



The Role of Self-Efficacy in Career Adaptability: A Comparative Study of Senior and Vocational High School Students

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Abstract: Career development during adolescence requires psychological resources that enable students to manage educational and occupational transitions. However, empirical evidence comparing self-efficacy and career adaptability across academic and vocational secondary education remains limited. This study examined the relationship between self-efficacy and career adaptability, compared these variables between senior high school (SMA) and vocational high school (SMK) students, and assessed the contribution of self-efficacy to career adaptability. A quantitative cross-sectional survey was conducted with 224 Indonesian secondary school students recruited through convenience sampling, with participant recruitment exhibiting snowball characteristics. Data were collected using the General Self-Efficacy Scale (GSES) and the Career Adapt-Abilities Scale (CAAS) and analyzed using descriptive statistics, Pearson correlation, independent-samples t-test, and simple linear regression. Self-efficacy was positively associated with career adaptability ($r = 0.824$, $p < 0.001$) and explained 67.8% of its variance ($R^2 = 0.678$, $p < 0.001$). Vocational high school students demonstrated significantly higher self-efficacy and career adaptability than senior high school students. These findings highlight the importance of strengthening self-efficacy through school-based career guidance interventions.

Abstrak: Perkembangan karier pada masa remaja memerlukan sumber daya psikologis yang membantu peserta didik menghadapi transisi pendidikan dan dunia kerja. Namun, bukti empiris yang membandingkan self-efficacy dan career adaptability pada siswa Sekolah Menengah Atas (SMA) dan Sekolah Menengah Kejuruan (SMK) masih terbatas. Penelitian ini bertujuan menganalisis hubungan self-efficacy dengan career adaptability, menguji perbedaan kedua variabel berdasarkan jenis sekolah, serta menilai kontribusi self-efficacy terhadap career adaptability. Penelitian menggunakan pendekatan kuantitatif dengan desain survei *Cross-Section* terhadap 224 siswa SMA dan SMK di Indonesia yang direkrut melalui convenience sampling dengan karakteristik snowball sampling pada proses perekrutan peserta. Data dikumpulkan menggunakan General Self-Efficacy Scale (GSES) dan Career Adapt-Abilities Scale (CAAS), kemudian dianalisis menggunakan statistik deskriptif, korelasi Pearson, *independent-samples t-test*, dan regresi linier sederhana. Hasil menunjukkan bahwa self-efficacy berhubungan positif dengan career adaptability ($r = 0,824$; $p < 0,001$) dan menjelaskan 67,8% variasinya ($R^2 = 0,678$; $p < 0,001$). Siswa SMK memiliki self-efficacy dan career adaptability yang secara signifikan lebih tinggi dibandingkan siswa SMA. Temuan ini menegaskan pentingnya penguatan self-efficacy melalui layanan bimbingan karier di sekolah.

A. Introduction

Career development during adolescence is an important aspect of the educational process because, at this stage, individuals begin to face various choices related to their future education and work (Santilli et al., 2016; Savickas, 2013). Late adolescence is a crucial period in the formation of career identity, during which students begin to explore educational and occupational alternatives that may shape their future career trajectories (Creed et al., 2021; Hirschi, 2012; Santrock, 2011). At the same time, rapid changes in the world of work driven by globalization, technological advancement, automation, and artificial intelligence have increased the complexity of career decisions faced by young people (Johnston, 2018; Rudolph et al., 2017; World Economic Forum, 2025). These changes require individuals to be adaptive, flexible, and prepared to continuously update their skills throughout their working lives (World Economic Forum, 2025). Therefore, schools play a crucial role not only in providing academic knowledge but also in strengthening students' psychological readiness to face future educational and occupational transitions (Nota et al., 2016; Savickas & Porfeli, 2012).

