

Vocational school choice during educational transition based on the theory of planned behavior

Rina Febriana

rinafebriana@unj.ac.id

Universitas Negeri Jakarta

Muhammad Nurtanto

Universitas Negeri Jakarta

Anis Kandriasri

Universitas Negeri Jakarta

Yeni Yulianti

Universitas Negeri Jakarta

Hendra Jaya

Universitas Negeri Makassar. Makassar

Research Article

Keywords: Students' Career Paths, TPB, Vocational Schools, Educational Transition, Psychological Factors

Posted Date: September 7th, 2026

DOI: <https://doi.org/10.21203/rs.3.rs-10533417/v1>

License: © ⓘ This work is licensed under a Creative Commons Attribution 4.0 International License.

[Read Full License](#)

Additional Declarations: No competing interests reported.

Abstract

The transition from junior high school to vocational education is one of the most significant steps in shaping students' career paths and opportunities. However, a misalignment between educational choices and labor market opportunities (often referred to as career disorientation) remains a critical driver of youth unemployment. Social support and self-understanding often lead students to pursue academic pathways that fundamentally disregard their interests, potential skills, and readiness to engage with the modern workforce. Regardless of its significance, prior research seems to overlook the interdependence of internal and external factors concerning students' motivations to enroll in vocational schools. In particular, the role of student interest and familial support in self-understanding as psychological factors in educational decision-making remains underexplored. The current study aims to examine the effects of self-understanding and social environment on students' decisions to pursue vocational school (VS) with student interest and family environment as intervening variables. A correlational, quantitative approach using survey instruments was employed. Proportional stratified random sampling yielded a sample of 462 junior high school graduates diversified across regions in Indonesia. The five primary variables were assessed and analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS 4.0. Results indicate that family environment factors have the greatest impact on students' decisions, followed by interest and self-understanding. Interest, as well as family support, played significant mediating roles, enhancing the impact of social and psychological variables. Integrating multidisciplinary early career guidance systems that involve families, schools, and communities, and addressing career disorientation, is recommended to reduce youth unemployment.

1. Introduction

Choosing between a Vocational School (SMK/VS) and a General School (SMA/GS) is a pivotal educational decision that profoundly shapes students' future trajectories, whether they aim to enter the workforce or continue to higher education. Within the landscape of secondary education, this decision extends beyond academic preference; it reflects a student's readiness to navigate the complexities of future career pathways. VS institutions are specifically designed to provide students with practical and technical competencies aligned with industrial demands and entrepreneurial opportunities (Febriyana et al., 2023; Sudarsono, 2021). In contrast, GS education remains predominantly theoretical, often lacking direct relevance to labor market requirements (Sudarsono et al., 2023). Despite this, societal perceptions continue to privilege the GS track as more prestigious, shaping students' preferences even as the job market increasingly prioritizes applied skills and work-readiness (Marta et al., 2023; Schröder, 2019). Recent data from 2025 reveal a notable imbalance in student enrollment between GS (222,453 students) and VS (187,104 students) in Jakarta, reflecting the enduring influence of academic-oriented narratives amid rising demand for skilled labor (Dinas Pendidikan DKI Jakarta, 2025). The persistently high unemployment rate among youth is often attributed to the misalignment between graduates' competencies and market expectations, a situation exacerbated by insufficient integration of vocational curricula and weak assessment systems (Fathoni et al., 2019; Rahmah & Muslim, 2019; Sudarsono et al., 2022). Given this context, exploring the multifaceted factors influencing students' educational choices

(ranging from personal values and self-concept to socioeconomic background and social norms) is essential. Such insights are crucial for informing evidence-based policies that strengthen the strategic role of vocational education in preparing a competent, adaptive, and future-ready workforce.

Driven by labor market opportunities, VS have not captured the interest of students as much as GS. The gaps in perception and enrollment are staggering; as noted by the DKI Jakarta Provincial Education Office, only 45.7% of students enrolled in VS, with the vast majority opting for GS, primarily due to social perceptions regarding ease, informal freedom, and prestige (Curry, 2018; Koçak et al., 2021). Such phenomena indicate headwinds from much more complex structural and psychosocial factors concerning education choices, where socio-familial frameworks continue to regard VS as a “second-tier” option offering unclear paths to career opportunities (Freire et al., 2011; Nazareno et al., 2021). A lack of personal self-definition, inadequate advanced and lifelong career development support, limited exploration of interests and talents during primary schooling, and insufficient nurturing of interests and talents significantly exacerbate this issue. Accessible information, alongside personal interest potential, plays a minimal role in making educational choices. Instead, such decisions are made due to economic distress or a lack of available information (Zhou et al., 2020). In addition, societal frameworks and immediate peer interactions reinforce the bias toward academics, resulting in students being nudged toward decision-making that is out of sync with their personal preferences, dreams, and abilities (Yüksel et al., 2016). This highlights the importance of further research into the internal and external factors that lead students to be uncertain or make erroneous decisions when selecting their educational pathways. Addressing this gap is crucial for developing systemic solutions that align students' education with their envisioned careers, based on their interests and strengths, and the actual demand within the workforce.

Several studies have sought to determine the factors influencing the choice of education, particularly at the vocational school level. Insights suggest that having a strong sense of self, along with an interest in technical skills, helps students make decisively chosen vocational studies. Students with a practical orientation tend to attend vocational high schools because these institutions align with their capabilities and interests (Qin et al., 2025). Moreover, the family context is instrumental in providing emotional support and financial factors, in addition to the direct involvement of parents in schooling activities, which helps reinforce students' confidence in a vocational pathway (Curry, 2018). The social context, as well as public perception, have also been largely documented as powerful catalysts within the decision-making context, where students tend to be bound by their community's prevailing norms and do not assess fitness as described in the social reproduction theory (Idroes et al., 2023; Zhou et al., 2020). Where there is a misalignment between educational choices, personal interests, and skills, a competency gap, coupled with youth unemployment, poses a serious concern to employment preparedness (Bisht & Pattanaik, 2020; Flek et al., 2015; Ordine & Rose, 2015). Based on these findings, it is clear that personal traits and external factors must be combined and then used as guiding principles for rational and practical long-term educational decisions for students.

While several previous studies have investigated the factors shaping students' educational path choices, there remains a lack of explanation for the integrative gaps in self-understanding, student interest, family

setting, and social setting. Most of the available literature focus on one or two of these variables in silos and do not reveal the intricate relationships between the internal and external constituents that influence students' decisions, especially in the case of vocational schools (Kaneez & Medha, 2018; Okojide et al., 2018; Qin et al., 2025). Furthermore, studies conducted in urban areas, such as Jakarta, are limited due to the unique socio-educational profile of metropolitan areas, which feature high social diversity, intense academic competition, and a complex framework regarding access to education (Idroes et al., 2023; Pearman & Swain, 2017). The quantitative-descriptive frameworks employed in prior studies often overlook deeper factors, such as students' motivations, perceptions, and socio-psychological aspects that shape their educational choices (Henderson, 2020). To address these gaps, the current study aims to fill the literature by providing an integrated analysis of four core factors within a single vocational education framework to explain decision-making processes in the context of urban Jakarta. This approach is expected to yield a greater understanding of how psychological and contextual factors synergistically shape one's education.

This research aims to investigate the influence of self-concept, student interest, family, and social surroundings on students' decisions to pursue vocational education in the Jakarta area. With this methodology, the study combines various aspects to understand the level of contribution of each factor to the learner's educational routes. The results of this research are of significant value to primary and lower secondary educational institutions (SD and SMP) in designing appropriate career guidance programs based on self-potential identified in early years. For vocational schools, the findings help understand the students' self-concepts and motivations, which can improve promotional and service activities responsive to students' needs. Furthermore, this study has convinced local governments and national policymakers to devise more relevant vocational education policies. This research fills a gap in the literature and also makes a practical contribution to the long-term enhancement of vocational education in Indonesia.

2. Literature Review

2.1 Application of the Theory of Planned Behavior to the Career Decision-making Process

The choice between General School (GS) and Vocational School (VS) represents a formative stage in students' long-term career planning and identity development. Guided by the Theory of Planned Behavior (TPB) (Ajzen, 1991, 2011), this decision is influenced by intentions shaped through attitudes, subjective norms, and perceived behavioral control. Rather than being spontaneous, educational choices are products of personal reflection and social interaction, where adolescents weigh potential benefits against perceived barriers. Studies (Abdelrahman et al., 2024; Jeihooni et al., 2024) show that self-awareness and supportive environments significantly enhance intention formation in youth, making TPB a relevant framework for analyzing vocational decision-making as part of broader psychological and sociocultural development.

To address the dynamic interaction between personal agency and contextual factors, Social Cognitive Career Theory (SCCT) (Lent et al., 1994) extends TPB by incorporating self-efficacy, outcome expectations, and goal orientation as mediating constructs. Research confirms that students with strong beliefs in their capabilities, clear expectations, and defined aspirations are more inclined to pursue vocational education (Ali & McWhirter, 2006; Luse et al., 2014). SCCT emphasizes how these internal factors are reinforced by external influences, such as parental involvement and community support, especially relevant in Indonesia's sociocultural context (Ali & McWhirter, 2006; Lent et al., 2000; Sevilla & Rangel, 2022). By integrating TPB and SCCT, this study provides a comprehensive model that captures the psychological and environmental dimensions of vocational school selection, supporting the formulation of evidence-based guidance systems and educational policies aligned with workforce demands and national priorities.

2.2 Personal Psychological Aspects

Educational pathway choices are deeply influenced by internal factors, notably self-understanding and motivation. Self-understanding, reflected in self-concept clarity, perceived competence, and academic self-evaluation, helps students align their strengths and values with appropriate educational tracks (Ng et al., 2008) (Ke et al., 2022; Zaini et al., 2021). A clear self-concept enhances confidence in making educational decisions and reduces confusion between vocational and general school options (Bi et al., 2023; Choi et al., 2011). Students with strong self-awareness are more likely to select pathways that match their goals and sustain long-term academic satisfaction (Campbell, 1990; Zaini et al., 2021). In this context, rational decision-making stems from a coherent self-perception that shapes both direction and persistence in chosen careers.

Interest also plays a critical role, especially in the context of vocational education where practical orientation is key. Students with strong intrinsic interest in applied fields, such as engineering, business, or technical work, tend to gravitate toward vocational schools (Manik & Artha, 2023; Widodo et al., 2023). Prior exposure through activities or learning experiences further reinforces their motivation to pursue specialized education (Fastrich et al., 2018). In urban environments like Jakarta, where academic competition is intense and choices are abundant, self-understanding and interest function as cognitive filters and motivational anchors (Kenny et al., 2003). These two variables are interrelated, self-awareness fosters interest discovery, while interest strengthens academic commitment. Together, they offer a comprehensive view of students' readiness and intentionality in choosing vocational education within a highly dynamic educational landscape.

