aspirations (Suseno et al., 2022). Thus, fostering intention requires curricula that address both competence and psychological readiness, tailored to the Indonesian vocational context.

Clearer Thematic

While the literature review provides comprehensive coverage of key concepts—career entrepreneurship, entrepreneurial intention, and education's role in self-efficacy the current organization risks fragmenting these interrelated themes. The discussion would benefit from a unifying framework that explicitly connects how SMK students' sociocultural context (career entrepreneurship section) shapes their intention formation, why these culturally rooted intentions necessitate adapted measurement tools, and how pedagogy (self-efficacy section) can bridge the intention-action gap in ways that align with local values.

RESEARCH METHOD

Design Research

This study adopts a quantitative approach with a focus on the adaptation and development of psychometric instruments that have been translated into Indonesian. The research design was developed based on a comprehensive methodological framework, integrating scale development standards from Ajzen & Schmidt (2020) and cross-cultural adaptation procedures from (Liñán & Chen, 2009). The research phase includes a systematic process ranging from conceptual analysis, linguistic adaptation, to empirical validation, designed to ensure the suitability of the instrument to the Indonesian socio-cultural context while maintaining the theoretical validity of the original construct. The procedures included comprehensive validation steps such as pilot testing, Exploratory Factor Analysis (EFA), and Confirmatory Factor Analysis (CFA) to ensure psychometric rigor in the context of social sciences and education.

Participants

The target population consisted of adolescent Vocational High School (SMK) students aged 15–18 in Malang City, East Java, in 2025. A proportional stratified random sampling technique was employed to select districts representative of the provincial population, with Malang City identified as having 15,000 SMK students. Participant selection involved three sequential steps: first, surveying SMK institutions in the city to map student distribution; second, selecting five major vocational programs based on survey results; and third, applying age criteria (15–18 years). The Slovin formula with a 0.05 probability margin was used to calculate the sample size, resulting in a final sample of 150 students from multiple SMK institutions in Malang City.

Data Collection

The data collection instruments in this study consisted of two main components: a personal information form and an adapted questionnaire of entrepreneurial intentions. The personal information form is designed to collect participants ' demographic variables, including gender, grade level (X-XII), program expertise, age, and school origin. This demographic Data is important to understand the characteristics of the sample and to conduct a comparative analysis between groups, especially considering the diversity of backgrounds of vocational students in Indonesia. Meanwhile, the Entrepreneurial Intention Questionnaire (EIQ), adapted from Ajzen & Schmidt (2020), was used as the main instrument to measure entrepreneurial intention. The original questionnaire has gone through a thorough adaptation process that includes translation, expert evaluation, and preliminary trials to ensure suitability to the context of vocational education in Indonesia.

The EIQ questionnaire used consisted of 20 items of statements divided into four main dimensions: personal attitudes (5 items), subjective norms (3 items), perceived behavioral control (6 items), and entrepreneurial intentions (6 items). Each item was measured using a 5-point Likert scale from 1 (strongly disagree) to 5 (strongly agree), with a higher total score indicating stronger

entrepreneurial intent. Special improvements were made to some items to increase relevance to the vocational context, such as changing the phrase "starting a business" to "starting a business" which is easier for vocational students to understand. In addition, the researchers added concrete examples in some statements, such as "I can apply the skills in the major to start a business" to strengthen the connection with the student's learning experience.

Data Analysis

Quantitative data analysis in this study focused on testing the validity and reliability of the instrument using JASP software version 0.16.3. Construct validity was tested through Confirmatory Factor Analysis (CFA) by taking into account several suitability indices of the model, namely Goodness of Fit Index (GFI > 0.90), Comparative Fit Index (CFI > 0.90), Tucker-Lewis Index (TLI > 0.95), Root Mean Square Error of Approximation (RMSEA < 0.09), and chi-square/Degrees of Freedom ratio (CMIN/DF < 2). Factor loading criteria were set at 0.4 as the minimum threshold for acceptance of statement items, referring to the standard proposed by Hair et al. (2019) in multivariate analysis.