In the context of secondary education, students are required to make important decisions related to further study, work, and future career pathways. This process is often challenging because adolescents must deal with family expectations, social pressure, uncertainty about the labor market, and limited career information (Creed et al., 2017; Rudolph & Baltes, 2017; Udayar et al., 2020). These conditions make career adaptability an important psychological resource for students. Career adaptability, as a central construct in Career Construction Theory, refers to psychosocial resources that enable individuals to prepare for, manage, and adapt to career development tasks, occupational transitions, and changes in the work environment (Savickas, 2013; Savickas & Porfeli, 2012). It consists of four dimensions: concern, control, curiosity, and confidence, which reflect individuals' readiness to plan their future, take responsibility for career decisions, explore career possibilities, and overcome career-related obstacles (Hirschi et al., 2015; Savickas & Porfeli, 2012).

One psychological factor that may support career adaptability is self-efficacy. Self-efficacy refers to an individual's belief in their ability to organize and carry out the actions necessary to achieve particular goals (Bandura, 1997). From the perspective of Social Cognitive Theory, self-efficacy influences how individuals think, choose actions, exert effort, and persist when facing challenges (Bandura, 1997; Sun et al., 2024). In the context of career development, students with stronger self-efficacy are more likely to feel capable of exploring career options, making decisions, solving problems, and dealing with uncertainty related to their future careers (Hirschi, 2012; Hirschi & Koen, 2021; Salim et al., 2023). Thus, self-efficacy can be understood as an important personal resource that supports students' career readiness and adaptability.

In Indonesia's education system, secondary education consists of two main tracks: Senior High School (SMA) and Vocational High School (SMK), which differ in their educational orientation and expected outcomes. SMA is generally oriented toward

preparing students for higher education, whereas SMK is designed to prepare students for the workforce through vocational knowledge, competency-based learning, and work-related training (Direktorat Jenderal Pendidikan Vokasi, 2022; Sudira, 2016). These differences indicate that school type is not merely an administrative category but also reflects different educational contexts that may shape students' career experiences, psychological resources, and readiness for future transitions. Therefore, comparing SMA and SMK students is relevant for understanding how self-efficacy and career adaptability may vary across different secondary education pathways.

Despite the growing body of research on self-efficacy and career adaptability, several gaps remain. First, previous studies have often examined the relationship between self-efficacy and career adaptability in general student or young adult populations, while studies focusing specifically on secondary school students remain relatively limited (Johnston, 2018; Pellegrino et al., 2025; Salim et al., 2023). Second, many studies have emphasized individual psychological factors but have paid less attention to educational context, particularly differences between academic and vocational tracks (Hirschi & Koen, 2021; Rudolph et al., 2017). Third, in the Indonesian context, empirical studies that directly compare self-efficacy and career adaptability between SMA and SMK students are still limited, even though both tracks have different educational goals, learning experiences, and career orientations. This gap is important because students' career readiness may not develop in the same way across different school contexts.

The novelty of this study lies in its attempt to integrate self-efficacy, career adaptability, and school type within the context of Indonesian secondary education. Rather than examining self-efficacy and career adaptability only as individual psychological constructs, this study positions school type as an educational context that may be associated with differences in students' psychological readiness for career development. By comparing SMA and SMK students, this study provides a more contextual understanding of adolescent career development and contributes to the literature on career guidance by showing whether students from academic and vocational tracks differ in their self-efficacy and career adaptability.

Based on the identified research gap and the proposed novelty, this study investigates whether self-efficacy is significantly associated with career adaptability among secondary school students, whether self-efficacy and career adaptability differ between senior high school (SMA) and vocational high school (SMK) students, and the extent to which self-efficacy contributes to explaining variations in career adaptability. Accordingly, this study aims to examine the relationship between self-efficacy and career adaptability, compare these constructs across different secondary education pathways, and evaluate the contribution of self-efficacy to career adaptability within the Indonesian educational context. The findings are expected to enrich the literature on adolescent career development by providing empirical evidence on the interplay between psychological resources and educational context, while also offering practical implications for designing school-based career guidance programs that strengthen students' self-efficacy and career adaptability.