2.3 External Support Aspects

Family plays a pivotal role in shaping students' educational choices through both emotional and instrumental support. Emotional elements include motivation, parental expectations, and open communication, while instrumental support refers to financial resources, learning materials, and educational guidance (Paccaud et al., 2021; Xi, 2025). These factors directly influence students' academic self-concept and confidence in decision-making. In lower-middle-income families, vocational

education is often favored as a practical solution for quicker workforce entry, making family preferences more decisive than personal aspirations. Parental involvement, expectations, and perceived authority in decision-making serve as strong predictors of vocational school selection. Thus, family background remains a core determinant, particularly in socioeconomically constrained contexts.

Social environment further shapes students' perspectives through peer influence, community expectations, and public opinion. These factors may manifest in social stigma toward vocational education, exposure to successful alumni, or collective beliefs that favor general education despite the benefits of vocational tracks (Boone & Van Houtte, 2013; Kačerauskas & Šaparauskas, 2017; Spiliopoulou et al., 2018). In urban centers like Jakarta, the dominance of academic-track preferences is reinforced by media, public discourse, and peer pressure, often overriding students' genuine interests or aptitudes (Umar & Jusniati, 2023). The combined effect of family and community creates a strong ecosystem that validates or challenges vocational aspirations (Permana & Mursidi, 2020; RATIH et al., 2023). When both environments support VS, students are more likely to recognize it as a valuable and respected option. Hence, fostering a positive narrative across family and social structures is essential to reshape vocational education perceptions and increase participation in metropolitan areas.

2.4 Theoretical Framework and Hypotheses

Self-understanding is a foundational factor in educational decision-making, as students with a well-defined self-concept are more capable of aligning their academic paths with personal strengths and values. Studies by Umar & Jusniati (2023), Choy & Yeun (2022); Kvasková et al. (2022) affirm that clarity in self-concept and academic self-efficacy significantly influence students' intentions to pursue vocational education. Clarke et al. (2020) further emphasize that learners who possess a strong sense of self are more likely to develop career trajectories where vocational schools (VS) are viewed as purposeful stages. RATIH et al. (2023) additionally reinforce the critical role of self-awareness in guiding students toward skill-based education. In parallel, student interest plays an equally crucial role as an intrinsic motivator driving educational choices. According to Akbulut-Kılıçoğlu (2023) students who show strong interest in applied skills or specific vocational areas are more likely to prefer VS programs. Jüttler et al. (2021) and Mahfud et al. (2020) support this view, noting that well-aligned interests help students synchronize educational paths with career aspirations. Likewise, Leung et al. (2014) and Kholifah et al. (2025) found that student interest stands as the strongest predictor in explaining decisions to enroll in vocational schools.

Hypothesis 1

(H₁): The impact of self-understanding has a positive and significant influence on the decision to pursue vocational education.

Hypothesis 2

(H₂): Student interest has a positive and significant effect on the decision to choose vocational education.

The family environment plays a pivotal role in shaping students' educational preferences through emotional support, communication, and provision of resources. Kniveton (2004) observed that parental encouragement, particularly in the form of praise and affirmation, facilitates students' confidence in making career choices. This is echoed by Amarnani et al. (2021) and Rahmatullah et al. (2020), who highlight how family expectations, especially in lower-income contexts, influence vocational education as a viable and attainable pathway. Rehman et al. (2025) and Yang (2023) further emphasize the role of financial and informational support from families in reinforcing vocational choices. Beyond the household, the social environment also significantly affects decision-making. As shown by Wang et al. (2022) societal norms and perceptions can either support or discourage the pursuit of vocational tracks. Timan et al. (2024) emphasize the contribution of local community resources and networks in boosting students' self-efficacy and career clarity. Social conformity and peer influence, as identified by Cemalcilar (2010), also play a determining role in shaping academic pathways. Furthermore, Mahfud et al. (2020) noted that the visibility of successful VS graduates strengthens public perception and encourages students to follow similar educational paths.

Hypothesis 3

(H₃): The family environment has a positive and significant impact on the decision to pursue vocational education.

Hypothesis 4

(H₄): The social environment has a positive and significant influence on the decision to choose vocational education.

Self-understanding significantly contributes to students' vocational decision-making by fostering a clearer sense of interest and career direction. As shown by (Galles et al., 2019; Turda, 2024), individuals with strong self-assessment skills tend to experience greater vocational identity clarity and intrinsic motivation. This leads to a stronger inclination toward vocational schools when personal interests align with educational options (Mohd Harris & Ismail, 2021). In this context, student interest acts as a key mediating variable that bridges self-understanding and the decision to pursue vocational education (Lau et al., 2019). Likewise, social influences (including peers, teachers, and the broader community), play a vital role in shaping students' perceptions of vocational education (Bandura, 2014; Eccles & Wigfield, 2020). However, this influence becomes more effective when interpreted and reinforced through the family context. Parental involvement, such as career discussions and the provision of realistic employment perspectives, fosters stronger confidence in vocational choices (Azeem et al., 2022; Cardoso et al., 2017). Thus, the family mediates social influences, enabling students to internalize vocational aspirations more purposefully (Kantamneni et al., 2016; Negru-Subtirica et al., 2015).

Accordingly, the fifth and sixth hypotheses are proposed as follows:

Hypothesis Indirect (H-IND₁): Self-understanding has a positive and significant effect on the decision to choose a vocational school through student interest.

Hypothesis Indirect (H-IND₂): The Social environment has a positive and significant effect on the decision to choose a vocational school through the family environment.

Overall, the development of the hypothesis and conceptual research design is presented in Fig. 1.

3. Method

3.1. Research Design

In this study, an ex post facto design within an explanatory sequential framework was employed to explore the relationships between self-understanding, student interest, family, social environment, and students' decision-making processes regarding vocational education. This approach was suitable for the study because data collection occurred after the educational decisions had been made, which, ethically, could not be manipulated. (Kerlinger, 1973) and (Feng & Liang, 2024) argue that ex post facto designs are effective in uncovering functional relationships to study phenomena in social and educational settings where direct experimentation is not feasible. This approach has been justified by (Cohen et al., 2017), who posited that ex post facto designs are particularly pertinent to capturing students' lived realities, thereby increasing the external validity of the research in the context of policy-making education. Regarding the intricacies of educational decision-making, particularly in urban settings such as Jakarta, this design was chosen because it enables a multifaceted, dynamic interplay between personal traits and socio-environmental circumstances. Prior research indicates that factors such as self-awareness, family dynamics, friends' expectations, and the media influence an adolescent's career pathway choice (Asiati et al., 2022; Berger & Girardet, 2015; Colding, 2006). Consequently, the ex post facto design is highly effective in explaining students' learning behaviour about education within complicated urban contexts.

3.2. Respondents

A purposive sampling method was employed in this study, which involves selecting participants with specific traits relevant to the study's objectives. As noted by (S. Campbell et al., 2020), this is a form of deliberate selection. Ames et al., (2019), noted that purposive sampling is advantageous in social and educational research because it enables the capture of rich details from participants who authentically represent the research situation. The target participants were first-year vocational high school students enrolled in the 2024/2025 academic year. At the time of data collection, all participants were 16 to 17 years of age, having recently completed the transition from junior secondary school and independently decided to pursue vocational education. Inclusion criteria required: (1) active enrolment in the first semester of vocational school, (2) being 16 to 17 years of age at the time of data collection, and (3)

having selected a study major independently or through educational consultation. Exclusion criteria included: (1) outward transfer from GS or SC outside Jakarta, (2) students classified with cognitive impairment as per evaluation documents, and (3) students who had not formally declared a study major. This set of criteria was established to support the integrity of the findings, aimed at the students' decision-making process concerning the VS. Furthermore, to enhance the generalisability of the findings to the population of vocational students in the Greater Jakarta Region, gender, administrative region, and school type (public or private) were considered proportionally (Kurniawan et al., 2023; Usman et al., 2022). This methodology enhances the validity and reliability of the collected data while also reinforcing the development of distinct policy recommendations related to vocational education in metropolitan areas.

After data screening and collection, a final sample size of 462 respondents was obtained. These respondents were proportionally allocated across the six administrative regions of Jakarta, which are: Central Jakarta, North Jakarta, South Jakarta, East Jakarta, West Jakarta, and Kepulauan Seribu (Thousand Islands). In terms of gender, the sample was composed of 222 male students (48.1%) and 240 female students (51.9%), indicating a fairly even balance. In terms of school type, 257 students (55.6%) attended public vocational schools while 205 students (44.4%) were enrolled in private vocational schools. This, alongside the previous description, serves to strengthen the representativeness of the VS level in Jakarta, particularly in terms of types of ownership and geography. The table below shows the comprehensive distribution of respondents by administrative region, gender, and school type in Table 1.

Table 1
Respondent demographics by gender, school type, and region (n = 462)

Respondent Characteristics	n	(%)
Gander		
Male	222	48.05%
Female	240	51.95%
Type of School		
Public School	257	55.63%
Private School	205	44.37%
Areas in DKI Jakarta		
Central Jakarta	80	17.32%
North Jakarta	76	16.45%
South Jakarta	71	15.37%
East Jakarta	91	19.70%
West Jakarta	86	18.61%
Thousand Islands	58	12.55%
<i>Notes: n = number; and % = percentage</i>		

3.3. Data Collections

The research instrument was designed to measure five key variables: self-understanding, interest in further study, family environment, social environment, and the decision to choose vocational education as the dependent variable. The development of the instrument was grounded in an extensive literature review and refined through expert consultation with specialists in vocational education to ensure the measurability and contextual relevance of each indicator. Each variable was operationalized through sub-variables or measurement parameters, which were then formulated into items using a 3-point Likert scale: 1 = Disagree, 2 = Agree, and 3 = Strongly Agree. The instrument development process involved several stages, including conceptual exploration based on prior studies, internal focus group discussions (FGDs) for content logic review, and formal content validation by vocational education experts. A pilot test was conducted with 78 first-semester VS students, resulting in Cronbach's Alpha values ranging from 0.70 to 0.92, indicating a high level of reliability across the constructs. Items that showed low item-total correlations (< 0.30) or inconsistent responses were excluded from the final version of the instrument to ensure internal consistency and construct validity.

