

Information Exposure and Career Understanding on Marketing Interest: Mediation of Career Perception and Self-Efficacy Moderation

Happy Cantika Putri^{1*}, M. Fathur Rahman²

^{1,2} Universitas Negeri Semarang, Semarang, Indonesia

Abstract

This study examined associations between information exposure, career prospect understanding, career prospect perception, self-efficacy, and students' present interest in their chosen Marketing program at SMK Negeri 9 Semarang. Given the cross-sectional, self-report design, temporal ordering and causal inference cannot be established. A total of 107 tenth-grade Marketing students were recruited through total population sampling for the 2025/2026 academic year. Questionnaire data were analyzed using PLS-SEM in SmartPLS 4.1.1.8, with hypothesis testing via bootstrapping with 5,000 subsamples. Information exposure was positively associated with both career prospect perception and departmental interest. Career prospect understanding was strongly associated with career prospect perception but showed no significant direct association with interest. Career prospect perception and career decision-making self-efficacy each independently and positively predicted students' interest. Career prospect perception partially mediated the information exposure interest association (indirect effect: $\beta = 0.081$, 95% CI [0.005, 0.157]) and fully mediated the career prospect understanding interest association ($\beta = 0.177$, 95% CI [0.066, 0.288]). The self-efficacy moderation was not supported ($\beta = -0.060$, 95% CI [-0.136, 0.016]). These findings suggest that students' interpretations of career prospects, rather than factual understanding alone, are central to translating career information into academic interest, consistent with Social Cognitive Career Theory's emphasis on self-efficacy and outcome expectations. However, the single-school sample, cross-sectional design, and self-reported measures limit causal interpretation and generalizability. Future longitudinal and multisite studies should test the temporal pathways, incorporate objective measures, and examine additional contextual moderators.

CORRESPONDING AUTHOR

***M. Fathur Rahman**, Universitas Negeri Semarang, Semarang, Indonesia. Email: fathur@mail.unnes.ac.id

ARTICLE HISTORY

Received : 7 February 2026

Revised : 24 May 2026

Accepted : 3 July 2026

KEYWORDS

Information exposure; career prospect understanding; career prospect perception; self-efficacy; vocational education; Social Cognitive Career Theory

PUBLISHER'S NOTE

This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY 4.0) license.



Introduction

Choosing a program is not merely an administrative step. For vocational high school (SMK) students in Indonesia, this decision shapes the competencies they will develop over three years and the career options most likely available afterward. Students in programs that match their interests tend to engage more actively in learning and persist in building relevant skills. Those who end up in a program by default through limited alternatives or inadequate information often move through education without meaningful involvement. Renninger and Hidi (2016) found that positively developing interest is associated with sustained learning engagement, and Pham et al. (2024) similarly linked career exploration processes to stronger engagement with one's chosen field. Zhou et al. (2023) extend this pattern to vocational contexts, showing that students' beliefs about their educational choices are linked to academic behavior and career decision-making.

Alongside individual factors, structural changes in the labor market affect the strategic relevance of vocational programs. Indonesia's digital economy has expanded rapidly, and with it, certain marketing-related roles have grown more prominent. According to Isnur (2024), internet users in the country reached 221.5 million approximately 79.5% of the total population a figure that has risen steadily over five years. This penetration has shifted some marketing activity toward digital platforms. Mahwati (2024) documents that digital marketing strategies have opened competitive pathways for businesses. We note, however, that macro-level internet penetration data do not directly establish occupation-specific labor demand for SMK Marketing graduates; the connection between general digital economy growth and program-level workforce needs warrants occupational labor market evidence that the present study does not provide.

Field data from SMK Negeri 9 Semarang (State Vocational High School 9 Semarang) point to a gap between the program's potential and its appeal among prospective students. The school runs four academic programs Software and Game Development, Office Management and Business Services, Accounting and Financial Institution Management, and Marketing and the Marketing Department has recorded the lowest average entrance scores across three consecutive admissions cycles: 33.00 in 2022, 59.16 in 2023, and 86.04 in 2024. School staff report that Marketing tends to function as a secondary rather than primary preference, suggesting students arrive more by elimination than choice. What shapes or constrains their interest in this program is the central question this study addresses.

One likely contributor is information exposure. Students who receive accurate information about what a program involves, how it is structured, and where graduates tend to work are better positioned to form a considered view. Mahmud et al. (2022) describe career information-seeking as a core part of career decision-making because it helps individuals recognize relevant options, and found that this behavior among Malaysian University graduates was associated with broader awareness of educational and occupational alternatives. Jiang et al. (2024) found that career awareness was positively associated with career interests among high school students, operating through outcome expectations and self-efficacy beliefs. Hariyanto et al. (2024) found that workplace information access was a measurable correlate of career choices among vocational students. Within Indonesian career-guidance practice specifically, Karim and Sa'adah (2022) found that structured guidance services help vocational students form a clearer career identity, while Puspitasari et al. (2025) note that accessible career guidance media are associated with stronger career readiness among SMK students.

Career prospect understanding is a related but distinct construct. Where information exposure refers to the quantity and accessibility of career-related information students encounter, career prospect understanding captures students' factual, declarative knowledge of career outcomes employment rates, occupational pathways, and the degree to which program competencies align with industry needs. Rothwell & Arnold (2007) argued that understanding employment prospects is a foundational element of career planning. Jemini Gashi et al. (2023) found that structured workshops building career outcome knowledge were associated with higher career self-efficacy and goal clarity at the secondary school level.