B. Method

This study employs a quantitative approach using a *cross-sectional survey* design to examine the relationships among variables and to analyze the statistical contribution of *self-efficacy* to *career adaptability* through data analysis at a single measurement point (Setia, 2016; Wang & Cheng, 2020). A quantitative approach was chosen because this study focuses on the objective measurement of variables using standardized psychological instruments as well as numerical data analysis to test previously formulated hypotheses (Cohen et al., 2018; Creswell & Creswell, 2018). A *cross-sectional survey* design involves data collection conducted at a single specific point in time to describe the relationships among variables within the study population (Setia, 2016; Wang & Cheng, 2020). This design is widely used in educational psychology and career psychology research because it allows researchers to efficiently obtain an overview of the relationships between variables without requiring long-term longitudinal observation (Cohen et al., 2018; Wang & Cheng, 2020). In this study, this design was used to examine the relationship between *self-efficacy* and *career adaptability* among secondary school students, to test differences in these two variables based on school type, and to assess the contribution of *self-efficacy* in explaining variations in *career adaptability* at a single measurement point (Setia, 2016; Wang & Cheng, 2020).

The population in this study consists of 10th, 11th, and 12th-grade students at Senior High Schools (SMA) and Vocational High Schools (SMK), as during the secondary education level, students begin to enter a developmental phase that requires them to consider choices regarding further studies, employment, and their future careers (Savickas, 2013). Data collection was conducted in several secondary schools in different regions of Indonesia, without disclosing school identities to maintain confidentiality. The primary sampling strategy was convenience sampling, while participant recruitment also exhibited snowball sampling characteristics, which is a method based on the researcher's ease of access to respondents willing to participate in the study (Etikan, 2016). Snowball sampling was chosen because respondent recruitment depended on practical access, availability, and willingness to participate in an online survey, which is a common consideration in educational survey research when probability sampling is not feasible (Cohen et al., 2018; Etikan, 2016). Data collection was conducted through the distribution of an online questionnaire using *Google Forms*, which was distributed directly to students or via intermediaries such as teachers, homeroom teachers, or other parties with access to potential respondents (Cohen et al., 2018). An online questionnaire was considered appropriate because it enabled efficient access to students across different school contexts and facilitated anonymous response collection, which is often advantageous in survey-based research, particularly when participants are adolescents or young adults and when broad access is needed across settings (Beto et al., 2025; Cohen et al., 2018; Parker et al., 2024). The distribution mechanism also exhibited characteristics of *snowball sampling*, which is a participant recruitment procedure where initial respondents or intermediaries assist in reaching other respondents relevant to the study (Etikan, 2016; Goodman, 2011). Through

this process, 240 initial responses were collected, and after screening based on research criteria and the completeness of the questionnaire, 224 eligible respondents were obtained and used in the data analysis. To clarify the overall research procedure, the study's stages are summarized in Figure 1.