Following the validation and reliability testing, the finalized instrument was digitized using Google Forms to facilitate efficient distribution and real-time data tracking. The dissemination process was conducted in collaboration with school guidance counselors (BK teachers), vocational school associations, and alumni who currently serve as educators. The data collection period took place from May to early July 2024, coinciding with the new student admission cycle (PPDB) in vocational high schools. This timing was intentionally selected to ensure alignment with the real-life decision-making context regarding educational choices. The table below provides a summary of the structure and distribution of items across the variables measured in the study:

Table 2
Measurement Constructs Related to the Decision to Choose in Vocational School

Variables	Indicators	Statement Items	Sources
Self-understanding	Self-concept clarity	I understand clearly who I am and what I like	(J. D. Campbell, 1990; Choy & Yeung, 2022; Kvasková et al., 2022)
		I know what my future goals are	
	Perception of self-ability	I am confident in the major or field I have chosen in vocational school	
	Personal goal orientation	I have a study plan for my time in vocational school	
		I have a clear career plan after graduating from vocational school	
	Academic self-evaluation	I am able to identify my strengths in learning	
		I am able to recognize my weaknesses in learning	
Student's interest	Interest inventory in a specific field	I feel that the major I chose in vocational school suits me well	(Jüttler et al., 2021; Maulyda et al., 2020; Widodo et al., 2023)
		I am interested in the major I have chosen in vocational school	
	Previous involvement in similar activities	Before entering vocational school, I had participated in activities related to this major	
	Perception of comfort in studying in a vocational field	I feel comfortable studying in vocational school	
		I enjoy learning practical skills in vocational school	
	Future expectations for the field	I believe this major will be useful for my future	
Family environment	Emotional support: communication and parental expectations	My parents often discuss my education with me	(Paccaud et al., 2021; Xi, 2025)
		My parents hope that I continue my studies at a vocational school	
	Instrumental support: facilities, costs, educational information	My parents provide learning facilities to support my education	

Variables	Indicators	Statement Items	Sources
		My parents fully support the financial costs of my vocational education	
	Family expectations for the child's future	My parents expect me to get a job soon after graduating from vocational school	
	Influence of parents' decisions on major choice	I chose to attend vocational school based on my parents' guidance or approval	
Community environment	Perception of public opinion about vocational schools	My community sees vocational school as a good educational choice	(Duan & Li, 2020; L. Yang & Wong, 2020)
	Exposure to alumni or role models from vocational schools	I know someone successful who studied at a vocational school	
	Social encouragement to follow the majority's choices	I chose vocational school because many friends or neighbors recommended it	
Decision to choose	Clarity and awareness in study decision-making	I consciously chose to attend vocational school	(Ng et al., 2008)
		I chose vocational school based on my personal consideration	
	Congruence between choices and future goals	My vocational school major aligns with my life plans	
		My vocational school major matches my dream job in the future	
	Commitment to study choices	I am confident in my decision to enter vocational school	
	Perceived benefits of vocational school education for the future	I believe vocational school offers good opportunities for employment or entrepreneurship	

3.4. Data Analysing

The data in this study were analyzed using Structural Equation Modeling with Partial Least Squares (SEM-PLS), facilitated by SmartPLS version 4.0. This analytical technique was selected due to its suitability for testing simultaneous causal relationships among complex latent variables while accounting for the contribution of individual indicators to their respective constructs. SEM-PLS is particularly appropriate for exploratory research such as this, as it does not require the assumption of

normal data distribution and is effective with moderate sample sizes (Hair et al., 2017; Shinzawa et al., 2011). The analysis was conducted in three stages: (1) Outer model testing to assess convergent validity, discriminant validity, and construct reliability, using Average Variance Extracted (AVE) and Cronbach's Alpha; (2) Inner model testing to evaluate the significance of structural paths between variables through t-statistics and path coefficients; and (3) Hypothesis testing to confirm the direction and strength of influence of each independent variable on students' decisions to choose vocational education. The strength of SEM-PLS lies in its ability to provide robust and efficient parameter estimates, especially in models involving multiple latent variables with diverse indicators (Akter et al., 2017). Furthermore, this method is well-suited for modeling complex interactions between personal psychological factors and external influences in educational contexts. As noted by Hair & Alamer (2022); Zhao et al. (2022), SEM-PLS offers a comprehensive approach to capturing inter-variable relationships in social and educational research.

4. Result

4.1. Quality Standards of the Measurement Model

Before attempting structural model analysis, reliability tests and construct validation tests were performed to examine the robustness of the measurement model (in Fig. 2). Construct validation was performed using the outer loadings (factor loadings/FL) in conjunction with AVE, while reliability was assessed using Cronbach's Alpha (CA), rho_A, and Composite Reliability (CR). Based on the results of the convergent validity test, all indicators attained factor loadings of more than the minimum requirement of .70, with a range of .708 to .946. These values show that each indicator significantly represents its intended constructs (Hair et al., 2021). In addition, all AVE values were above .50, ranging from .651 to .846, meaning that the proportion of variance that the construct can explain was greater than the measurement error, thus confirming the convergent validity of all constructs.

For internal consistency reliability, all constructs demonstrated high reliability. The CA values of Cronbach's ranged from .822 to .908, Composite Reliability (CR) values ranged from .882 to .943, and rho_A from .827 to .912. All these figures surpassed the cutoff of .70, indicating the measurement instruments were very reliable (Reid, 2014). In addition, testing for multicollinearity using the Variance Inflation Factor (VIF) revealed that all indicators had VIF values below 5.0, ranging from 1.368 to 4.458. This demonstrates that there are no multicollinearity issues between the captured indicators. Therefore, the measurement model in this study fulfills the necessary benchmarks for validity, reliability, and statistical assumptions, which permit further analysis through Partial Least Squares Structural Equation Modeling (PLS-SEM) in Table 2.

Table 2
Evaluation of Measurement Model Based on Validity, Construct Reliability, and Multicollinearities

Variables	Construct	Validity		Construct Reliability			VIF (< 5.0)
		FL	AVE	CA	rho_A	CR	
		(> 0.70)	(> 0.50)	(> 0.70)	(> 0.70)	(> 0.70)	
Self-Understanding (SU)	SU1	.708	.694	.850	.859	.900	1.368
	SU2	.883					4.271
	SU3	.871					4.056
	SU4	.858					1.983
Student's Interest	SI1	.822	.651	.822	.829	.882	1.857
	SI2	.821					1.920
	SI3	.802					2.038
	SI4	.783					1.981
Family Environment	FE1	.846	.707	.862	.864	.906	2.478
	FE2	.880					2.661
	FE3	.836					1.994
	FE4	.800					1.682
Social Environment	SE1	.879	.846	.908	.912	.943	2.308
	SE2	.931					3.937
	SE3	.946					4.458
Decision to Choose	DC1	.750	.655	.823	.827	.883	1.524
	DC2	.842					2.080
	DC3	.833					1.965
	DC4	.808					1.715

For this study, discriminant validity was evaluated to determine whether each construct was conceptually and empirically distinct from the others (in Table 3). The evaluation was done using the Fornell–Larcker criterion, which checks the square root of Average Variance Extracted ($\sqrt{\text{AVE}}$) of each construct against its correlations with all other constructs. In this case, a construct demonstrates adequate discriminant validity when the criterion states that "Its $\sqrt{\text{AVE}}$ is greater than its correlations with any other construct in the model."

These results confirmed this condition. For example, the construct Decision to Choose (DC) had a value of $\sqrt{\text{AVE}}$.843, which was greater than its correlations with Family Environment (FE=.809), Social Environment (SE=.739), Student's Interest (SI=.839), and Self Understanding (SU=.769). Likewise, Family Environment had an AVE of .841, which was greater than its correlations with SE (.774), SI (.788), and SU (.671). Other constructs followed the same pattern: Social Environment showed an $\sqrt{\text{AVE}}$ of 0.920, exceeding its correlations with FE .774 and DC .739; Student's Interest had an $\sqrt{\text{AVE}}$ of 0.813, greater than all its correlating constructs; Self Understanding had an $\sqrt{\text{AVE}}$ of .833, surpassing all remaining constructs. These findings, as a whole, validate that each construct in the model has sufficient discriminant validity, as they can all be differentiated from one another. This differentiation is an important requirement in PLS-SEM structural model evaluation (Hair et al., 2021).

Table 3
Discriminate validity using the Fornell–Larcker criterion

Variables	DC	FE	SE	SI	SU
DC	.843				
FE	.809	.841			
SE	.739	.774	.920		
SI	.839	.788	.719	.813	
SU	.769	.671	.598	.807	.833

4.2. Model Evaluation Criteria

The GOF assessment determines the alignment of the structural model with the empirical data and the theoretical framework. As part of this evaluation, several statistical criteria were considered, including SRMR, d_ULS, d_G, the Chi-square statistic, and NFI. A holistic view of model fit was achieved by analysing the differences between the saturated model and the estimated model using SRMR, d_ULS, d_G, Chi-square, and NFI.

According to the results, the SRMR value for the saturated model was .092, which is close to the maximum acceptable limit of .10. On the other hand, SRMR for the estimated model increased to .144, which is well beyond the optimal threshold. Having an SRMR above .10 for the estimated model indicates a level of mismatch between the theoretical and empirical frameworks. However, the saturated model value is still within a minimally acceptable band (Henseler et al., 2014). In the saturated model, the values of d_ULS and d_G were 1.619 and 1.943, while in the estimated model, these values were 3.926 and 2.199. Although these indices do not have prescribed cut-off values, in general, smaller values are associated with a better model fit. The saturated model's Chi-square value was 3181.204, and the estimated model's value was 3372.083. Despite these being relatively high values, it is worth noting that Chi-square statistics tend to exhibit a strong sample-size-dependent bias and are generally not given much weight in PLS-SEM analyses.

For the Normed Fit Index (NFI), the saturated model received a score of .639, and the estimated model was scored at .617, both of which are above the sought-after threshold of $\geq .90$, suggesting a strong fit. These outcomes indicate that, while the model demonstrates a minimal acceptable fit, as suggested by the SRMR of the saturated model, other estimates (such as the estimated SRMR and NFI) suggest that the model needs further refinement. To conclude, the composite evaluation of model fit suggests that while some indicators indicate a minimal level of fit, the model requires further refinement to accurately capture the observed data. Therefore, further examination and adjustment of the model's structure, indicators, or inter-construct relationships may be performed to enhance the fit for the structural model interpretation.

Table 3
GOF Model Evaluation

SRMR	Saturated model	Estimated model
	.092	.144
d_ULS	1.619	3.926
d_G	1.943	2.199
Chi-square	3181.204	3372.083
NFI	.639	.617

4.3. Hypotheses Testing

All strategies in the proposed model are fully supported by the findings of Path Analysis, as shown in Table 6. The criteria of $p < 0.05$ and $t > 1.96$ are met. The construct relationships are valid in relation to the model's assumptions and are meaningful in terms of the theoretical expectations of the research model (in Fig. 3).

H₁ elucidates that broader self-understanding positively bolsters the Decision to choose (DC) ($\beta = 0.216$; $t = 5.742$; $p = 0.000$). Students with good self-understanding tend to make confident decisions when it comes to educational or career opportunities. H₂ also validates the Student's Interest (SI) as decisively impacting the Decision to choose ($\beta = 0.269$; $t = 5.728$; $p = 0.000$); interest is also a significant driving force during the decision-making process. H₃ demonstrates the strongest effect in the model as Family Environment (FE) significantly impacts the Decision to Choose ($\beta = 0.410$; $t = 11.082$; $p = 0.000$). This finding highlights the overwhelming support and influence families provide in helping shape their students' decisions. H₄ is further confirmed, as the Social Environment (SE) also bears a positive influence on the Decision to Choose ($\beta = 0.098$; $t = 2.470$; $p = 0.014$), although it is weaker relative to other constructs.