A third construct captures something that understanding alone does not: the student's personal appraisal of those career prospects. Career prospect perception reflects students' subjective judgment of whether employment opportunities and career advancement in a given field are

personally accessible and attainable for them specifically. This is an evaluative, first-person judgment, not a factual knowledge state. The distinction matters: a student can know that marketing has good employment prospects while still doubting whether those prospects apply to them. Gunawan et al. (2020) found that individuals' appraisals of future employment prospects were linked to proactive career planning behaviors.

Career decision-making self-efficacy defined here as students' confidence in their ability to make informed educational and career decisions (Bandura, 1997) is a further relevant variable. This is distinguished from general academic self-efficacy and from domain-specific marketing-task confidence, which have different theoretical roles within SCCT. Liu et al. (2026) found that career learning experiences were associated with learning engagement through effects on self-efficacy and outcome expectations. Milledzi et al. (2024) and Wang et al. (2023) found that career decision-making self-efficacy was associated with goal-setting and occupational adaptability. This pattern has also been observed elsewhere in Asia: Bi et al. (2023) linked career decision-making self-efficacy to reduced career decision difficulties among postgraduate students in China, and Liu et al. (2023) found that career decision-making self-efficacy mediated the association between career education skills and career adaptability among Chinese college students.

Social Cognitive Career Theory (SCCT), developed by Lent et al. (2002) and grounded in Bandura's (1997) social cognitive theory, provides the integrating framework. SCCT proposes that educational and career choices are shaped by the interaction of environmental inputs, personal factors, self-efficacy beliefs, and outcome expectations. Lent and Brown (2019), in a 25-year review of empirical support for SCCT, concluded that the self-efficacy and outcome-expectation pathways to interest remain among the theory's most consistently supported components. Lent et al. (2017) clarified how these elements interact across developmental stages, and Wang et al. (2022) argue that SCCT's emphasis on dynamic, environment-sensitive appraisal makes it particularly well suited to explaining career development in fast-changing, technology-driven occupational fields. Within this framework, information exposure and career prospect understanding function as environmental and cognitive inputs that shape how students appraise their career prospects; those appraisals then associate with interest, and self-efficacy is hypothesized to moderate the perception-interest association.

Prior SCCT-based models of vocational interest have largely tested either self-efficacy or outcome expectations as direct predictors without integrating a subjective career perception construct as a mediator. Studies that include career perception have not simultaneously examined self-efficacy as a moderator. Research in Indonesian vocational contexts has concentrated on accounting and manufacturing programs rather than marketing; even recent large-sample Indonesian work, such as Kholifah et al. (2025), has tested self-efficacy and digital competence as predictors of career choice broadly without isolating a subjective career-perception mediator or a marketing-specific sample. The present study addresses these specific gaps by testing an integrated model in which career prospect perception mediates the associations from information exposure and career prospect understanding to interest, and career decision-making self-efficacy is examined as a potential moderator.

Method

A quantitative cross-sectional design was used to examine theoretically specified structural associations among study variables. The design does not support causal inference or the

establishment of temporal ordering. The central aim was to assess whether information exposure and career prospect understanding were associated with students' present interest in the Marketing program, with career prospect perception as a proposed mediator and career decision-making self-efficacy as a proposed moderator, within a Social Cognitive Career Theory framework.

Data were collected at SMK Negeri 9 Semarang during the 2026 academic year. The study population comprised all tenth-grade Marketing students enrolled for 2025/2026, totaling 107 individuals. Given this bounded population, a census-based approach was used: all members participated as respondents, removing the need for probabilistic sampling.

Five constructs were measured through a structured questionnaire with a four-category rating scale (Strongly Disagree / Disagree / Agree / Strongly Agree): information exposure (X1), career prospect understanding (X2), career prospect perception (M, proposed mediator), career decision-making self-efficacy (Z, proposed moderator), and present interest in the Marketing Department (Y, outcome). The outcome construct captures students' current commitment to and identification with their enrolled program, not a prospective or hypothetical re-choice decision.

The instrument was developed from established SCCT and career development measures and reviewed by two subject-matter experts before piloting. A pilot study was conducted with 30 tenth-grade Marketing students at SMK Negeri 2 Semarang (State Vocational High School 2 Semarang), drawn from the same grade level as the main sample. Item-retention criteria required outer loadings of ≥ 0.60 , consistent with the threshold recommended for confirmatory PLS-SEM (Hair et al., 2021). One item M_2 was removed following the pilot due to an outer loading of 0.327, substantially below this threshold. In the main analysis, one additional item Z_3 was removed due to an outer loading below 0.60. All other items met the retention threshold in both the pilot and main samples. Indicator numbering in the results reflects original questionnaire item numbers retained for traceability; apparent gaps in the sequence indicate removed items.

Analysis used PLS-SEM in SmartPLS 4.1.1.8. The measurement model was evaluated for convergent validity through outer loadings and AVE, for reliability through Cronbach's alpha and composite reliability, and for discriminant validity through the Fornell-Larcker criterion and HTMT ratios. The structural model was then assessed for explanatory power (R^2), relative effect sizes (f^2), and cross-validated redundancy Q^2 from the blindfolding procedure. Overall model fit was examined using SRMR and NFI. Structural path coefficients and indirect effects were estimated via bootstrapping with 5,000 subsamples; 95% confidence intervals are reported for all indirect and interaction effects. Following (Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, 2021). The significance threshold was $t > 1.96$ and $p < .05$.