The reliability of the instrument was evaluated through two main approaches, namely Cronbach's Alpha and McDonald's omega coefficients, with a threshold value of ≥ 0.60 considered adequate for exploratory research. The use of these two coefficients provides a more comprehensive picture of the internal consistency of the instrument, where omega is considered more appropriate for estimating the reliability of hierarchical constructs. Further analysis was carried out by examining the item-total correlation and alpha if item deleted values to identify problematic items. The entire procedure of this analysis followed the psychometric instrument testing protocol, with certain adjustments for the specific characteristics of the SMK student population. The results of the analysis showed that the developed measurement model meets acceptable psychometric criteria.

FINDINGS AND DISCUSSION

This study developed an *Entrepreneurship Intention Scale* comprising 20 items categorized into four primary indicators: *personal attitude*, *subjective norms*, *perceived behavioral control*, and *entrepreneurial intention*. The blueprint of the scale is presented in Table 1.

Table 1. Blueprint of the Career Entrepreneurship Intention Scale

Number	*Indicator*	*Statement*
1		Becoming an entrepreneur offers me more advantages than disadvantages.
2		A career as an entrepreneur is highly appealing to me.
3	*Personal Attitude*	If I had the opportunity and resources, I would start a business.
4		Being an entrepreneur would bring me great satisfaction.
5		Among career options, I prefer entrepreneurship.
6		My close family would approve of my decision to start a business.
7	*Subjective Norms*	My friends would support me if I decided to start a business.
8		My peers would approve of my decision to start a business.

Number	Indicator	Statement
9	*Perceived Behavioral Control*	Starting and running a business would be easy for me.
10		I am prepared to establish a viable business.
11		I can control the process of starting a new business.
12		I know the practical details required to start a business
13		I know how to develop an entrepreneurial project.
14		If I tried to start a business, I would have a high chance of success.
15	*Entrepreneurial Intention*	I am willing to do anything to become an entrepreneur.
16		My professional goal is to become an entrepreneur.
17		I will exert every effort to start and run my own business
18		I am determined to start a business in the future
19		I have seriously considered starting a business.
20		I have a strong intention to start a business someday.

Blueprint entrepreneurial intention scale is designed to measure four key dimensions based on The Theory of Planned behavior Ajzen & Schmidt (2020) which has been adapted to the context of vocational school students in Indonesia. Each dimension reflects a different psychological aspect in the formation of entrepreneurial intentions, with statements specifically designed to capture the unique characteristics of vocational students.

The personal attitude dimension (items 1-5) measures an individual's perception of the benefits and attractiveness of entrepreneurship as a career choice. Items such as "being an entrepreneur offers me more advantages than disadvantages "(item 1) and "among career options, I prefer entrepreneurship" (item 5) were designed to assess the extent to which students view entrepreneurship as a profitable and satisfying way life.

Some statements have been modified from the original instruments of (Liñán & Chen, 2009) to improve cultural relevance and readability for vocational students. For example, the phrase "viable business" in item 10 was retained to emphasize aspects of business sustainability, while "entrepreneurial project" in item 13 was chosen because it is more in line with the project-based learning experience in vocational schools.

Table 2. Reliability Test of the Career Entrepreneurship Intention Scale

Item	If item dropped		Item-rest correlation
	McDonald's ω	Cronbach's α	
SP_1	0.599	0.608	0.202
SP_2	0.593	0.605	0.223
SP_3	0.579	0.579	0.419
SP_4	0.600	0.605	0.227
SP_5	0.589	0.599	0.265
NS_1	0.577	0.589	0.346
NS_2	0.584	0.599	0.267

Item	If item dropped		Item-rest correlation
	McDonald's ω	Cronbach's α	
NS_3	0.599	0.606	0.217
PK_1	0.605	0.615	0.154
PK_2	0.613	0.624	0.070
PK_3	0.626	0.637	-0.040
PK_4	0.606	0.614	0.150
PK_5	0.581	0.590	0.335
PK_6	0.605	0.615	0.143
NK_1	0.583	0.595	0.296
NK_2	0.601	0.604	0.228
NK_3	0.605	0.611	0.177
NK_4	0.587	0.598	0.282
NK_5	0.623	0.626	0.066
NK_6	0.595	0.601	0.254