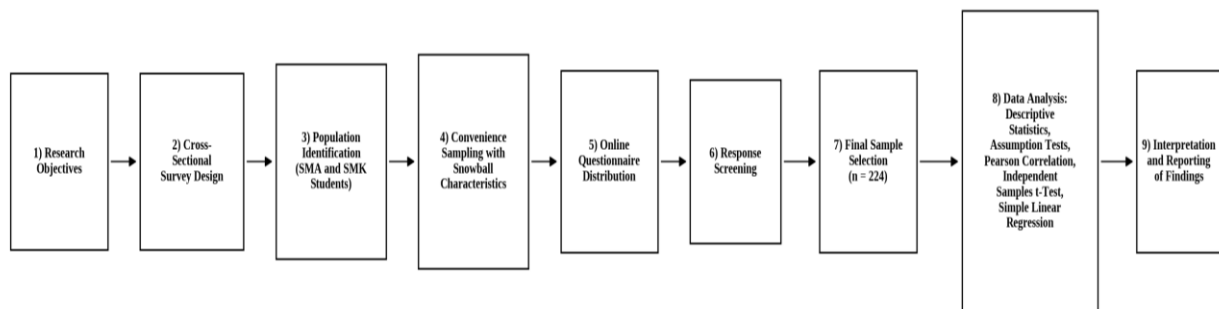


Figure 1. Research Flow of the Study

Data collection in this study was conducted using a structured questionnaire consisting of two psychological instruments to measure the research variables. The *self-efficacy* variable was measured using the *General Self-Efficacy Scale* (GSES) developed by Schwarzer & Jerusalem (1995) and adapted into Indonesian by Novrianto et al (2019). This instrument consists of 10 items, and the adaptation results indicate it is unidimensional, meaning all items measure the same construct: overall *self-efficacy*. The Indonesian version of the General Self-Efficacy Scale (GSES) has previously demonstrated acceptable construct validity in Indonesian samples, supporting its use as a unidimensional measure of general self-efficacy (Novrianto et al., 2019). The *career adaptability* variable was measured using the *Career Adapt-Abilities Scale* (CAAS) developed by Savickas & Porfeli (2012) and adapted into Indonesian for high school students by Nurfitriana et al (2021). This instrument consists of 24 items covering four main dimensions: *concern*, *control*, *curiosity*, and *confidence*. The Indonesian version of the Career Adapt-Abilities Scale (CAAS) for secondary school students has also shown evidence of construct validity and suitability for use among Indonesian high school students, including SMA/SMK populations (Nurfitriana et al., 2021). All items on both instruments were measured using a Likert scale according to the response format in the adapted version of each instrument. In the present study, instrument quality was further evaluated through internal consistency reliability and corrected item-total correlation prior to the main analyses.

In addition to these two instruments, the questionnaire also includes questions regarding the respondents' demographic characteristics, specifically the type of school—namely high school (SMA) and vocational high school (SMK)—which is relevant as an indicator of differences in students' educational contexts (Hirschi & Koen, 2021; OECD, 2021). In this study, school type is positioned as a relevant educational context to examine potential differences in self-efficacy and career adaptability between high school (SMA) and vocational high school (SMK) students, not as a moderator variable. The use of school type in this study is based on the assumption that educational context may be related to

differences in students' psychological resources and career readiness, including self-efficacy and career adaptability (Hirschi & Koen, 2021; OECD, 2021; Savickas, 2013).

Data analysis in this study was conducted in several stages, beginning with descriptive statistical analysis to describe the characteristics of the research data using the *mean* and standard deviation of each research variable (Field, 2018). The next stage involved testing the basic assumptions, including tests of normality, linearity, and homoscedasticity, to ensure that the data met the assumptions of the parametric analysis used. After the assumption tests were conducted, the analysis continued with Pearson's correlation to examine the relationship between *self-efficacy* and *career adaptability*, an *independent samples t-test* to examine differences based on school type, and simple linear regression to assess the contribution of *self-efficacy* in explaining variations in *career adaptability*. These analyses allow the researcher to describe the relationships between variables, identify differences based on school type, and assess the extent to which self-efficacy contributes to explaining career adaptability. If the regression coefficient for *self-efficacy* is statistically significant, it can be concluded that self-efficacy contributes significantly to explaining the variation in *career adaptability* in this study sample (Pérez-Guerrero et al., 2024; Wang & Cheng, 2020).

Ethical considerations were observed throughout the study. This study did not undergo formal ethical clearance because it involved a minimal-risk anonymous online survey and did not collect identifying personal data. However, voluntary participation, confidentiality, and informed consent were maintained throughout the study. Before completing the questionnaire, participants were informed about the purpose of the study, the anonymous nature of the survey, and their right to withdraw at any time without consequence. The questionnaire was distributed through the researcher's accessible networks and voluntary participant sharing, rather than through formal school procedures. Ethical clarity regarding consent, confidentiality, and participant protection is particularly important in research involving adolescents in online settings (Askari et al., 2024; Friedman et al., 2016; WHO, 2018).