All antecedents, mediator, moderator, and outcome were measured from the same respondent at one time point, creating conditions for common method variance. Procedural safeguards included varied item formats, reverse-scored items, and anonymity assurance to reduce acquiescence and social desirability bias. Statistical controls for common method variance were not implemented; this is acknowledged as a validity limitation.

Result and Discussion

Respondent Characteristics

A total of 107 tenth-grade Marketing students participated: 35 from class X PM 1 (32.7%), 36 from X PM 2 (33.6%), and 36 from X PM 3 (33.6%). Prior familiarity with the Marketing Department before enrollment was reported by 80.4% of respondents.

Measurement Model

Convergent validity was assessed through outer loadings and AVE. Table 1 presents the integrated measurement model.

Table 1. Measurement Model: Outer Loadings, AVE, and Reliability

Construct	Indicator	Loading	AVE	CA	CR
Information Exposure (X1)	X1_1	0.759	0.577	0.759	0.845
	X1_2	0.702			
	X1_3	0.813			
	X1_4	0.760			
Career Prospect Understanding (X2)	X2_1	0.611	0.532	0.780	0.849
	X2_2	0.783			
	X2_3	0.806			
	X2_4	0.730			
	X2_5	0.702			
Career Prospect Perception (M)	M_1	0.683	0.585	0.762	0.849
	M_3	0.811			
	M_4	0.769			
	M_5	0.788			
Self-Efficacy (Z)	Z_1	0.685	0.590	0.770	0.851
	Z_2	0.772			
	Z_4	0.829			
	Z_5	0.780			
Interest in Marketing Dept. (Y)	Y_1	0.868	0.727	0.874	0.914
	Y_2	0.863			
	Y_4	0.876			
	Y_5	0.800			

Note. Ind. = Indicator; CA = Cronbach's Alpha; CR = Composite Reliability. M_2 removed at pilot (loading = 0.327); Z_3 removed at main analysis (loading < 0.60).

Table 1 shows that all retained outer loadings exceeded 0.60, ranging from 0.611 to 0.876. Each construct's AVE exceeded 0.50, Cronbach's alpha ranged from 0.759 to 0.874, and composite reliability ranged from 0.845 to 0.914, all above the 0.70 threshold recommended by (Hair et al., 2021), confirming adequate convergent validity and internal consistency for all five constructs. With convergent validity established, the next step was to examine whether the five constructs were empirically distinct from one another, which Table 2 addresses through the Fornell-Larcker criterion.

Discriminant validity was next assessed using the Fornell-Larcker criterion, presented in Table 2.

Table 2. Fornell-Larcker Criterion

Construct	M	X1	X2	Y	Z
M Career Prospect Perception	0.765				
X1 Information Exposure	0.637	0.759			

X2 Career Prospect Understanding	0.726	0.704	0.730		
Y Interest in Marketing Dept.	0.644	0.597	0.559	0.852	
Z Self-Efficacy	0.655	0.582	0.604	0.617	0.768

Note. Diagonal values = square root of AVE. HTMT (X2–M) = 0.926, exceeding the 0.85 threshold; all other HTMT values < 0.85.

Table 2 shows that the square root of each construct's AVE (the diagonal values) exceeded its correlations with the other constructs in every case, providing initial support for discriminant validity. A closer inspection using the HTMT ratio, however, indicated that the pair Career Prospect Understanding (X2) and Career Prospect Perception (M) reached 0.926, exceeding the commonly recommended 0.85 threshold (Henseler et al., 2015), while all other construct pairs remained below this threshold. This elevated X2–M value indicates that, while the two constructs are theoretically distinct X2 capturing declarative knowledge of career outcomes and M capturing personal evaluative appraisal of those outcomes their empirical differentiation is weaker than ideal in this sample. Having established the measurement model, attention turns to the structural model, beginning with the explanatory and predictive power of the two endogenous constructs reported in Table 3.

Structural Model

The structural model was next evaluated, beginning with the coefficient of determination (R^2) and cross-validated redundancy (Q^2) for each endogenous construct, shown in Table 3.

Table 3. R^2 , Q^2 , RMSE, and MAE

Endogenous Construct	R^2	Q^2	RMSE	MAE
Career Prospect Perception	0.558	0.530	0.705	0.510
Interest in Marketing Department	0.520	0.397	0.798	0.614

Table 3 shows that Information Exposure and Career Prospect Understanding together account for 55.8% of the variance in Career Prospect Perception, while the four predictors combined account for 52.0% of the variance in departmental interest. Both R^2 values reflect moderate explanatory power following Hair et al. (2021), and the Q^2 values above zero on both endogenous constructs indicate that the model retains predictive relevance beyond the sample mean; formal benchmark comparisons via PLSpredict were not conducted. Model fit indices, reported next in Table 4, provide a further check on how well the estimated model reproduces the observed data.

Table 4. Model Fit Indices

Index	Saturated Model	Estimated Model
SRMR	0.089	0.094
NFI	0.659	0.653

Table 4 shows that the SRMR for the estimated model was 0.094, approaching the 0.10 threshold, while NFI was 0.653, below the conventional 0.90 benchmark. These values suggest that model fit is limited and should be interpreted cautiously rather than treated as fully satisfactory. With model fit established, the structural path coefficients that test the study's hypotheses are reported in Table 5.