The analysis of model fit for the adapted Career Entrepreneurship Intention Scale Liñán & Chen (2009) indicates that the instrument meets the minimum reliability standards (α/ω ≥ 0.5) for exploratory studies, albeit with moderate internal consistency. Most subscales, Personal Attitude (α/ω: 0.579–0.608), Subjective Norms (α/ω: 0.577–0.606), and Entrepreneurial Intention (α/ω: 0.583–0.626) demonstrate sufficient reliability for preliminary analysis. However, the Perceived Behavioral Control (PK) subscale exhibits significant weaknesses due to item PK_3 (negative correlation: -0.040) and PK_2 (very low correlation: 0.070). Problematic items such as PK_3 require elimination, while items with item-total correlations below 0.2 (e.g., NK_5, SP_1) should be rephrased to better align with Indonesian SMK students' characteristics. These findings underscore the necessity for deep modifications when adapting international instruments, particularly for culturally specific constructs like collective norms and behavioral control.

The moderate reliability values (α/ω ≥ 0.5) align with (α/ω ≥ 0.5) who posit that Cronbach's α ≥ 0.5 is acceptable in exploratory research, especially for specific populations like SMK students. However, the low internal consistency in the Perceived Behavioral Control subscale, particularly the negative correlation in item PK_3, reflects conceptual misalignment between the original instrument and the local context. This phenomenon corroborates Anggadwita et al. (2021) who emphasize that Indonesia's collective norms and familial support uniquely shape students' control perceptions, necessitating item modifications.

Table 3. Confirmatory Factor Analysis (CFA)

Instrument	N	Reliability Test			Validity Test			
		McDonald's	Cronbach's	RMSEA	GFI	CMIN/DF	CFI	TLI
Career Entrepreneurship Intention	150	0.609	0.609	0.03	0.972	1.133/77	0.962	0.955
Personal Attitude								
Subjective Norms								
Perceived Behavioral								

Instrument	N	Reliability Test			Validity Test			
		McDonald's	Cronbach's	RMSEA	GFI	CMIN/DF	CFI	TLI
Control								
Entrepreneurial Intention								
McDonald > 0,60 (Reliable); Cronbach alfa > 0.60 (Reliable); RMSEA ≤ 0,08 (Accepted Model); GFI (Goodness of Fit)= 0 (poor fit)- 1,0 (perfect fit); CMIN/DF ≤ 2,0 (Accepted Model); CFI ≥ 0,95 (Accepted Model); TLI ≥ 0,95 (Very Good Fit)								

The CFA results confirm that the adapted entrepreneurial intention measurement model meets acceptable goodness-of-fit criteria. The RMSEA (0.03) and CMIN/DF (1.133) values are below recommended thresholds (≤0.08 and ≤2.0), while the GFI (0.972), CFI (0.962), and TLI (0.955) indices approach or meet the *very good fit* standard (≥0.95), indicating empirical alignment with the factor structure. For reliability, McDonald's ω (0.609) and Cronbach's α (0.609) meet the minimal acceptable threshold (≥0.60), suggesting adequate though suboptimal internal consistency. These findings validate the instrument's applicability for measuring SMK students' entrepreneurial intentions but highlight the need to refine items with low factor loadings (identified in prior reliability analysis) to strengthen the model. Overall, the CFA model is statistically valid and suitable as an exploratory tool, though item revisions are recommended to enhance measurement precision. This aligns with Pratama and Susanto (2024), who argue that Indonesian entrepreneurship instruments often lack sensitivity to SMK students' psychological dynamics, such as risk aversion and limited capital access.
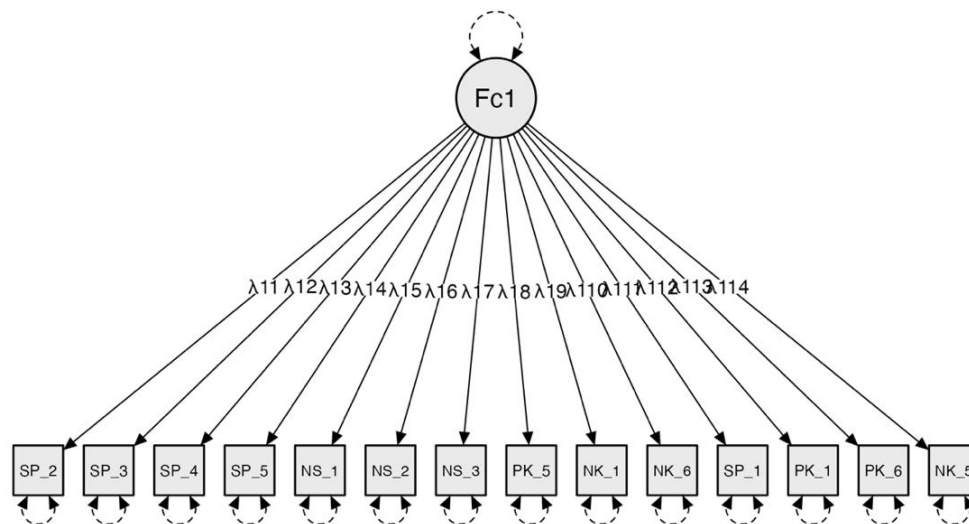
Figure 1. Plot Coefficient Factor