In addition to direct effects, the model analysed two mediation pathways. H-IND₁ focused on the mediating role of students' interest in Self-Understanding and the Decision to choose. The result reveals

a significant indirect effect ($\beta = 0.219$; $t = 5.695$; $p = 0.000$), suggesting students' self-understanding enhances their decision-making by increasing their interest in learning. On the other hand, H-IND₂ shows that Family Environment significantly mediates the effect of Social Environment on Decision to Choose ($\beta = 0.317$; $t = 10.294$; $p = 0.000$), indicating that the social environment's influence on students' decisions operates predominantly through the family. Collectively, the findings confirm that learners' choices regarding education and career pathways are considerably influenced by internal factors, including self-awareness and interest, as well as external factors such as familial and social support. The results underscore the importance of adopting a comprehensive framework to analyze the student decision-making process in education, taking into account the complex interplay between individual and situational factors that influence their decisions.

Table 7
Hypotheses Testing on Decision to choose

Hypothesis	Path Analysis	β -values	STDEV	T-Statistics	p-Values	Assumption
		(+/-)		(> 1.96)	(< 0.05)	
H ₁	SU $\diamond$ DC	.216	.038	5.742	0.000	Supported
H ₂	SI $\diamond$ DC	.269	.047	5.728	0.000	Supported
H ₃	FE $\diamond$ DC	.410	.037	11.082	0.000	Supported
H ₄	SE $\diamond$ DC	.098	.040	2.470	0.014	Supported
H-IND ₁	SU $\diamond$ SI $\diamond$ DC	.219	.038	5.695	0.000	Supported
H-IND ₂	SE $\diamond$ FE $\diamond$ DC	.317	.031	10.294	0.000	Supported

5. Discussion

The empirical findings of this study indicate that both personal psychological factors and external support systems significantly influence junior secondary school students' decisions to pursue vocational education. Psychological dimensions such as self-concept clarity (SCC), academic self-evaluation, and goal orientation play a pivotal role in strengthening students' confidence in shaping long-term career aspirations, particularly those aligned with industrial pathways. Students with a stable SCC tend to have a deeper understanding of themselves, allowing them to make more deliberate and informed educational choices (Chasanah & Salim, 2019; Choy & Yeung, 2022). This self-awareness is reflected in their ability to define personal goals, recognize their potential, and assess the compatibility between their interests and the vocational specializations offered at VS. Previous research also supports the importance of self-understanding as a determinant in students' preference for vocational education (Eini et al., 2024). Beyond internal factors, external support, especially parental encouragement and involvement, also plays a crucial role in guiding students' decisions. This is consistent with the Social Cognitive Career Theory

(SCCT), which emphasizes the significance of social influences in career decision-making (Akosah-Twumasi et al., 2018; Wilhelm & Hirschi, 2019). Thus, a combination of strong self-awareness and positive environmental support forms a vital foundation for mature educational decision-making among urban adolescents.

Student interest further serves as a significant determinant in the educational transition process and in shaping students' career trajectories (Jüttler et al., 2021). Many students opt for vocational schools because of a genuine interest in specific majors or skill areas, which becomes a key intrinsic motivator in their decision-making (Fathoni et al., 2021; Lamichhane et al., 2022). Students with high levels of interest tend to exhibit greater confidence, learning satisfaction, and clarity in their career planning (Quinlan & Renninger, 2022; Zaman et al., 2021). However, some students still experience disorientation due to decisions made under social pressure or parental expectations (rather than from personal interest), leading to reduced academic engagement and motivation (Siddiky & Akter, 2021). Therefore, the role of middle school teachers becomes essential in providing accurate information and guidance, helping students align their decisions with their potential and interests (Hadiyati & Astuti, 2023; Kholifah et al., 2025), and ensuring that vocational learning becomes meaningful and sustainable.

External factors are also strongly associated with students' choices in vocational education (Jiang, 2022; Zaman et al., 2021). The results of hypotheses H_3 and H_4 underscore the influence of family and social environments on the outcomes. Families provide critical emotional and financial support, as well as access to resources that increase students' confidence in pursuing career goals (Afzal Humayon et al., 2018). In many lower- to middle-income households, vocational education is seen as a realistic path to employment (Grigg et al., 2014). However, in families with limited understanding of labor market prospects, students may be left to make decisions independently, which can lead to confusion and anxiety (Afzal Humayon et al., 2018; Zaman et al., 2021). Cultural perceptions, including societal attitudes toward VS, also play a significant role in shaping students' intentions and choices (Huang et al., 2024). This highlights the need for comprehensive career counseling and open communication between schools and families to effectively guide students through their educational pathways.

The social environment, including community members and alumni networks, also influences students' vocational decisions. Successful alumni often serve as role models, instilling confidence in students and inspiring them to pursue similar career paths (Zhao & Wang, 2022). Through real-life stories and school-industry partnerships, students gain concrete exposure to the realities of the labor market, which strengthens their motivation and career clarity. Such collaborations bridge the gap between education and employment, enriching students' insights and enhancing their readiness for the workforce. In Indonesia's socially interactive culture, educational decisions are often shaped by collective norms and societal expectations (Zhao & Wang, 2022). These findings reaffirm the strategic role of social environments in fostering vocational identity and increasing students' participation in vocational education.

Although the transition from junior to senior secondary education is well-documented in global literature, research on transitions to vocational tracks remains limited, especially in contexts with varying national education policies (Izzo et al., 2022). In Indonesia, vocational education is designed to prepare students for employment, entrepreneurship, or further study as a response to youth unemployment (Cai et al., 2018). VS is positioned as a strategic institution to produce skilled labor aligned with industry needs. However, many students choose vocational paths without precise planning or long-term vision, resulting in weak learning motivation and misaligned educational goals (Almukhambetova & Hernández-Torrano, 2021). Structured career planning from an early stage can significantly enhance students' professional identity and employability. Thus, integrating career guidance services into educational transitions is essential to help students understand the meaning and prospects of their chosen vocational pathways (Becker & Glauser, 2018).

This study confirms the significant role of self-understanding in influencing vocational education choices, mediated by student interest. A solid understanding of oneself allows students to set both academic and career expectations more consciously, reinforcing their motivation to pursue vocational tracks. Mohd Harris & Ismail (2021) found that self-efficacy is central to the development of students' vocational identity, directly influencing their commitment to chosen career paths. Self-awareness not only enhances personal confidence but also reduces uncertainty in pursuing vocational education, which is reflected in students' learning motivation and career preparedness (Tavares et al., 2024).

Students with a strong awareness of their interests and capabilities tend to perform better academically and actively seek opportunities such as industrial internships. Brown et al. (2003) argued that individuals with high career decision-making efficacy are more motivated to explore vocational options and remain consistent in their choices, improving their chances of post-internship employment. The external social environment also plays a catalytic role in reinforcing students' confidence and in influencing family decisions in favor of vocational education. Dollmann (2021) demonstrated that social interactions (particularly parental support and the tendency to emulate neighbors perceived as successful) have a significant influence on students' educational choices. These findings highlight the role of social surroundings in enabling students' academic and professional aspirations.

Vocational education holds strategic potential to reduce youth unemployment in Indonesia. However, career orientation and management programs at the secondary school level remain underdeveloped. Many students enter vocational tracks with limited career knowledge and unclear goals. Moreover, vocational schools often focus solely on producing graduates without aligning with industry demands, resulting in a persistent disconnect between education and labor market needs. Meanwhile, the curriculum often overlaps with general education in terms of content, without a clear emphasis on entrepreneurship or further study options. As the number of vocational graduates increases each year, this trend fails to match labor market absorption capacity. Therefore, entrepreneurial orientation must be integrated into vocational education, alongside the development of relevant, forward-looking curricula that promote not only employment but also adaptability and lifelong learning.

6. Implication

6.1. Theoretical Implications

The findings of this study are pivotal for advancing theory in the realm of vocational education, particularly regarding the educational choices made by adolescents. This study advocates for the need to incorporate internal psychological factors (such as self-understanding and student motivation) alongside external contextual factors, including family support and social environment, when examining students' educational decision-making regarding vocational education. Such a synthetic approach justifies the application of a theoretical model that combines Social Cognitive Career Theory (SCCT), Self-Determination Theory (SDT), and the Theory of Planned Behaviour (TPB) in secondary vocational education in developing countries, such as Indonesia. The findings indicate that variables such as self-concept clarity and student interest do not operate independently; they interdependently and jointly influence early career decision-making. Thus, the combination of psychological and social factors should be the primary focus for any theoretical framework related to vocational education decision-making models.

Additionally, this research provides a theoretical framework for constructing models of educational transitions that extend beyond institutional choice, incorporating the student's mental, affective, and motivational preparedness regarding future career pathways. The significant impact of the family and social environment identified in this research aligns with the perspective that student choice cannot be viewed in isolation, but rather as the result of complex social processes. Therefore, vocational education theories must encompass local sociocultural frameworks, including community culture and social structures, prevailing norms, and the influence of alumni as role models. It is precisely this gap that the derived conceptual model aims to address by equipping educational actors with the tools and means to develop more socioculturally relevant pedagogical structures that guide junior secondary students into vocational pathways that resonate with their aspirations and potential.

6.2. Practical Implications

Results from this research offer significant insights for refining the educational frameworks within secondary schools and vocational schools particularly in enhancing career guidance services and the decision-making processes associated with educational pathways. The research findings suggest that self-understanding, as well as students' interests, determine whether they opt for vocational education. Hence, one critical conclusion is the need for uninterrupted self-development and career interest evaluation systems, which are mandatory from junior secondary school onwards. Guidance counsellors and homeroom teachers require strong support through the provision of simple psychometric-based evaluation instruments which aid students in recognising their academic preferences, aspirational interests, and personal abilities and potential. Moreover, career awareness through company visits, short internships, and other related activities should be organised to promote students' understanding of vocations relevant to their fields.

Shifting to community-based considerations, factors such as family support and community expectations suggest that vocational education cannot be centred solely on the learners but must also involve the family and the surrounding community. There is an appeal to schools to create constructive collaborations with these stakeholders through parent engagement workshops, career information seminars and workplace exposure facilitated by alumni. The active engagement of vocational school alumni as advocates can serve as a powerful motivator for both online and offline promotional activities for schools. This approach can also counter the negative perceptions associated with vocational education and highlight it as a valuable tool for achieving financial self-sufficiency and job preparedness, particularly in highly socially exposed cities like Jakarta. Ultimately, we recommend that education offices and school heads formulate policies aimed at improving teachers' abilities to deliver career counselling. These policies should be tailored to include appropriate materials, including career assessment toolkits, interest-based counselling modules, and educational pathway simulation tools. These efforts will enable a more systematic and evidence-based approach to seamlessly transitioning students from junior secondary school to vocational high school and enhance the responsiveness of vocational education programmes to the students' aspirations and developmental needs.