C. Result

Respondent Characteristics

The analysis was conducted on 224 respondents who met the study criteria. Respondent characteristics are presented in Table 1, including school type, gender, and grade.

Table 1. Respondent Characteristics

Characteristics	Category	n	%
School Type	High School	179	79.9
	Vocational High School	45	20.1
Gender	Male	82	36.6
	Female	142	63.4
Class	X	51	22.8

Characteristics	Category	n	%
	XI	64	28.6
	XII	109	48.7

Based on school type, 179 respondents (79.9%) were from senior high schools (SMA) and 45 respondents (20.1%) were from vocational high schools (SMK). Based on gender, the majority of respondents were female, totaling 142 students (63.4%), while 82 respondents (36.6%) were male. By grade level, the respondents consisted of 51 students (22.8%) in 10th grade, 64 students (28.6%) in 11th grade, and 109 students (48.7%) in 12th grade. The average age of the respondents was 17.02 years ($SD = 0.98$), with an age range of 15 to 19 years.

Descriptive statistics of research variables

Descriptive statistics were conducted to describe the trends in the data for the research variables, including *self-efficacy* and *career adaptability*. The results of the analysis are presented in Table 2.

Table 2. Descriptive Statistics

Variable	N	Mean	SD	Min	Max
Self-efficacy	224	3.96	0.69	1.60	5.00
Career adaptability	224	4.23	0.57	1.08	5.00

The results of the descriptive statistical analysis in Table 2 show that *self-efficacy* has a mean value of 3.96 ($SD = 0.69$), with a minimum score of 1.60 and a maximum score of 5.00. *Career adaptability* has a mean value of 4.23 ($SD = 0.57$), with a minimum score of 1.08 and a maximum score of 5.00.

Instrument Reliability Test

Reliability testing was conducted on 224 respondents using Cronbach's alpha. The analysis results indicate that the self-efficacy scale has a Cronbach's alpha value of 0.923, indicating very good reliability. The career adaptability scale also demonstrated excellent reliability with a Cronbach's alpha value of 0.951. These findings indicate that both instruments possess a high level of internal consistency. All items also had *corrected item-total correlations* above 0.30, so all items were retained for subsequent analysis.

Basic Assumption Tests

Normality Test

Before the main analysis was conducted, the data were first tested for normality using the Kolmogorov-Smirnov test. The test results indicated that the *career adaptability* scores ($D = 0,089; p < 0,001$) and *self-efficacy* scores ($D = 0,083; p < 0,001$) were not statistically normally distributed. Nevertheless, parametric analysis was cautiously continued because, with a relatively large sample size, formal normality tests tend to be

sensitive to small deviations from the normal distribution, so statistical significance does not always indicate a substantive violation of parametric analysis assumptions (Gosselin, 2024; Habibzadeh, 2024). The decision to continue using parametric analysis in this study was also based on a visual inspection of the scatterplots, as well as the fulfillment of the assumptions of linearity and homoscedasticity in the regression model; thus, the use of Pearson's correlation, the independent samples t-test, and simple linear regression was deemed sufficient for the analysis of this sample (Habibzadeh, 2024; Wang & Cheng, 2020).

Linearity Test

The linearity test was conducted by examining the scatterplot with a regression line between *self-efficacy* scores and *career adaptability*.