The findings of the development of this entrepreneurial intention scale provide some important insights that need to be studied in depth. A scale consisting of 20 items with four main indicators shows acceptable psychometric properties, moreover revealing cultural and contextual nuances that are typical of the SMK student population in Indonesia. The moderate reliability of the subscale (α/ω: 0,579-0,626) is in line with the previous findings (Hidayah & Ghofur, 2023), but the aspects that need to be evaluated in items PK_3 (-0.040) and PK_2 (0.070) in dimenson Perceived Behavioral Control Show fundamental differences in the conceptualization of control in vocational high school students which may be more influenced by other external factors (Pratama & Susanto,

2024).

Confirmatory analysis showed an excellent model suitability index (RMSEA=0.03; CFI/TLI>0.95), exceeding the recommended threshold (Suseno et al., 2022). However, the coefficient of reliability, which is at the lower limit (ω/α=0,609) indicates the need for improvement of the instrument. These findings reinforce Fajrini's results on the difficulty of measuring abstract constructs in vocational populations. Some special characteristics of SMK students identified the dominance of collective norms (subjective norms α=0,577-0,606), which is in line with Wardana et al. (2020), preference towards students ' concrete thinking, and the existence of a gap between intention and greater action (Fajrini, 2022).

These findings substantiate yet necessitate modifications to the Theory of Planned Behavior, Ajzen (2020), within Indonesian SMK contexts. The predominant influence of subjective norms underscores the need to recalibrate construct weightings in the original model. Furthermore, the bifurcation of behavioral control into vocational skill self-efficacy and systemic/regulatory navigability demands the introduction of novel sub-dimensions. This evidence calls for a contextualized model adaptation that addresses SMK students' practical knowledge gaps in skill development. Specifically, integrating implementation intention theory could bridge the disparity between abstract entrepreneurial intentions and concrete vocational competencies.

In practical terms, these findings recommend the existence of research focused on the development of concrete skills curricula, involving families in entrepreneurship programs, given the strong influence of subjective norms, and the use of this instrument as a basic measurement tool complemented by behavioral observation. Some limitations, such as limited sample characteristics in West Java or other population areas and a lack of longitudinal data, need to be addressed in further research through the expansion of study areas and the development of specific norms for the SMK population.

CONCLUSIONS

This study demonstrates that the adaptation of an entrepreneurial intention instrument for Indonesian Vocational High School (SMK) students can serve as a feasible exploratory tool, albeit requiring substantial adjustments to align with local cultural contexts. The primary limitation was identified in the *perceived behavioral control* dimension, where several items were misaligned with Indonesia's socio-economic dynamics and collective support systems, such as familial roles and internal barriers.

These findings underscore the necessity for SMK entrepreneurship programs to prioritize culturally responsive approaches, including training that integrates local norms and strengthens community networks, to foster sustainable and socially impactful entrepreneurial intentions. Future research should focus on refining items within the perceived behavioral control subscale by incorporating localized indicators, such as familial support and socio-economic constraints, while assessing its validity through larger, more diverse samples to enhance generalizability. Cross-regional validity testing is also recommended to ensure broader applicability across Indonesia's heterogeneous educational and cultural landscapes.