7. Conclusion, Limitation, and Future Research

The research objective was to assess the impact of internal and external factors on students' decision-making processes regarding attendance at Sekolah Menengah Kejuruan (Vocational Secondary School) within the context of the Special Capital Region of Jakarta. Using an explanatory quantitative approach and employing SEM-PLS, the research results indicate that both self-understanding and student interest function as significant psychological predictors of educational decisions, alongside family support and community engagement. These findings underscore the importance of considering both intrapersonal and social dimensions in the context of educational decision-making. In particular, it was established that self-understanding influences educational decisions through the mediation of student interest, suggesting that students with a strong self-concept and intrinsic motivation are more likely to opt for vocational pathways, especially when they intend to seek employment immediately after graduation. Furthermore, the perceived influence of successful graduates and community role models positively alters the perception of VS as a valid and pragmatic route toward gainful employment.

Despite these observations, the study has some shortcomings. First, the students' self-perceptions were collected via structured surveys. This raises the possibility of social desirability bias. Second, the scope of the research is geographically limited to Jakarta, which restricts the extent to which the findings can be applied to other regions with different socioeconomic and cultural attitudes towards vocational education. Third, the conceptual model lacks educational policy dynamics; school institution factors, which potentially have a significant bearing on students' decision-making in real-life scenarios, were not included. For further research, we recommend a mixed-methods approach, collecting qualitative interview data from students, parents, school counsellors, and alumni to better understand the rationale behind the decisions made. Moreover, we propose the need for longitudinal studies focused on the transition from junior secondary to vocational high school, exploring students' preferences and decisions

during this timeframe, as well as the impact these choices have on their careers post-graduation. Further research could also enhance the sophistication of predictive modelling by incorporating perceptions of the labour market, school-based interventions, and digital readiness, thereby designing responsive career guidance strategies and vocational education policies tailored to the needs of students.

Declarations

A.I. disclosure statement

In preparing this manuscript, the author utilized Grammarly A.I. to enhance grammatical accuracy and improve readability. Following the use of this tool, the author conducted a thorough review and made necessary revisions, taking full responsibility for the final content of the publication.

Clinical Trial Number

Not applicable.

Ethics Approval and Consent to Participate:

This study was reviewed and approved by the Ethics Committee of the Institute for Research and Community Service, Universitas Negeri Jakarta, Indonesia (Ethical Approval No. 68/UN39.14/PT.01.06/III/2025, issued on 8 February 2025). All procedures involving human participants were conducted in accordance with the ethical standards of the institutional research committee and the principles of the Declaration of Helsinki. Prior to participation, all participants received comprehensive information regarding the study objectives, procedures, potential risks, and benefits. Written informed consent was obtained from all participants prior to data collection. Because all participants were between 16 and 17 years of age at the time of participation, informed consent was obtained directly from the participants in accordance with the approved ethics protocol. Participants were informed of their right to withdraw from the study at any time without any negative consequences. All data were anonymized, and participant confidentiality and privacy were strictly maintained throughout the study.

Consent for Publication:

Not applicable.

Author Contribution

R.F., M.N., and A.K. conceived and designed the study. R.F., A.K., and Y.Y. collected and analyzed the data. R.F. drafted the manuscript. M.N., Y.Y., and H.J. critically revised the manuscript for important intellectual content. H.J. contributed to the interpretation of the findings and manuscript editing.

Acknowledgement

The authors sincerely thank the participating vocational schools, students, and school administrators for their valuable cooperation and support during the data collection process.

Data Availability

Data generated or analysed during this study are available from the corresponding author on reasonable request.

References

1. Abdelrahman BM, Abdel-Mordy MA, Saad AM. Educational Program Based on Theory of Planned Behavior for Female Teachers Regarding Osteoporosis Prevention. *J Nurs Sci Benha Univ*. 2024;5(1):86–111. <https://doi.org/10.21608/jnsbu.2024.333420>.
2. Afzal Humayon A, Raza S, Khan A, R., Ansari ulain, N. Effect of Family Influence, Personal Interest and Economic Considerations on Career Choice amongst Undergraduate Students in Higher Educational Institutions of Vehari, Pakistan. *Int J Organizational Leadersh*. 2018;7(2):129–42. <https://doi.org/10.33844/ijol.2018.60333>.
3. Ajzen I. The theory of planned behavior. *Organ Behav Hum Decis Process*. 1991;50(2):179–211. [https://doi.org/https://doi.org/10.1016/0749-5978\(91\)90020-T](https://doi.org/https://doi.org/10.1016/0749-5978(91)90020-T).
4. Ajzen I. The theory of planned behaviour: Reactions and reflections. *Psychol Health*. 2011;26(9):1113–27. <https://doi.org/10.1080/08870446.2011.613995>.
5. Akbulut-Kılıçoğlu N. Vocational Maturity and Hopelessness of Turkish Senior Students. *Kalem Uluslararası Egitim ve İnsan Bilimleri Dergisi*. 2023;13(24):163–79. <https://doi.org/10.23863/kalem.2022.240>.
6. Akosah-Twumasi P, Emeto TI, Lindsay D, Tsey K, Malau-Aduli BS. A Systematic Review of Factors That Influence Youths Career Choices—the Role of Culture. *Front Educ*. 2018;3(58):1–15. <https://doi.org/10.3389/feduc.2018.00058>.
7. Akter S, Samuel FW, and, Dewan S. Why PLS-SEM is suitable for complex modelling? An empirical illustration in big data analytics quality. *Prod Plann Control*. 2017;28(11–12):1011–21. <https://doi.org/10.1080/09537287.2016.1267411>.
8. Ali SR, McWhirter EH. Rural Appalachian Youth's Vocational/Educational Postsecondary Aspirations. *J Career Dev*. 2006;33(2):87–111. <https://doi.org/10.1177/0894845306293347>.
9. Almukhambetova A, Hernández-Torrano D. On Being Gifted at University: Academic, Social, Emotional, and Institutional Adjustment in Kazakhstan. *J Adv Acad*. 2021;32(1):70–91. <https://doi.org/10.1177/1932202X20951825>.

10. Amarnani RK, Restubog SLD, Bordia P, Bordia S. Savvy Investments or Formative Endowments? Disentangling Causal Direction in the Association Between Parental Support and Self-Efficacy in STEM University Students. *J Couns Psychol.* 2021;68(6):719–29. <https://doi.org/10.1037/cou0000566>.
11. Ames H, Glenton C, Lewin S. Purposive sampling in a qualitative evidence synthesis: A worked example from a synthesis on parental perceptions of vaccination communication. *BMC Med Res Methodol.* 2019;19(1):1–9. <https://doi.org/10.1186/s12874-019-0665-4>.
12. Asiati DI, Mahrom Y, Sari EP, Khan MA, Opoku OA. Partnership Model in School Entrepreneurship Development. *J Manage Stud Dev.* 2022;1(02):112–25. <https://doi.org/10.56741/jmsd.v1i02.107>.
13. Azeem N, Omar MK, Rashid AM, Abdullah A. The Secondary School Students' Interest toward the TVET Programs: Demographic Differences. *Int J Learn Teach Educational Res.* 2022;21(4):80–96. <https://doi.org/10.26803/ijlter.21.4.5>.
14. Bandura A. (2014). Exercise of personal agency through the self-efficacy mechanism. In *Self-Efficacy: Thought Control Of Action* (pp. 3–38). <https://doi.org/10.4324/9781315800820>
15. Becker R, Glauser D. Vocational Education and Training, Vocational Baccalaureate or Academic High School? An Empirical Analysis of Social Selective Transitions to Upper Secondary Education in the German-Speaking Part of Switzerland. *Swiss J Sociol.* 2018;44(1):9–33. <https://doi.org/10.1515/sjs-2018-0002>.
16. Berger J, Girardet C. The Determinants of VET Educators' Occupational Choice. *Educ + Train.* 2015;57(1):108–26. <https://doi.org/10.1108/et-04-2013-0062>.
17. Bi Y, Mou S, Wang G, Liao M. The Relationship Between Professional Self-Concept and Career Decision-Making Difficulties Among Postgraduate Nursing Students in China: The Mediating Role of Career Decision-Making Self-Efficacy. *Front Psychol.* 2023;14(1198974):1–8. <https://doi.org/10.3389/fpsyg.2023.1198974>.
18. Bisht N, Pattanaik F. Exploring the magnitude of inclusion of Indian youth in the world of work based on choices of educational attainment. *J Econ Dev.* 2020;23(2):128–43. <https://doi.org/10.1108/JED-08-2020-0114>.
19. Boone S, Van Houtte M. In search of the mechanisms conducive to class differentials in educational choice: A mixed method research. *Sociol Rev.* 2013;61(3):549–72. <https://doi.org/10.1111/1467-954X.12031>.
20. Brown C, George-Curran R, Smith ML. The Role of Emotional Intelligence in the Career Commitment and Decision-Making Process. *J Career Assess.* 2003;11(4):379–92. <https://doi.org/10.1177/1069072703255834>.
21. Cai R, Li S, Fan C. (2018). Exploration of the Innovative Development of Secondary Vocational Education in the New Period. *Proceedings of the 2018 4th International Conference on Social Science and Higher Education (ICSSHE 2018)*, 430–432. <https://doi.org/10.2991/icsshe-18.2018.106>
22. Campbell JD. Self-Esteem and Clarity of the Self-Concept. *J Personal Soc Psychol.* 1990;59(3):538–49. <https://doi.org/10.1037/0022-3514.59.3.538>.