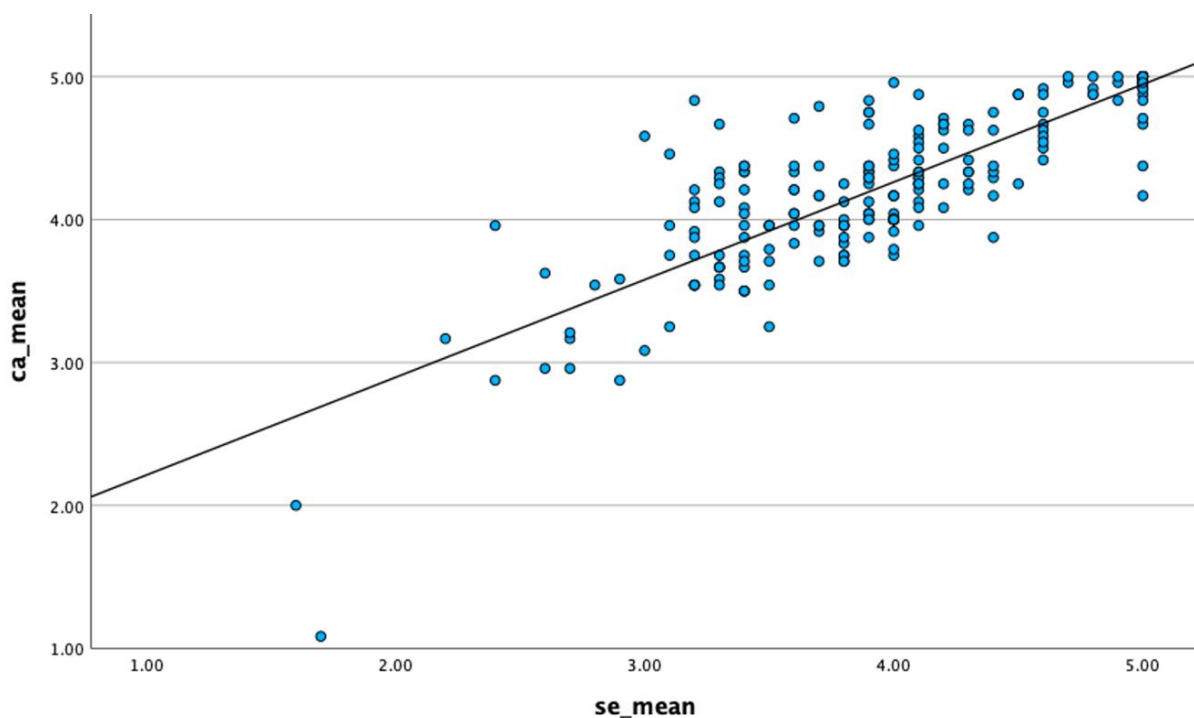


Figure 2. Scatterplot with Regression Line Showing the Relationship Between Self-Efficacy and Career Adaptability

The scatterplot with the regression line shows a positive linear trend between self-efficacy and career adaptability, indicating that students with higher self-efficacy tend to report higher career adaptability. Although a few data points appear somewhat distant from the main cluster, no substantial curvilinear pattern is visible. Therefore, the relationship between self-efficacy and career adaptability can be considered linear, indicating that the assumption of linearity is met.

Homoscedasticity Test

The homoscedasticity test was conducted by examining the scatterplot between standardized predicted values and standardized residuals.

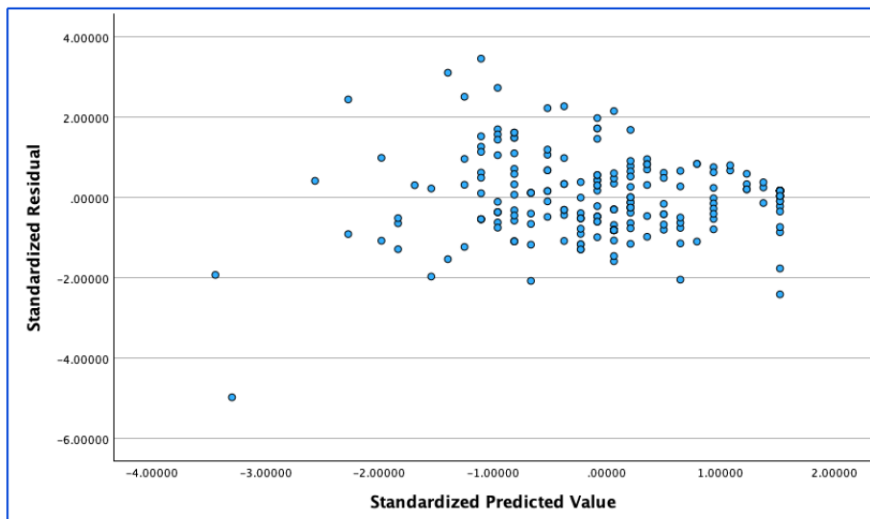


Figure 3. Scatterplot of Standardized Predicted Values and Standardized Residuals for the Homoscedasticity Test