Table 5. Path Coefficient Testing Result

Path	β	T-Statistic	p	Decision
X1 → M	0.250	2.935	.003	Supported
X1 → Y	0.246	2.006	.045	Supported

X2 → M	0.549	6.482	<.001	Supported
X2 → Y	0.018	0.153	.878	Not Supported
M → Y	0.323	3.389	.001	Supported
Z → Y	0.293	2.061	.039	Supported
Z × M → Y	-0.060	1.551	.121	Not Supported

Table 5 shows that five of the seven hypothesized paths were supported. Information exposure (X1) was positively associated with both career prospect perception ($\beta = 0.250$, $p = .003$) and interest ($\beta = 0.246$, $p = .045$). Career prospect understanding (X2) was strongly associated with career prospect perception ($\beta = 0.549$, $p < .001$) but not with interest directly ($\beta = 0.018$, $p = .878$). Career prospect perception (M) and self-efficacy (Z) were each positively associated with interest ($\beta = 0.323$, $p = .001$; $\beta = 0.293$, $p = .039$, respectively), while the interaction term ($Z \times M$) was not significant ($\beta = -0.060$, $p = .121$). Because career prospect perception is proposed as a mediator between the two antecedents and interest, the indirect effects associated with these paths are reported next in Table 6.

Table 6. Indirect Effect (Mediation) with 95% Bootstrap Confidence Intervals

Indirect Path	β	T-Statistic	p	Decision
X1 → M → Y	0.081	2.108	.035	Supported
X2 → M → Y	0.177	3.124	.002	Supported

Table 6 shows that career prospect perception carried a significant indirect effect from information exposure to interest ($\beta = 0.081$, 95% CI [0.005, 0.157]) and from career prospect understanding to interest ($\beta = 0.177$, 95% CI [0.066, 0.288]); neither confidence interval crossed zero. Because the X1 → Y direct path remained significant, this indicates partial mediation for information exposure, whereas the non-significant X2 → Y direct path indicates full mediation for career prospect understanding. To gauge the relative practical importance of each significant path, effect sizes are reported next in Table 7.

Table 7. Effect Size (f^2)

Path	f^2	Category
X1 → M	0.071	Small
X1 → Y	0.057	Small
X2 → M	0.344	Medium
X2 → Y	0.000	No Effect
M → Y	0.084	Small
Z → Y	0.089	Small
Z × M → Y	0.013	Negligible

Table 7 shows that the X2 → M path produced the largest effect size in the model ($f^2 = 0.344$, medium), following the thresholds proposed by Hair et al. (2021), indicating that career prospect understanding accounts for a substantially larger share of variance in career prospect perception than any other predictor. All other significant paths produced small effect sizes, ranging from 0.057 to 0.089, and the two non-significant paths yielded negligible values consistent with their non-significant coefficients. The overall pattern of path coefficients is summarized visually in Figure 1.

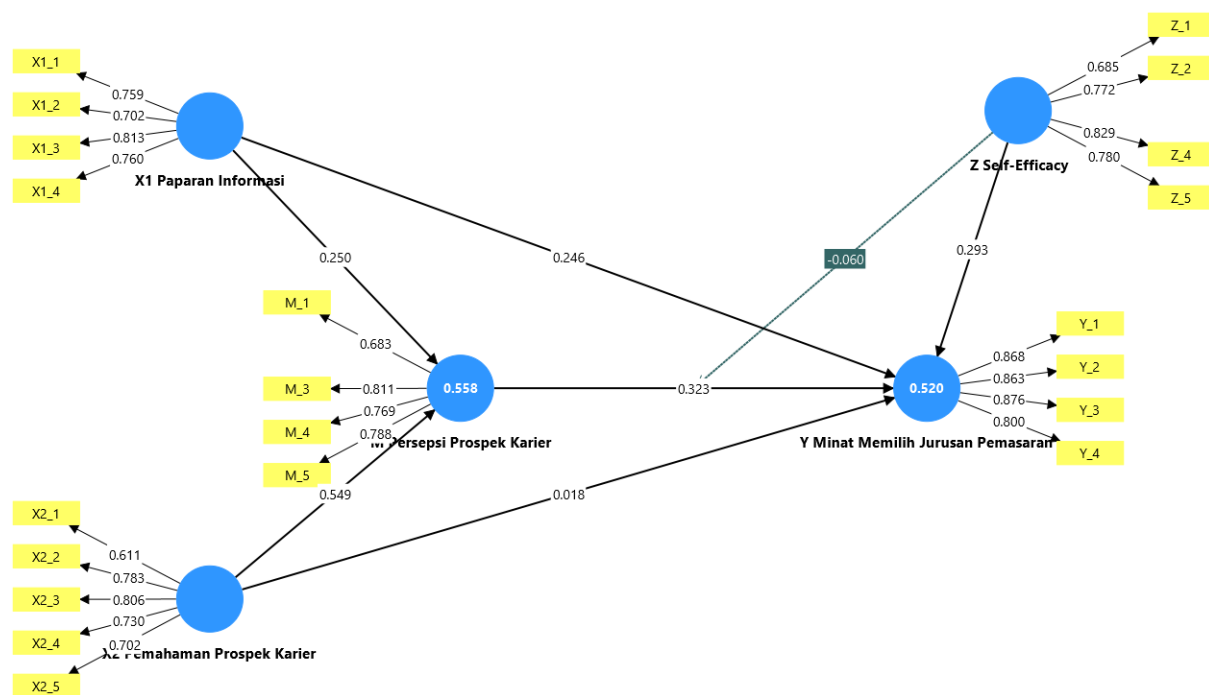


Figure 1. Presents the structural model path diagram from SmartPLS.