23. Campbell S, Greenwood M, Prior S, Shearer T, Walkem K, Young S, Bywaters D, Walker K. Purposive sampling: complex or simple? Research case examples. *J Res Nurs*. 2020;25(8):652–61. <https://doi.org/10.1177/1744987120927206>.
24. Cardoso P, Janeiro IN, Duarte ME. Life Design Counseling Group Intervention With Portuguese Adolescents. *J Career Dev*. 2017;45(2):183–96. <https://doi.org/10.1177/0894845316687668>.
25. Cemalcilar Z. Schools as Socialisation Contexts: Understanding the Impact of School Climate Factors on Students' Sense of School Belonging. *Appl Psychology: Int Rev*. 2010;59(2):243–72. <https://doi.org/10.1111/j.1464-0597.2009.00389.x>.
26. Chasanah AM, Salim RMA. Parental Support, Career Exploration, and Career Decision-Making Self-Efficacy in Junior High School Students. *ANIMA Indonesian Psychol J*. 2019;34(4):211–21. <https://doi.org/10.24123/aipj.v34i4.2581>.
27. Choi BY, Park H, Yang E, Lee SK, Lee Y, Lee SM. Understanding Career Decision Self-Efficacy. *J Career Dev*. 2011;39(5):443–60. <https://doi.org/10.1177/0894845311398042>.
28. Choy MW, Yeung AS. Cognitive and affective academic self-concepts: Which predicts vocational education students' career choice? *Int J Educational Res Open*. 2022;3:100123. <https://doi.org/https://doi.org/10.1016/j.ijedro.2022.100123>.
29. Clarke AP, Cornes C, Ferry N. The use of self-reflection for enhanced enterprise education: a case study. *Educ + Train*. 2020;62(5):581–98. <https://doi.org/10.1108/ET-03-2019-0050>.
30. Cohen L, Manion L, Morrison K. (2017). *Research Methods in Education* (8th Editio). Routledge. <https://doi.org/10.4324/9781315456539>
31. Colding B. Ethnicity, Gender and Vocational Education in Denmark. *Int J Manpow*. 2006;27(4):342–57. <https://doi.org/10.1108/01437720610679205>.
32. Curry K. When Parents Choose: The Influence of a School of Choice on Family Engagement and Perception of Desired Educational Outcomes. *Voices Reform: Educational Res Inf Reform*. 2018;1(1):41–56. <https://doi.org/10.32623/1.00005>.
33. Dollmann J. Ethnic Inequality in Choice- and Performance-driven Education Systems: A Longitudinal Study of Educational Choices in England, Germany, the Netherlands, and Sweden. *Br J Sociol*. 2021;72(4):974–91. <https://doi.org/10.1111/1468-4446.12854>.
34. Duan W, Li Y. Convergent, Discriminant, and Incremental Validities of Person–Environment Fit Scale for Creativity in Predicting Innovative Behavior. *J Creative Behav*. 2020;54(3):525–34. <https://doi.org/10.1002/jocb.388>.
35. Eccles JS, Wigfield A. (2020). *Situated Expectancy Value Theory*. <https://www.sciencedirect.com/science/article/pii/S0361476X20300242>
36. Eini N, Strier R, Shoshana A. Design my everyday life, my tomorrow, my future, on my own, without anyone helping me: Future Orientation Among Vocational Education Students in Israel. *J Vocat Educ Train*. 2024;76(5):1124–44. <https://doi.org/10.1080/13636820.2022.2156914>.
37. Fastrich GM, Kerr T, Castel AD, Murayama K. The role of interest in memory for trivia questions: An investigation with a large-scale database. *Motivation Sci*. 2018;4(3):227–50.

<https://doi.org/10.1037/mot0000087>.

38. Fathoni A, Jamaludin H, Yuliana S. (2021). Analysis of Factors Affecting Student Interest to Continue Their Education to Vocational School. *Proceedings of the 2nd Progress in Social Science, Humanities and Education Research Symposium (PSSHERS 2020)*, 563(Psshers 2020), 84–87.
<https://doi.org/10.2991/assehr.k.210618.018>
39. Fathoni A, Muslim S, Rahmadyanti E, Setiyono S, Kusumawati N, Aribowo W. Increased Competitiveness and Work readiness of Students Four Year Vocational High School (VHS). *Indonesian J Learn Educ Couns*. 2019;1(2):186–94. <https://doi.org/10.31960/ijolec.v1i2.114>.
40. Febriyana N, Indrawati H, Makhdalena M. The Influence of Emotional Intelligence, Industrial Work Practices, Soft Skills, and Self-Efficacy on Students Work Readiness. *J Educational Sci*. 2023;7(3):499–517. <https://doi.org/10.31258/jes.7.3.p.499-517>.
41. Feng Z, Liang M. Design and Development of Small Modular Courses for Education-Training Integration in Vocational Colleges: A Case Study. *J Contemp Educational Res*. 2024;8(4):10–5. <https://doi.org/10.26689/jcer.v8i4.6653>.
42. Flek V, Hála M, Mysíková M. Duration dependence and exits from youth unemployment in Spain and the Czech republic. *Economic Research-Ekonomska Istrazivanja*. 2015;28(1):1063–78. <https://doi.org/10.1080/1331677X.2015.1084239>.
43. Freire MdoCM, Jordao LMR, de Paula Ferreira N, de Fatima Nunes M, Queiroz MG, Leles CR. Motivation Towards Career Choice of Brazilian Freshman Students in a Fifteen-Year Period. *J Dent Educ*. 2011;75(1):115–21. <https://doi.org/10.1002/j.0022-0337.2011.75.1.tb05030.x>.
44. Galles J, Lenz J, Peterson GW, Sampson JP. Mindfulness and Decision-Making Style: Predicting Career Thoughts and Vocational Identity. *Career Dev Q*. 2019;67(1):77–91. <https://doi.org/10.1002/cdq.12164>.
45. Grigg M, Arora M, Diwan AD. Australian medical students and their choice of surgery as a career: a review. *ANZ J Surg*. 2014;84(9):653–5. <https://doi.org/10.1111/ans.12389>.
46. Hadiyati MA, Astuti B. Student Careers: What Factors Influence Career Choice? *J Educ Res Evaluation*. 2023;7(4):608–14. <https://doi.org/10.23887/jere.v7i4.61686>.
47. Hair J, Alamer A. Partial Least Squares Structural Equation Modeling (PLS-SEM) in second language and education research: Guidelines using an applied example. *Res Methods Appl Linguistics*. 2022;1(3):100027. <https://doi.org/https://doi.org/10.1016/j.rmal.2022.100027>.
48. Hair JF, Hult GT, Ringle C, Sarstedt M, Hair F Jr., Tomas G, Hult M. Christian Ringle, Marko Sarstedt. In Sage.
49. Henderson L. Children's Education Rights at the Transition to Secondary Education: School Choice in Northern Ireland. *Br Edu Res J*. 2020;46(5):1131–51. <https://doi.org/10.1002/berj.3620>.
50. Huang M, Xu S, Guo T, Ni Y, Xu Y. Impact of Entrepreneurship Education on the Entrepreneurial Intention of Higher Vocational Students: A Moderated Mediation Effects Model. *Eur J Educ*. 2024;59(4). <https://doi.org/10.1111/ejed.12775>.

51. Idroes GM, Noviandy TR, Maulana A, Zahriah Z, Suhendrayatna S, Suhartono E, Khairan K, Kusumo F, Helwani Z, Rahman A, S. Urban Air Quality Classification Using Machine Learning Approach to Enhance Environmental Monitoring. *Leuser J Environ Stud.* 2023;1(2):62–8. <https://doi.org/10.60084/ljes.v1i2.99>.
52. Izzo F, Mele S, Mustilli M. University to work transition: a literature review. *Int J Manpow.* 2022;43(7):1502–15. <https://doi.org/10.1108/IJM-07-2021-0398>.
53. Jeihooni AK, Mohammadkhah F, Bijani M, Harsini PA. (2024). Changing the High-Risk Behaviors of Injecting Drug Users in Iran: Application Theory of Planned Behavior. *Scientific World Journal*, 24 Juli 10(1), 4660336. <https://doi.org/10.1155/2024/4660336>
54. Jiang C. The effect of family cohesion and adaptability on career choice self-efficacy of graduates: The mediating effect of State Anxiety. *Work.* 2022;72(3):979–88. <https://doi.org/10.3233/WOR-210508>.
55. Jüttler A, Schumann S, Neuenschwander MP, Hofmann J. (2021). General or Vocational Education? The Role of Vocational Interests in Educational Decisions at the End of Compulsory School in Switzerland. In *Vocations and Learning* (Vol. 14, Issue 1). <https://doi.org/10.1007/s12186-020-09256-y>
56. Kačerauskas T, Šaparauskas J. Educational choice regarding technical education: Research with case study. *Eurasia J Math Sci Technol Educ.* 2017;13(7):3501–18. <https://doi.org/10.12973/eurasia.2017.00741a>.
57. Kaneez B-S, Medha K. Factors Influencing Grade 10 Students' Career Choice in Mauritius. *Int J Acad Res Progressive Educ Dev.* 2018;7(2):30–44. <https://doi.org/10.6007/ijarped/v7-i2/4081>.
58. Kantamneni N, McCain MRC, Shada N, Hellwege MA, Tate JM. Contextual Factors in the Career Development of Prospective First-Generation College Students. *J Career Assess.* 2016;26(1):183–96. <https://doi.org/10.1177/1069072716680048>.
59. Ke H, Junfeng D, Xiaojing L. International students' university choice to study abroad in higher education and influencing factors analysis. *Front Psychol.* 2022;13(1036569):1–13. <https://doi.org/10.3389/fpsyg.2022.1036569>.
60. Kerlinger FN. *Foundations of Behavioral Research.* Rinehart and Winston: Holt; 1973.
61. Kholifah N, Nurtanto M, Mutohhari F, Hamid MA, Mutiara I, Setiawan D, Saputro IN. Factors influencing student career choice in vocational education in Indonesia: A mediating effect of self-efficacy. *Social Sci Humanit Open.* 2025;11(February):101369. <https://doi.org/10.1016/j.ssaho.2025.101369>.
62. Kniveton BH. The Influences and Motivations on Which Students Base Their Choice of Career. *Res Educ.* 2004;72(1):47–59. <https://doi.org/10.7227/RIE.72.4>.
63. Koçak O, Ak N, Erdem SS, Sinan M, Younis MZ, Erdoğan A. The role of family influence and academic satisfaction on career decision-making self-efficacy and happiness. *Int J Environ Res Public Health.* 2021;18(11):5919. <https://doi.org/10.3390/ijerph18115919>.

64. Kurniawan DA, Darmaji D, Astalini A, Husna SM. Study of Critical Thinking Skills, Science Process Skills and Digital Literacy: Reviewed Based on the Gender. *Jurnal Penelitian Pendidikan Ipa*. 2023;9(4):1741–52. <https://doi.org/10.29303/jppipa.v9i4.1644>.
65. Kvasková L, Hlad'o P, Palíšek P, Šašínska V, Hirschi A, Ježek S, Macek P. A Longitudinal Study of Relationships Between Vocational Graduates' Career Adaptability, Career Decision-Making Self-Efficacy, Vocational Identity Clarity, and Life Satisfaction. *J Career Assess*. 2022;31(1):27–49. <https://doi.org/10.1177/10690727221084106>.
66. Lamichhane S, Gurung SK, Chapagain R, Baral RP, Adhikari S. Factors Influencing Career Choice among Business Administration Students of Pokhara University. *Batuk*. 2022;8(2):14–31. <https://doi.org/10.3126/batuk.v8i2.47011>.
67. Lau PL, Chung YB, Wang L. Effects of a Career Exploration Intervention on Students' Career Maturity and Self-Concept. *J Career Dev*. 2019;48(4):311–24. <https://doi.org/10.1177/0894845319853385>.
68. Lent RW, Brown SD, Hackett G. Toward a Unifying Social Cognitive Theory of Career and Academic Interest, Choice, and Performance. *J Vocat Behav*. 1994;45(1):79–122. <https://doi.org/https://doi.org/10.1006/jvbe.1994.1027>.
69. Lent RW, Brown SD, Hackett G. Contextual Supports and Barriers to Career Choice: A Social Cognitive Analysis. *J Couns Psychol*. 2000;47(1):36–49. <https://doi.org/10.1037/0022-0167.47.1.36>.
70. Leung SA, Zhou S, Ho EY-F, Li X, Ho KP, Tracey TJG. The use of interest and competence scores to predict educational choices of Chinese high school students. *J Vocat Behav*. 2014;84(3):385–94. <https://doi.org/https://doi.org/10.1016/j.jvb.2014.02.010>.
71. Luse A, Rursch JA, Jacobson D. Utilizing Structural Equation Modeling and Social Cognitive Career Theory to Identify Factors in Choice of IT as a Major. *Acm Trans Comput Educ*. 2014;14(3):1–19. <https://doi.org/10.1145/2623198>.
72. Mahfud T, Siswanto I, Wijayanto DS, Puspitasari PF. Antecedent factors of vocational high school students' readiness for selecting careers: A case in Indonesia. *Cakrawala Pendidikan*. 2020;39(3):633–44. <https://doi.org/10.21831/cp.v39i3.32310>.
73. Manik KN, Artha B. The relationship between parental involvement, the role of counselors, student abilities and socioeconomic status towards the interest in continuing studies in high school students in Sukabumi City. *Jurnal Pendidikan West Sci*. 2023;1(03):193–204. <https://doi.org/10.58812/jpdws.v1i03.256>.
74. Marta NA, Abdurakhman, Djunaidi. Preparing Graduates for the Workforce: The Development of Contextual-Based History Learning E-Modules in Vocational Schools. *Paramita*. 2023;33(2):317–28. <https://doi.org/10.15294/paramita.v33i2.37112>.
75. Maulyda MA, Istiningsih S, Martayadi U, Budiharjo A. The Influence of Further Study Information Services on the Interest of Enterprising Students of SMK Negeri 2 Mataram. *Jurnal Pendidikan Teknologi Kejuruan*. 2020;3(4):187–93. <https://doi.org/10.24036/jptk.v3i4.15023>.