The results of the examination show that the residual points are scattered relatively randomly above and below the zero line and do not form any clear specific pattern. Although there are several points that are somewhat distant from the main data cluster, generally there is no indication of significant heteroscedasticity. Thus, the assumption of homoscedasticity in the regression model is met.

Pearson Correlation Analysis

A Pearson correlation analysis was conducted to test the relationship between self-efficacy and career adaptability among students. This test was used to determine the direction and strength of the relationship between the two research variables.

Table 3. Results of the Pearson Correlation Test Between Self-Efficacy and Career Adaptability

Variable 1	Variable 2	r	Sig. (2-tailed)	N
Self-efficacy	Career adaptability	0.824	< 0.001	224

The results of the Pearson correlation test show that self-efficacy has a positive and significant relationship with career adaptability ($r = 0.824, p < 0.001, N = 224$). The correlation coefficient also indicates a large effect size, suggesting that self-efficacy and career adaptability are strongly associated in this sample. These findings suggest that the higher a student’s self-efficacy, the higher their career adaptability

Difference Test Based on School Type

Before conducting *the independent samples t-test*, the homogeneity of variances was first tested using *Levene’s test*. Additionally, group statistics are presented to provide an

overview of the mean self-efficacy and career adaptability scores among high school (SMA) and vocational high school (SMK) students.

Table 4. Group statistics for *self-efficacy* and *career adaptability* by school type.

Variable	School type	N	Mean	SD
<i>Self-efficacy</i>	High School	179	3.8313	0.65413
	Vocational High School	45	4.4622	0.56781
<i>Career adaptability</i>	High School	179	4.1408	0.55517
	Vocational High School	45	4.6028	0.46522

Table 5. Results of the Independent Samples T-Test for Self-Efficacy and Career Adaptability Based On School Type

Variable	Levene's F	Sig.	t	df	p	Cohen's d
<i>Self-efficacy</i>	0.015	0.904	-5.931	222	< 0.001	0.99
<i>Career adaptability</i>	0.038	0.845	-5.144	222	< 0.001	0.86

Group statistical results indicate that vocational high school students have a higher average self-efficacy score ($M = 4.4622$; $SD = 0.56781$) compared to senior high school students ($M = 3.8313$; $SD = 0.65413$). A similar pattern was also found for career adaptability, where vocational high school students had a higher mean ($M = 4.6028$; $SD = 0.46522$) compared to senior high school students ($M = 4.1408$; $SD = 0.55517$). The results of the homogeneity of variances test indicated that the variances of self-efficacy ($F = 0.015$; $p = 0.904$) and career adaptability ($F = 0.038$; $p = 0.845$) across groups were homogeneous, allowing the interpretation of the independent samples t-test under the assumption of equal variances. The analysis results indicate that there are significant differences in self-efficacy ($t(222) = -5.931$; $p < 0.001$) and career adaptability ($t(222) = -5.144$; $p < 0.001$) based on school type. These findings indicate that vocational high school students have higher self-efficacy and career adaptability compared to senior high school students. To complement the significance test, Cohen's d was calculated to estimate the magnitude of the differences between groups. The effect size for self-efficacy was large ($d = 0.99$), and the effect size for career adaptability was also large ($d = 0.86$). These results indicate that the differences between senior high school and vocational high school students were not only statistically significant but also meaningful in magnitude (Cohen, 1988).

Simple Linear Regression Test

Simple linear regression analysis was conducted to test whether *self-efficacy* contributes to explaining the variation in *career adaptability* among students. The results of the analysis are presented in Table 6, Table 7, and Table 8.