By addressing these gaps, stakeholders can develop more robust tools and interventions that resonate with the unique psychological and socio-cultural realities of SMK students, ultimately advancing Indonesia's entrepreneurial ecosystem.

LIMITATION & FURTHER RESEARCH

This study has several limitations, including its reliance on a geographically restricted sample (Malang City, East Java), which may limit the generalizability of findings across Indonesia's socio-culturally diverse SMK student population. The cross-sectional design also restricts causal

interpretations of entrepreneurial intention development. Furthermore, while the adapted instrument demonstrated acceptable psychometric properties, its moderate reliability ($\alpha/\omega \approx 0.60$) and the misfit of certain *perceived behavioral control* items (e.g., PK_3 with a negative correlation) suggest cultural and contextual gaps in the original theoretical framework. Future research should prioritize multi-regional sampling to validate the instrument's applicability in varied socio-economic settings, incorporate longitudinal designs to trace intention-behavior dynamics, and employ mixed-methods approaches to explore unmeasured cultural variables (e.g., familial pressure). Additionally, revising the *perceived behavioral control* subscale by integrating context-specific indicators would strengthen its relevance to Indonesian SMK contexts, while collaboration with industry stakeholders could enhance the ecological validity of such studies.

REFERENCES

Abidah, F. Q., Pangesthi, L. T., & Handajani, S. (2023). Studi kasus faktor-faktor yang mempengaruhi minat berwirausaha pada siswa kelas XII tata boga 2 di SMK Negeri 6 Surabaya. *Populer: Jurnal Penelitian Mahasiswa*, *2*(2), 135–147. https://doi.org/10.58192/populer.v2i2.861

Ajzen, I. (2020). The theory of planned behavior: Frequently asked questions. *Human Behavior and Emerging Technologies*, *2*(4), 314–324. https://doi.org/10.1002/hbe2.195

Ajzen, I., & Schmidt, P. (2020). Changing behavior using the theory of planned behavior. In M. S. Hagger, L. D. Cameron, K. Hamilton, N. Hankonen, & T. Lintunen (Eds.), *The handbook of behavior change* (pp. 17–31). Cambridge University Press. https://doi.org/10.1017/9781108677318.002

Anggadwita, G., Dana, L.-P., Ramadani, V., & Ramadan, R. Y. (2021). Empowering Islamic boarding schools by applying the humane entrepreneurship approach: The case of Indonesia. *International Journal of Entrepreneurial Behavior & Research*, *27*(6), 1580–1604. https://doi.org/10.1108/IJEBR-11-2020-0797

Anggadwita, G., Profityo, W. B., Alamanda, D. T., & Permatasari, A. (2020). Cultural values and their implications to family business succession: A case study of small Chinese-owned family businesses in Bandung, Indonesia. *Journal of Family Business Management*, *10*(4), 281–292. https://doi.org/10.1108/JFBM-03-2019-0017

Arulmani, G. (2014). The cultural preparation process model and career development. In G. Arulmani, A. J. Bakshi, F. T. L. Leong, & A. G. Watts (Eds.), *Handbook of career development: International perspectives* (pp. 81–103). Springer New York. https://doi.org/10.1007/978-1-4614-9460-7_6

Badan Pusat Statistik (BPS). (2025, Maret 27). *Indonesia's youth unemployment rate and labor force participation rate in 2024* [Statistik Pemuda Indonesia 2024]. *Katadata Insight Center*. Citiboks

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, *84*(2), 191–215. https://doi.org/10.1037/0033-295X.84.2.191

Bezerra, É. D., Borges, C., & Andreassi, T. (2017). Universities, local partnerships and the promotion of youth entrepreneurship. *International Review of Education*, *63*(5), 703–724. https://doi.org/10.1007/s11159-017-9665-y

Biney, I. K. (2023). Adult education and entrepreneurship: Getting young adults involved. *Journal of Innovation and Entrepreneurship*, *12*(1), 13. https://doi.org/10.1186/s13731-023-00277-0