76. Mohd Harris HF, Ismail A. Relationship between Career Decision, Self Efficacy and Vocational Identity among UiTM Shah Alam Generation Z. *Int J Hum Resource Stud*. 2021;11(4S):34–55. <https://doi.org/10.5296/ijhrs.v11i4s.19230>.
77. Nazareno AL, Lopez-Relente MJF, Gestiada GA, Martinez MP, De Lara MLD, Roxas-Villanueva RM. Factors associated with career track choice of senior high school students. *Philippine J Sci*. 2021;150(5):1043–60. <https://doi.org/10.56899/150.05.15>.
78. Negru-Subtirica O, Pop EI, Crocetti E. Developmental Trajectories and Reciprocal Associations Between Career Adaptability and Vocational Identity: A Three-Wave Longitudinal Study With Adolescents. *J Vocat Behav*. 2015;88:131–42. <https://doi.org/10.1016/j.jvb.2015.03.004>.
79. Ng ES, Burke RJ, Fiksenbaum L. Career Choice in Management: Findings From US MBA Students. *Career Dev Int*. 2008;13(4):346–61. <https://doi.org/10.1108/13620430810880835>.
80. Okojide A, Adekeye O, Bakare E. (2018). Factors Influencing Career Choice Among Undergraduates in Covenant University, Nigeria. *ICERI2018 Proceedings*, 1, 2246–2252. <https://doi.org/10.21125/iceri.2018.1496>
81. Ordine P, Rose G. Educational mismatch and unemployment scarring. *Int J Manpow*. 2015;36(5):733–53. <https://doi.org/10.1108/IJM-03-2013-0048>.
82. Paccaud A, Keller R, Luder R, Pastore G, Kunz A. Satisfaction With the Collaboration Between Families and Schools – The Parent’s View. *Front Educ*. 2021;6(646878):1–13. <https://doi.org/10.3389/feduc.2021.646878>.
83. Pearman FA, Swain WA. School Choice, Gentrification, and the Variable Significance of Racial Stratification in Urban Neighborhoods. *Sociol Educ*. 2017;90(3):213–35. <https://doi.org/10.1177/0038040717710494>.
84. Permana BI, Mursidi A. Perception Fishermen Community about the Importance of 12 Years of Formal Education. *Int J Educational Vocat Stud*. 2020;1(8):32–6. <https://doi.org/10.29103/ijevs.v2i1.1888>.
85. Qin T, Wei P, Xie Y. The Multi-Level Influence Mechanism of Family Background on Children’s Education Level: The Moderating Effect of Socioeconomic Status. *PLoS ONE*. 2025;20(5):e0323477. <https://doi.org/10.1371/journal.pone.0323477>.
86. Quinlan KM, Renninger KA. Rethinking employability: how students build on interest in a subject to plan a career. *High Educ*. 2022;84(4):863–83. <https://doi.org/10.1007/s10734-021-00804-6>.
87. Rahmah L, Muslim S. (2019). Implementation of Competence Certification Test for the Improvement of Vocational School of Work Graduation Readiness. *1st Vocational Education International Conference*, 231–237. <https://doi.org/10.2991/assehr.k.191217.038>
88. Rahmatullah R, Inanna I, Ampa AT. How Informal Education Fosters Economic Awareness in Children. *Dinamika Pendidikan*. 2020;15(2):202–14. <https://doi.org/10.15294/dp.v15i2.25285>.
89. RATIH DSV, CANGARA H, SANTOSA NM. Instructional Communication in International High School in DKI Jakarta: A Case Study. *Int J Environ Sustain Social Sci*. 2023;4(6):1690–701. <https://doi.org/10.38142/ijesss.v4i6.905>.

90. Rehman N, Huang X, Sarwar U, Fatima H, Maqbool S. Exploring the impact of family, school and society on the perception and reputation of vocational training in Pakistan:a statistical analysis. *Educ + Train*. 2025;67(3):389–418. <https://doi.org/10.1108/ET-09-2023-0375>.
91. Schröder T. A regional approach for the development of TVET systems in the light of the 4th industrial revolution: the regional association of vocational and technical education in Asia. *Int J Train Res*. 2019;17(sup1):83–95. <https://doi.org/10.1080/14480220.2019.1629728>.
92. Sevilla MP, Rangel VS. Career Development in Highly Sex-Typed Postsecondary Vocational Technical Education Programs: A Social Cognitive Analysis. *J Career Assess*. 2022;30(4):658–77. <https://doi.org/10.1177/10690727221074871>.
93. Shinzawa H, Ritthiruangdej P, Ozaki Y. Kernel Analysis of Partial Least Squares (PLS) Regression Models. *Appl Spectrosc*. 2011;65(5):549–56. <https://doi.org/10.1366/10-06187>.
94. Siddiky MR, Akter S. The students' career choice and job preparedness strategies: A social environmental perspective. *Int J Evaluation Res Educ*. 2021;10(2):421–31. <https://doi.org/10.11591/ijere.v10i2.21086>.
95. Spiliopoulou G, Koustourakis G, Asimaki A. Factors Influencing the Formation of the Educational Choices of Individuals of Different Social Origin: A Review of Recent Sociological Scientific Literature. *Open J Educational Res*. 2018;2(1):19–30. <https://doi.org/10.32591/coas.ojer.0201.02019s>.
96. Sudarsono B. Industry-Oriented Automotive Learning Model to Improve Job Readiness of Automotive Vocational School Students. *VANOS J Mech Eng Educ*. 2021;6(1):58–67. <https://doi.org/10.30870/vanos.v6i1.10925>.
97. Sudarsono B, Tentama F, Ghozali FA, Listyaningrum P. Industry-Oriented Experiential Learning Model to Enhance Vocational High School Students' Job Readiness. *J Educ Res Evaluation*. 2023;7(3):380–90. <https://doi.org/10.23887/jere.v7i3.54224>.
98. Sudarsono B, Tentama F, Mulasari SA, Sukesu TW, Sulistyawati S, Ghozali FA, Yuliansyah H, Nafiati L, Sofyan H. Development of Integrated Project-Based (PjBL-T) Model to Improve Work Readiness of Vocational High School Students. *Jurnal Pendidikan Vokasi*. 2022;12(3):222–35. <https://doi.org/10.21831/jpv.v12i3.53158>.
99. Tavares O, Antunes MJ, Carla S, Luz AR. The road less travelled: Exploring the reluctance of vocational students towards higher education in Portugal. *Eur J Educ*. 2024;59(3). <https://doi.org/10.1111/ejed.12648>.
100. Timan A, Maisyaroh, Wiyono BB, Adha MA, Valdez AV, Ariyanti NS. The role of three education centers in promoting entrepreneurship careers for vocational students. *J Educ Learn*. 2024;18(4):1442–53. <https://doi.org/10.11591/edulearn.v18i4.21722>.
101. Turda S. The Relationship Between Personality Factors, Vocational Identity and Career Decision-Making Self-Efficacy. *Int J Res Vocat Educ Train*. 2024;11(1):55–75. <https://doi.org/10.13152/ijrvet.11.1.3>.

102. Umar S, Jusniati H. Analysis of the Interests of MA DDI Kalukunangka Students in Continuing Higher Education Studies. *J Educ Rev Provis*. 2023;3(2):32–8. <https://doi.org/10.55885/jerp.v3i2.263>.
103. Usman BI, Zubairu UM, Anyebe D, Abdulwaheed D, Adeleke I, Ediuku E. Impact of Entrepreneurial Infrastructure on Profitability of Hotels in Minna, Nigeria. *Ijebd (International J Entrepreneurship Bus Development)*. 2022;5(4):622–31. <https://doi.org/10.29138/ijebd.v5i4.1407>.
104. Wang X, Jiaqi L, Xiangxin C, and, Fan Z. Development of Junior High School Students to Secondary Vocational Students Stigma Scale. *Psychol Res Behav Manage*. 2022;15:2957–70. <https://doi.org/10.2147/PRBM.S381069>.
105. Widodo W, Tohir T, Mulasiwi CM. The Influence of Motivation, Self-Potential, and Socio-Economic Conditions on the Interest in Continuing to Higher Education. *Economic Educ Anal J*. 2023;12(2):1–14. <https://doi.org/10.15294/eeaj.v12i2.66031>.
106. Wilhelm F, Hirschi A. (2019). Career self-management as a key factor for career wellbeing. In *Theory, Research and Dynamics of Career Wellbeing: Becoming Fit for the Future*. https://doi.org/10.1007/978-3-030-28180-9_6
107. Xi D. The Impact of Family Environment on Children's Education: An Analytical Study. *Lecture Notes Educ Psychol Public Media*. 2025;86(1):12–5. <https://doi.org/10.54254/2753-7048/2025.21814>.
108. Yang C. A Study of Synergy between Schooling and Family Education in Shaping Positive Mindset among Students. *Contemp Educ Teach Res*. 2023;4(11):584–8. <https://doi.org/10.61360/bonicetr232015211106>.
109. Yang L, Wong LPW. Career and Life Planning Education: Extending the Self-Concept Theory and Its Multidimensional Model to Assess Career-Related Self-Concept of Students with Diverse Abilities. *ECNU Rev Educ*. 2020;3(4):659–77. <https://doi.org/10.1177/2096531120930956>.
110. Yüksel MY, Aksak M, Arıcan T, BAKAN M. An Investigation of Senior Vocational School Students' Perceptions of the Future Through Their Drawings. *Eurasian J Educational Res*. 2016;16(64):265–86. <https://doi.org/10.14689/ejer.2016.64.15>.
111. Zaini SNM, Rami AAM, Arsad NM, Anuar MAM. Relationship of Academic Performance and Academic Self-Concept with Career Decision-Making among UPM Undergraduate Students. *Asian J Univ Educ*. 2021;17(2):50–61. <https://doi.org/10.24191/AJUE.V17I2.13403>.
112. Zaman MDK, Aziz H, M., Omar MK. Factors Influencing Career Choice Among Final Semester Undergraduate Students of a Business Management Faculty in A Malaysian Public University. *Int J Acad Res Progressive Educ Dev*. 2021;10(2):361–73. <https://doi.org/10.6007/ijarped/v10-i2/9830>.
113. Zhao X, Wang N, Zhu M, Qiu X, Sun S, Liu Y, Zhao T, Yao J, Shan G. Application of Transmission Raman Spectroscopy in Combination with Partial Least-Squares (PLS) for the Fast Quantification of Paracetamol. *Molecules*. 2022;27(5):1707. <https://doi.org/10.3390/molecules27051707>.
114. Zhao X, Wang X. The Influence of College Entrepreneurship Education System on the Cultivation of Applied Innovative Talents. *Front Psychol*. 2022;13:844234. <https://doi.org/10.3389/fpsyg.2022.844234>.