Figure 1 shows the full structural model, including outer loadings, path coefficients, and R^2 values for the two endogenous constructs, and visually confirms the pattern reported in Tables 5 through 7: information exposure and career prospect understanding both feed into career prospect perception, which together with self-efficacy predicts departmental interest, while the self-efficacy interaction term remains negligible. This completes the presentation of results; the discussion below interprets these associations in relation to prior research and Social Cognitive Career Theory.

Discussion

Taken together, the results indicate that information exposure was positively associated with both career prospect perception and departmental interest, with small effect sizes on each path ($f^2 = 0.071$ and 0.057 , respectively). Career prospect understanding showed a medium association with career prospect perception ($f^2 = 0.344$) but no significant direct association with interest, and this relationship was instead fully mediated by career prospect perception (indirect $\beta = 0.177$, 95% CI [0.066, 0.288]). Career prospect perception and career decision-making self-efficacy each independently and positively predicted interest, while the proposed moderating role of self-efficacy on the perception–interest association was not supported ($\beta = -0.060$, $p = .121$). These associations are broadly consistent with Social Cognitive Career Theory, in which environmental and cognitive inputs are proposed to shape interest largely through subjective appraisal processes rather than by acting on interest directly.

These patterns align closely with a growing body of international research published since 2020. Consistent with the association observed between information exposure and career prospect perception, Sun et al. (2022) found that Chinese event-management students' career awareness was linked to stronger career self-efficacy, and Jiang et al. (2024) reported that career awareness among high school students was positively associated with career interest through outcome expectations and self-efficacy beliefs, a pathway structurally similar to the $X1 \rightarrow M \rightarrow Y$ route identified here. This broader information-seeking mechanism is also documented by Mahmud et al. (2022), who found

that career information-seeking behavior among Malaysian university graduates was associated with wider awareness of educational and occupational options. The strong association between career prospect understanding and career prospect perception, and its full mediation of the path to interest, resonates with Jemini Gashi et al. (2023), who found that structured career-knowledge workshops raised self-efficacy and goal clarity without necessarily producing immediate behavioral commitment, and with Guo et al. (2025), who showed that adolescents' career-related knowledge shaped their subjective career expectations more directly than it shaped concrete choice behavior. The positive association between career prospect perception and interest is consistent with Gunawan et al. (2020), who linked individuals' appraisals of future employment prospects to proactive career planning, and with Pham et al. (2024), who found career exploration associated with career choice through self-efficacy and social support. The direct, positive association between self-efficacy and interest mirrors findings by Bi et al. (2023) among postgraduate nursing students in China, Liu et al. (2023) among Chinese college students, and Milledzi et al. (2024) among undergraduates, all of whom reported that career decision-making self-efficacy was associated with reduced career indecision and stronger goal-directed behavior. The non-significant self-efficacy moderation reported here also has parallels abroad: Makki et al. (2023) found that self-efficacy operated primarily as a direct predictor of career exploration among engineering students rather than as a moderator of other appraisal variables, and Liu et al. (2026) similarly reported that self-efficacy's association with engagement functioned mainly through direct and mediated pathways rather than an interactive one. At a theoretical level, Lent and Brown's (2019) 25-year review of SCCT concluded that the interest model's self-efficacy and outcome-expectation pathways remain among its most consistently supported components, while Wang et al. (2022) argued that SCCT's emphasis on dynamic, environment-sensitive appraisal makes it particularly well suited to fast-changing, technology-driven occupational fields such as digital marketing, the same sector in which the present sample's career judgments were formed.

Within Indonesia specifically, the pattern of associations reported here is corroborated by several recent studies. Kholifah et al. (2025), studying 647 vocational education students across Indonesia, found that self-efficacy mediated the associations between digital competence, psychological well-being, and career choice, reinforcing the central role that self-efficacy plays alongside cognitive and appraisal variables in Indonesian vocational settings. Murwani et al. (2020), examining career interest trends among Surabaya high school students, similarly reported substantial variability in students' career interests that appeared to track available career information rather than being fixed at intake, consistent with the association observed here between information exposure and both career prospect perception and interest. Darmawan and Mudhar (2026) found that career guidance services were associated with Indonesian vocational students' readiness for educational commitment, and Hariyanto et al. (2024) reported that workplace information access was a measurable correlate of career choice among SMK students, both of which parallel the positive $X1 \rightarrow Y$ association identified in the present model. Career guidance and information-provision mechanisms specifically have also received local support: Karim and Sa'adah (2022) found that structured guidance services helped vocational students form a clearer career identity, Puspitasari et al. (2025) documented that accessible career guidance media were associated with stronger career readiness, and Paisal et al. (2026) showed that a short, module-based career planning intervention raised career decision self-efficacy among Indonesian vocational students,

suggesting that the self-efficacy pathway identified here may be responsive to relatively brief local interventions. Tarigan and Lestari (2023), working with Indonesian vocational students directly, found that career-knowledge modules were associated with career decision-making but that this association operated indirectly rather than through a direct effect on interest, closely matching the fully mediated $X2 \rightarrow M \rightarrow Y$ pattern found in the present study. Finally, within the specific context of marketing, Mahwati (2024) found that digital marketing strategies have opened increasingly visible and competitive career pathways in Indonesia, which may help explain why information exposure carried both a direct and an indirect association with interest in the Marketing program: students exposed to visible, concrete examples of digital marketing opportunity may form positive impressions of the field through routes beyond formal career-knowledge appraisal alone.