Blesia, J. U., Iek, M., Ratang, W., & Hutajulu, H. (2021). Developing an entrepreneurship model to increase students' entrepreneurial skills: An action research project in a higher education institution in Indonesia. *Systemic Practice and Action Research*, *34*(1), 53–70. https://doi.org/10.1007/s11213-019-09506-8

Effendi, M. S., Firdaus, V. F., Utami, N. E., Emarawati, J. A., Maison, D., & Roosdiana, R. (2023). School environment impact on entrepreneurial intention mediated by financial literacy and

entrepreneurial characteristics. *International Journal of Entrepreneurship and Sustainability Studies*, *3*(1), 102–114. https://doi.org/10.31098/ijeass.v3i1.1554

Fajrini, R. (2022). Environmental harm and decriminalization of traditional slash-and-burn practices in Indonesia. *International Journal for Crime, Justice and Social Democracy*, *11*(1), 28–43. https://doi.org/10.3316/informit.379398893195786

He, J., & Fang, S. (2023). Improvement of college students' generalized anxiety disorder by innovation and entrepreneurship training reform. *CNS Spectrums*, *28*(S2), S118–S119. https://doi.org/10.1017/S1092852923005515

Heriansyah, K., Widyaningsih, M., Harsono, H., Satria, I., Nugroho, A., Tsani, I. A., & Raharjo, D. Y. (2025). Edukasi pemanfaatan teknologi informasi dalam kewirausahaan di kalangan siswa SMK generasi Z di Depok. *Journal of Human and Education (JAHE)*, *5*(1), 449–456. https://doi.org/10.31004/jh.v5i1.2214

Hidayah, N., & Ghofur, M. A. (2023). Pengaruh sikap, norma subjektif, persepsi kontrol perilaku dan pembelajaran kewirausahaan terhadap intensi berwirausaha siswa SMK di Sidoarjo. *Jurnal Kajian Ilmu Pendidikan (JKIP)*, *3*(2), 157–168. https://doi.org/10.55583/jkip.v4i1.557

Kementerian Pendidikan dan Kebudayaan RI. (2019, November 6). *Hanya 60–65% lulusan SMK yang terserap industri; sekitar 5–7% menjadi wirausahawan muda*. Medcom.id. Retrieved from Medcom.id

Kuzior, A., Kettler, K., & Rąb, Ł. (2022). Great resignation: Ethical, cultural, relational, and personal dimensions of Generation Y and Z employees' engagement. *Sustainability*, *14*(11), 6764. https://doi.org/10.3390/su14116764

Liang, Q. (2023). Innovation and entrepreneurship education development on employment anxiety of college students. *CNS Spectrums*, *28*(S2), S127–S128. https://doi.org/10.1017/S1092852923005758

Liñán, F., & Chen, Y. (2009). Development and cross–cultural application of a specific instrument to measure entrepreneurial intentions. *Entrepreneurship Theory and Practice*, *33*(3), 593–617. https://doi.org/10.1111/j.1540-6520.2009.00318.x

Mabrur, I., Dewi, N. Y. S., Hidayanti, N. F., Agustina, A., Ariani, Z., & Nur'aini, N. (2024). Faktor-faktor yang mempengaruhi minat berwirausaha pada mahasiswa: Sebuah kajian literatur. *Seminar Nasional Paedagoria*, *4*(1), 382–398

Marrero-Rodríguez, J.-R., & Stendardi, D. (2023). The implementation of dual vocational education and training in Spain: Analysis of company tutors in the tourism sector. *International Journal for Research in Vocational Education and Training*, *10*(1), 90–112. https://doi.org/10.13152/IJRVET.10.1.5

Muridan, N. D., Rasul, M. S., Yasin, R. M., Nor, A. R. M., Rauf, R. A. A., & Jalaludin, N. A. (2023). Career planning indicators of successful TVET entrepreneurs. *Sustainability, 15*(8), 6629. https://doi.org/10.3390/su15086629