115. Zhou X, Mau A, Jordan LP. Gaming the No-Choice System? School Choice and Persistent Educational Inequality in China. *Res Papers Educ.* 2020;37(1):134–52.
<https://doi.org/10.1080/02671522.2020.1814849>.

Figures

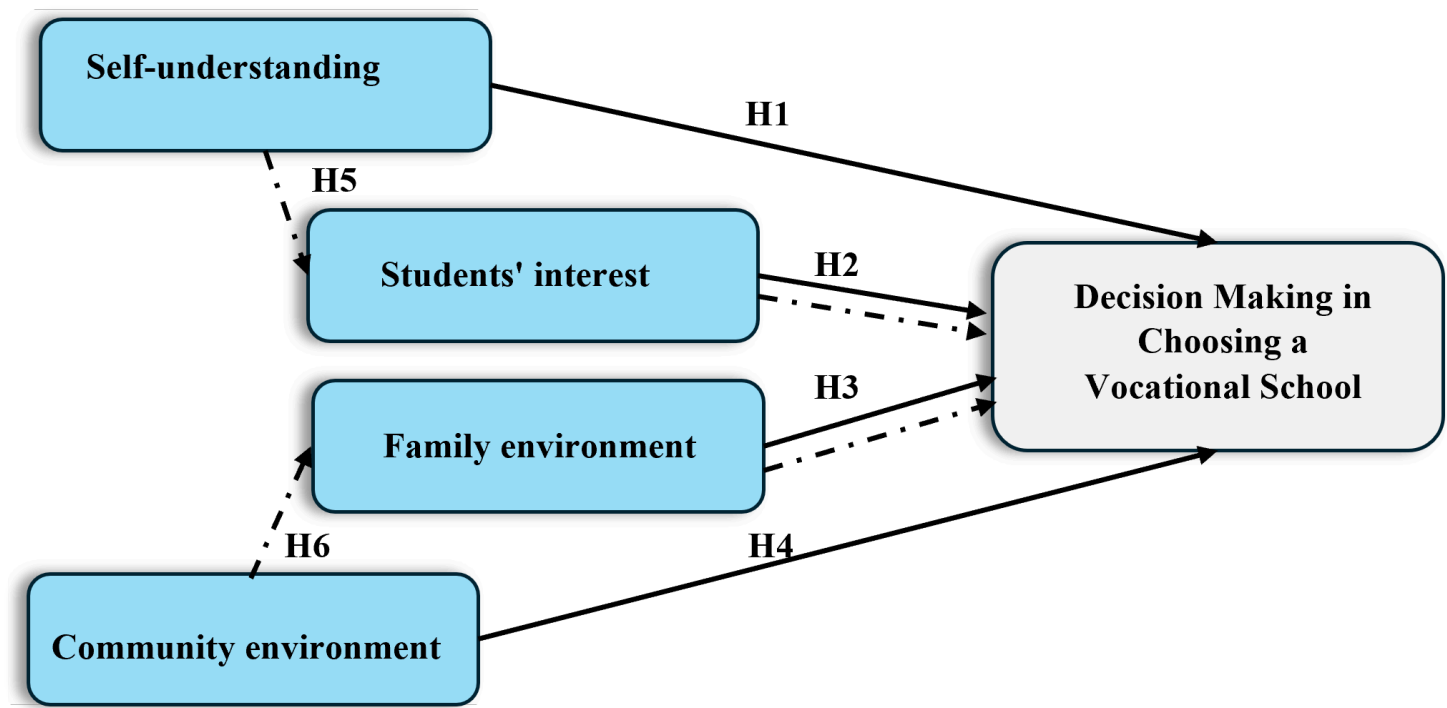


Figure 1

Conceptual Research Design

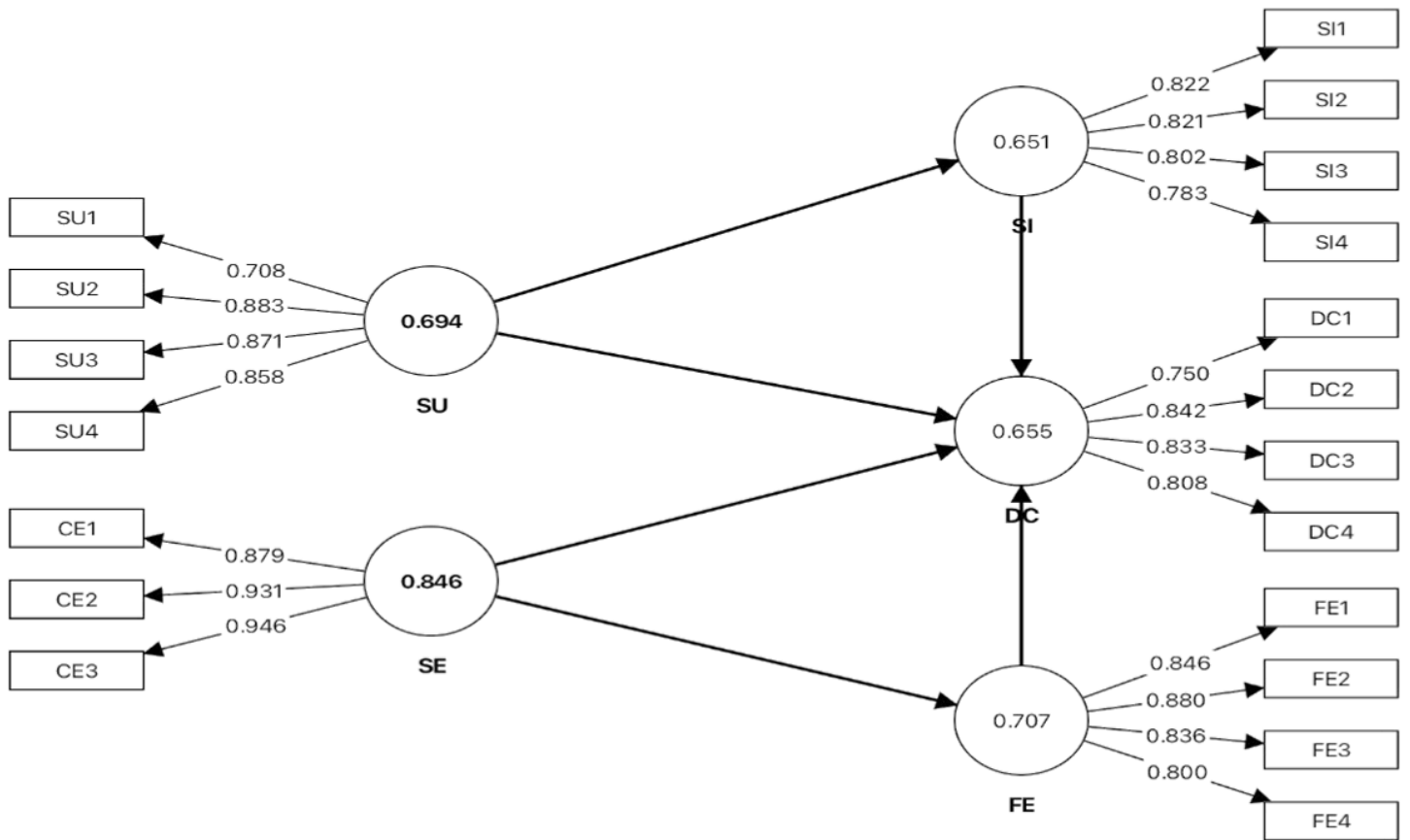


Figure 2

Results of convergent validity (FL) and consistency reliability (CR)

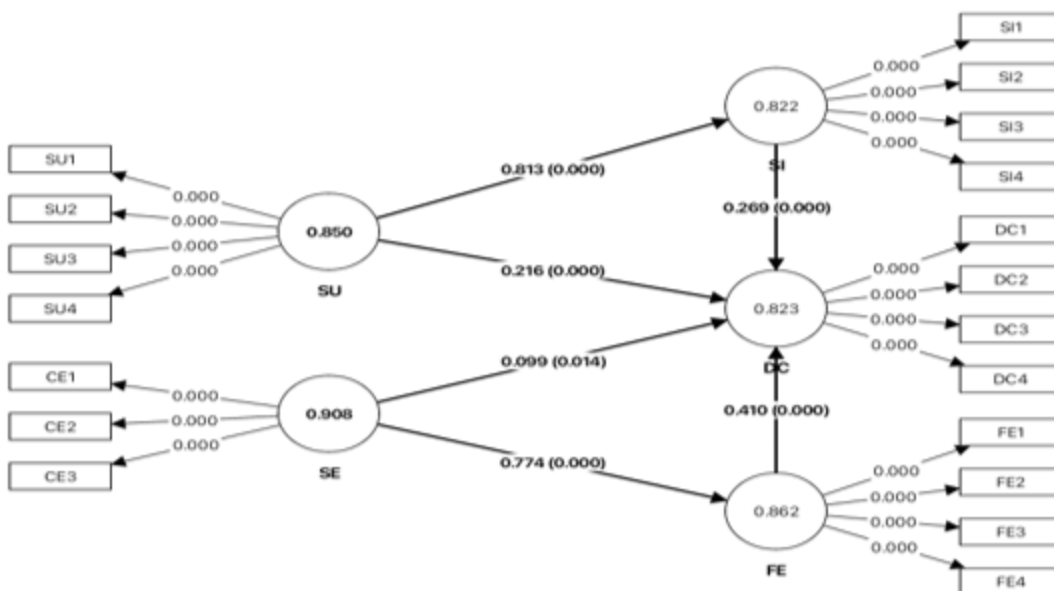


Figure 3

Hypothesis Testing based on Path Coefficient and p-value, and Construct