These findings carry several implications. Theoretically, the results extend SCCT by demonstrating that a subjective, evaluative appraisal construct career prospect perception can be empirically separated from declarative career knowledge and can carry the association between environmental and cognitive inputs and interest, even though the separation was less clean than ideal in this sample ($HTMT = 0.926$). This is consistent with Lent and Brown's (2019) observation that outcome-expectation-like constructs remain conceptually central to SCCT but are often measured with indicators that overlap empirically with adjacent cognitive constructs, and it echoes Wang et al.'s (2022) call for continued refinement of SCCT's measurement toolkit in fast-changing occupational contexts. Pedagogically, the strong $X2 \rightarrow M$ path ($f^2 = 0.344$) suggests that curricular or advising interventions that build students' factual understanding of marketing career outcomes may be an efficient lever for shaping how personally attainable those outcomes feel, consistent with the workshop-based gains in self-efficacy and goal clarity reported by Jemini Gashi et al. (2023) and the short-intervention gains reported locally by Paisal et al. (2026). Because career prospect understanding did not associate with interest directly, however, information provision alone is unlikely to be sufficient; pairing factual content with activities that invite students to relate that content to their own capabilities, the kind of appraisal process captured by career prospect perception, may be necessary to translate knowledge into interest. For policy, the persistently low entrance scores of the Marketing program relative to SMK Negeri 9 Semarang's other departments suggest that low interest is not primarily an information problem to be solved by disseminating more content, since information exposure's effect size was small; school-level career guidance policy may gain more from investing in structured, appraisal-oriented guidance activities of the kind documented by Karim and Sa'adah (2022) and Puspitasari et al. (2025) than from broad informational campaigns alone.

The present study contributes to the literature in three respects. First, it tests an integrated SCCT model in which career prospect perception is specified as a mediator of both an environmental input (information exposure) and a cognitive input (career prospect understanding) simultaneously, rather than testing either input in isolation, as in most prior SCCT-based studies of vocational interest. Second, it examines career decision-making self-efficacy as a moderator of the perception-interest association rather than only as a direct predictor, a specification that has not been jointly tested with a career-perception mediator in prior Indonesian vocational research. Third, it extends SCCT-based vocational interest research, which in Indonesia has concentrated largely on accounting and manufacturing programs (e.g., Kholifah et al., 2025; Tarigan & Lestari, 2023), to the Marketing program specifically, in a digital-economy context where Mahwati (2024) and Isnur (2024) indicate

that career pathways are shifting rapidly. In doing so, the study offers one of the first integrated tests of this particular mediation-moderation structure within an Indonesian SMK Marketing population.

Several limitations qualify these contributions and point toward directions for future research. The most consequential is the sample composition: all respondents had already enrolled in the Marketing Department at the time of data collection. This means the outcome construct students' present interest in their enrolled program reflects post-enrollment attitude rather than pre-decisional choice interest. Respondents may rationalize their current enrollment positively, and their responses to antecedent variables (information exposure, career understanding, career perception) may be colored by experiences since enrollment. This retrospective rationalization and post-enrollment contamination is a primary threat to the validity of the reported associations as explanations of program selection. Future research should use prospective designs, measuring antecedents before students enter a program and interest afterward.

Second, the HTMT ratio between Career Prospect Understanding (X2) and Career Prospect Perception (M) was 0.926, exceeding the 0.85 threshold (Henseler et al., 2015). While the theoretical distinction between declarative career knowledge and personal career appraisal is defensible, the empirical distinction in this sample is weaker than desirable. Future research should develop indicator sets that more clearly separate these constructs, and should consider whether they are empirically distinguishable in this population.

Third, all variables were measured from the same respondent at a single time point, creating conditions for common method variance. Procedural safeguards were implemented but statistical controls were not. Common method bias may inflate the reported associations among constructs. Future research should incorporate marker variables, split-sample designs, or multi-source data to partial out method effects.

Fourth, model fit was limited: the estimated SRMR was 0.094, approaching the 0.10 upper bound, and NFI was 0.653, substantially below the 0.90 convention. These values indicate that the model does not fit the data particularly well and that structural parameter estimates should be interpreted with corresponding caution. A PLSpredict procedure with naïve benchmark comparisons was not conducted; the reported Q^2 values are cross-validated redundancy estimates from blindfolding, not predictive Q^2 .

Fifth, with $n = 107$, the study was likely underpowered to detect small moderation effects. The non-significant interaction between self-efficacy and career prospect perception should not be interpreted as evidence that self-efficacy does not moderate this association; the sample was too small to support that conclusion. Sixth, the sample was drawn from a single institution and one academic cohort, limiting generalizability. Replication across multiple schools and regions, and comparison against the recent multi-institution Indonesian samples used by Kholifah et al. (2025) and Murwani et al. (2020), is needed to establish how far these associations generalize.