Njau, L. K., Ogoti, E., & Lyamtane, E. (2022). The impetus of school-based income-generating activities on students' entrepreneurship skills among public secondary schools in Kilimanjaro Region-Tanzania. *British Journal of Education, 10*(7), 20–36. https://doi.org/10.37745/bje.2013/vol10n7pp2036

Oguezue, N., Nwune, E. C., & Chukwuedo, S. O. (2023). Investigation assessment of opportunity-based entrepreneurial skills' acquisition of students in tertiary institutions during ASUU strike. *International Journal of Entrepreneurship and Sustainability Studies, 3*(1), 146–156. https://doi.org/10.31098/ijeass.v3i1.1530

Pratama, I. A., & Susanto, E. E. (2024). Strategi pengembangan pariwisata MICE di Indonesia: Potensi, tantangan, dan peluang. *Juremi: Jurnal Riset Ekonomi, 4*(3), 681–692. https://www.bajangjournal.com/index.php/Juremi/article/view/8834

Prianto, A., Zoebaida, S., Sudarto, A., & Hartati, R. S. (2018). The effectiveness of an entrepreneurship learning model in growing competence and entrepreneurial intention of vocational high school students in East Java Indonesia. *International Journal of Humanities and Social Science, 8*(8), 199–209. https://doi.org/10.30845/ijhss.v8n8p22

Rauf, R., Hengki, W., & Tari, E. (2021). Entrepreneurship education based on environmental insight: Opportunities and challenges in the new normal era. *Cogent Arts & Humanities, 8*(1), 1945756. https://doi.org/10.1080/23311983.2021.1945756

Rochani, S., & Suharsono, N. (2023). Pengaruh prestasi belajar, status sosial ekonomi keluarga, dan minat berwirausaha terhadap kesiapan berwirausaha siswa SMK. *Jurnal Pendidikan Ekonomi Undiksha, 15*(1), 9–20. https://doi.org/10.23887/jjpe.v15i1.61877

Roffey, S. (2015). Becoming an agent of change for school and student well-being. *Educational and Child Psychology, 32*(1), 21–30.

Ruga, B. K. (2024). Social skills and academic competence among senior high school students: A basis for guidance program. *Journal of Elementary and Secondary School, 2*(1), 59–74. https://doi.org/10.31098/jess.v2i1.1686

Suhartanto, E. (2024). Entrepreneurship education research opportunities based on the Global University Entrepreneurship Students' Spirit Survey (GUESSS): A conceptual research design. *International Journal of Entrepreneurship and Sustainability Studies, 4*(2), 1–16. https://doi.org/10.31098/ijeass.v4i2.2272

Supriana, T., Lubis, A. N., Iswanto, A. H., Leviza, J., Pane, T. C., & Fatoni, R. B. M. I. (2020). Menumbuhkan jiwa kewirausahaan SMK pertanian di Kepulauan Nias. *Talenta Conference Series: Agricultural and Natural Resources (ANR), 3*(2). https://doi.org/10.32734/anr.v3i2.945

Suryana, S. (2020). Permasalahan mutu pendidikan dalam perspektif pembangunan pendidikan. *Edukasi, 14*(1). https://doi.org/10.15294/edukasi.v14i1.971

Suseno, R., Indriyani, I., Afdal, M., & Nizori, A. (2022). Efektivitas model pembelajaran berbasis proyek terhadap keaktifan dan kemampuan mahasiswa. *Jurnal Inovasi dan Teknologi Pembelajaran, 9*(1), 90–98. https://doi.org/10.17977/um031v9i12022p090

Wardana, L. W., Narmaditya, B. S., Wibowo, A., Mahendra, A. M., Wibowo, N. A., Harwida, G., & Rohman, A. N. (2020). The impact of entrepreneurship education and students' entrepreneurial mindset: The mediating role of attitude and self-efficacy. *Heliyon, 6*(9), e04922. https://doi.org/10.1016/j.heliyon.2020.e04922

Zhang, Y., & Zhang, Y. (2024). The influence of digital literacy on the phenomenon of deviation between farmers' e-commerce sales willingness and behavior: Evidence from rural China. *Sustainability, 16*(7), 3000. https://doi.org/10.3390/su16073000