Conclusion

This study examined cross-sectional associations among information exposure, career prospect understanding, career prospect perception, career decision-making self-efficacy, and students' present interest in the Marketing Department at SMK Negeri 9 Semarang. The findings are consistent with the general SCCT framework, though the design does not support causal conclusions.

Information exposure was positively associated with both career prospect perception and departmental interest, with small effect sizes, and the mediation through career prospect perception

was partial (indirect $\beta = 0.081$, 95% CI [0.005, 0.157]). Career prospect understanding was associated with career prospect perception with a medium effect size ($f^2 = 0.344$) but not directly with interest; the mediation was full (indirect $\beta = 0.177$, 95% CI [0.066, 0.288]). Career prospect perception and career decision-making self-efficacy were each independently associated with interest. The moderation by self-efficacy was not supported in this sample, though low statistical power prevents a definitive conclusion. Model fit was limited, and the elevated HTMT between X2 and M (0.926) suggests partial construct overlap that future research should address.

These findings, taken together, are tentatively consistent with the idea that students' career knowledge and information access may be associated with their program interest through subjective career appraisals. Whether this reflects a causal process, and whether interventions targeting information provision or career understanding would increase interest, cannot be determined from this design. Future research employing prospective designs, larger samples, and stronger discriminant validity between career knowledge and career perception constructs would substantially advance understanding of program selection in Indonesian vocational education.

References

- Bandura, A. (1997). *Self-efficacy: The exercise of control*. W. H. Freeman.
- Bi, Y., Mou, S., Wang, G., & Liao, M. (2023). 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. *Frontiers in Psychology*, 14, 1198974. <https://doi.org/10.3389/fpsyg.2023.1198974>
- Brown, S. D., & Lent, R. W. (Eds.). (2013). *Career development and counseling: Putting theory and research to work* (2nd ed.). Wiley.
- Darmawan, I., & Mudhar, M. (2026). Pengaruh layanan informasi karier bimbingan dan konseling terhadap kematangan karier siswa sekolah menengah kejuruan. *SIBATIK Journal: Jurnal Ilmiah Bidang Sosial, Ekonomi, Budaya, Teknologi, dan Pendidikan*, 5(3), 1492–1499. <https://doi.org/10.54443/sibatik.v5i3.4506>
- Guo, M., Zhang, J., & Yao, M. (2025). Navigating the future: Factors influencing adolescents' career expectation uncertainty in a dynamic world. *The Career Development Quarterly*, 73(1), 2–15. <https://doi.org/10.1002/cdq.12372>
- Gunawan, W., Creed, P. A., & Glendon, A. I. (2020). Young adults' perceived future employability: Antecedents and consequences. *International Journal for Educational and Vocational Guidance*, 21(1), 101–122. <https://doi.org/10.1007/s10775-020-09430-7>
- Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2021). *A primer on partial least squares structural equation modeling (PLS-SEM)* (3rd ed.). Sage Publications.
- Hariyanto, H., Kuat, T., Suprap, S., Rohmad, A. N., Faizin, A. N., & Hadi, H. (2024). Faktor-faktor yang memengaruhi pemilihan karir pada siswa SMK. *Journal of Education Research*, 5(4), 6247–6253. <https://doi.org/10.37985/jer.v5i4.1503>
- Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, 43(1), 115–135. <https://doi.org/10.1007/s11747-014-0403-8>
- Isnur, P. (2024). 221 juta penduduk Indonesia makin melek sama internet. Indonesia Baik. <https://indonesiabaik.id/infografis/221-juta-penduduk-indonesia-makin-melek-sama-internet>
- Jemini Gashi, L., Bërxulli, D., Konjufca, J., & Cakolli, L. (2023). Effectiveness of career guidance workshops on the career self-efficacy, outcome expectations, and career goals of adolescents: An intervention study. *International Journal of Adolescence and Youth*, 28(1), 2281421. <https://doi.org/10.1080/02673843.2023.2281421>
- Jiang, H., Zhang, L., & Zhang, W. (2024). Influence of career awareness on STEM career interests: Examining the roles of self-efficacy, outcome expectations, and gender. *International Journal of STEM Education*, 11(1), 22. <https://doi.org/10.1186/s40594-024-00483-x>

- Karim, A., & Sa'adah, N. (2021). Career guidance services to form a career identity for vocational high school students. *Bisma: The Journal of Counseling*, 5(3), 259–266. <https://doi.org/10.23887/bisma.v5i3.42407>
- Kholifah, N., Nurtanto, M., Mutohhari, F., Hamid, M. A., Mutiara, I., Setiawan, D., & Saputro, I. N. (2025). Factors influencing student career choice in vocational education in Indonesia: A mediating effect of self-efficacy. *Social Sciences & Humanities Open*, 11, 101369. <https://doi.org/10.1016/j.ssaho.2025.101369>
- Lent, R. W., & Brown, S. D. (2019). Social cognitive career theory at 25: Empirical status of the interest, choice, and performance models. *Journal of Vocational Behavior*, 115, 103316. <https://doi.org/10.1016/j.jvb.2019.06.004>
- Lent, R. W., Brown, S. D., & Hackett, G. (2002). Social cognitive career theory. In D. Brown and Associates (Eds.), *Career choice and development* (4th ed., pp. 255–311). Jossey-Bass.
- Lent, R. W., Taveira, M. do C., Figuera, P., Dorio, I., Faria, S., & Gonçalves, A. M. (2017). Test of the social cognitive model of well-being in Spanish college students. *Journal of Career Assessment*, 25(1), 135–143. <https://doi.org/10.1177/1069072716657821>
- Liu, X., Li, R., Wu, Q., & Yan, H. (2026). The effects of career learning experiences on high school students' engagement in learning: An explanatory sequential mixed-methods study. *Frontiers in Psychology*, 17, 1828160. <https://doi.org/10.3389/fpsyg.2026.1828160>
- Liu, X., Zhang, X., Dang, Y., & Gao, W. (2023). Career education skills and career adaptability among college students in China: The mediating role of career decision-making self-efficacy. *Behavioral Sciences*, 13(9), 780. <https://doi.org/10.3390/bs13090780>
- Mahmud, M. I., Amat, S., Abu Bakar, A. Y., & Ku Johari, K. S. (2022). Career information seeking behavior among university graduates. *International Journal of Academic Research in Business and Social Sciences*, 12(6), 2092–2101. <https://doi.org/10.6007/IJARBS/v12-i6/14219>
- Mahwati, S. K. (2024). Pengaruh digital marketing dalam strategi pemasaran global: A systematic literature review. *Jurnal Sains Pemasaran Indonesia (Indonesian Journal of Marketing Science)*, 23(2), 115–125. <https://doi.org/10.14710/jspi.v23i2.115-125>
- Makki, B. I., Feng, F., Waqar, M. A., & Adhikari, I. M. (2023). Work readiness, decision-making self-efficacy, and career exploration among engineering students: A two-step framework. *Mathematical Problems in Engineering*, 2023, 8166825. <https://doi.org/10.1155/2023/8166825>
- Milledzi, E. Y., Asamani, L., Mensah, A. O., & Naamwanuru, V. (2024). Career decision self-efficacy mediates the relationship between general self-efficacy and career decision-making of undergraduate students. *Canadian Journal of Career Development*, 23(2), 169–181. <https://doi.org/10.53379/cjcd.2024.389>
- Murwani, F. D., Hitipeuw, I., & Rahmawati, H. (2020). Career interest data trends in era information technology of high school students at Surabaya, Indonesia. *Data in Brief*, 30, 105480. <https://doi.org/10.1016/j.dib.2020.105480>
- Paisal, P., Zain, T. S., Asfitri, M. K., Angguna, W. M., Samudra, S. B., Syafitri, M., Zirah, L., & Ramawati, D. (2026). Enhancing career decision self-efficacy through a career planning intervention: A pretest–posttest study among vocational high school students. *G-Couns: Jurnal Bimbingan dan Konseling*, 10(4), 2943–2955. <https://doi.org/10.31316/g-couns.v10i04.9427>
- Pham, M., Lam, B. Q., & Trinh, N. B. A. (2024). Career exploration and its influence on the relationship between self-efficacy and career choice: The moderating role of social support. *Heliyon*, 10(11), e31808. <https://doi.org/10.1016/j.heliyon.2024.e31808>
- Puspitasari, D. R., Ariani, D., Pangestu, D. R., Purwanto, D., & Amaliyah, F. (2025). Career guidance media in vocational high schools: A literature review of its role in enhancing students' career readiness. *Edunesia: Jurnal Ilmiah Pendidikan*, 6(3), 1322–1345. <https://doi.org/10.51276/edu.v6i3.1207>
- Renninger, K. A., & Hidi, S. (2016). *The power of interest for motivation and engagement*. Routledge. <https://doi.org/10.4324/9781315771045>
- Rothwell, A., & Arnold, J. (2007). Self-perceived employability: Development and validation of a scale. *Personnel Review*, 36(1), 23–41. <https://doi.org/10.1108/00483480710716704>
- Sharf, R. S. (2013). *Applying career development theory to counseling* (6th ed.). Cengage Learning.
- Sun, J., Chang, W., Nazlan, N. H., Wang, C., & Wang, L. (2022). Chinese event students' career: The role of career awareness and career self-efficacy. *Event Management*, 26(4), 883–898. <https://doi.org/10.3727/152599521X16367300695627>

- Tarigan, Y. M., & Lestari, L. P. S. (2023). Upaya menentukan pilihan karier bagi siswa vokasi dengan modul layanan informasi karier. *Bisma: The Journal of Counseling*, 7(1), 164. <https://doi.org/10.23887/bisma.v7i1.58909>
- Wang, D., Liu, X., & Deng, H. (2022). The perspectives of social cognitive career theory approach in current times. *Frontiers in Psychology*, 13, 1023994. <https://doi.org/10.3389/fpsyg.2022.1023994>
- Wang, T., Zhang, Y., Wang, J., Miao, H., & Guo, C. (2024). Career decision self-efficacy mediates social support and career adaptability and stage differences. *Journal of Career Assessment*, 32(2), 264–282. <https://doi.org/10.1177/10690727231189466>
- Zhou, D., Peng, Z., & Zhou, H. (2023). The influence of career decision-making self-efficacy on employability of higher vocational students: Mediated by emotional intelligence. *Frontiers in Education*, 8, 1274430. <https://doi.org/10.3389/educ.2023.1274430>
- Zunker, V. G. (2016). *Career counseling: A holistic approach* (9th ed.). Cengage Learning.