Table 6. Model Summary of Simple Regression of Self-Efficacy on Career Adaptability

Model	R	R Square	Adjusted R-Square	Standard Error of the Estimate
Self-efficacy, Career adaptability	0.824	0.678	0.677	0.323

The analysis results show that the correlation coefficient is $R = 0.824$, indicating a strong relationship between *self-efficacy* and *career adaptability*. The R-squared value of 0.678 indicates that 67.8% of the variation in career adaptability can be explained by self-efficacy, while the remaining 32.2% is explained by other factors outside the model. The R-squared value of 0.678 also indicates a large explanatory effect, suggesting that self-efficacy accounts for a substantial proportion of variance in career adaptability (Cohen, 1988). Additionally, the Adjusted R-Square value of 0.677 indicates that the regression model retains strong explanatory power even after adjusting for the number of predictors used. Thus, *self-efficacy* makes a significant contribution to explaining *career adaptability* among students.

Table 7. Results of the Simple Regression ANOVA of Self-Efficacy on Career Adaptability

Source of Variance	Sum of Squares	df	Mean Square	F	Sig.
Regression	48.873	1	48,873	467,953	< 0.001
Residual	23,185	222	0.104		
Total	72,058	223			

The analysis results in Table 7 indicate that the regression model examining the association between self-efficacy and career adaptability is significant ($F(1, 222) = 467.953$, $p < 0.001$). These findings suggest that the regression model is generally suitable for explaining the relationship between self-efficacy and career adaptability. Thus, self-efficacy significantly contributes to explaining variation in career adaptability among students.

Table 8. Simple Regression Coefficients of Self-Efficacy on Career Adaptability

Variable	B	Std. Error	Beta	t	Sig.	95% Lower CI	95% CI Upper
Constant	1.529	0.127		12.051	< 0.001	1.279	1.779
Self-efficacy	0.683	0.032	0.824	21.632	< 0.001	0.621	0.746

The results of the analysis in Table 8 show that *self-efficacy* has an unstandardized regression coefficient of $B = 0.683$ with $p < 0.001$, indicating that *self-efficacy* is positively and significantly associated with *career adaptability* in the regression model. The standardized beta coefficient of $\beta = 0.824$ indicates that the relationship is positive and strong. This means that the higher a student's *self-efficacy*, the higher their *career adaptability*. Additionally, the regression equation obtained is $Y = 1.529 + 0.683X$, indicating that a one-unit increase in the *self-efficacy* score is associated with a 0.683-unit increase in the *career adaptability* score.

D. Discussion

This discussion is organized around the three research questions concerning the relationship between self-efficacy and career adaptability, differences between senior high school (SMA) and vocational high school (SMK) students, and the contribution of self-efficacy to career adaptability. Overall, the findings indicate that participants demonstrated relatively high levels of both self-efficacy and career adaptability, suggesting that most students possess sufficient confidence and psychological readiness to cope with educational and occupational transitions. During adolescence, individuals are required to explore educational pathways, formulate career plans, and make decisions that influence their future. Within the framework of Career Construction Theory, career adaptability represents a psychosocial resource that enables individuals to navigate developmental tasks, career transitions, and workplace uncertainties (Savickas, 2013; Savickas & Porfeli, 2012). Therefore, the relatively high levels of career adaptability observed in this study indicate that the respondents generally possess adequate psychological capital to prepare for future career demands.

Addressing the first research question, the findings reveal a strong positive relationship between self-efficacy and career adaptability among secondary school students. This result is consistent with Social Cognitive Theory, which emphasizes self-efficacy as a fundamental belief influencing individuals' choices, persistence, effort, and resilience when facing challenges (Bandura, 1997). Students who believe in their own capabilities are more likely to engage confidently in career exploration, make informed educational decisions, and respond constructively to career-related uncertainty. These findings also support the adaptivity–adaptability–adapting framework proposed by Hirschi et al (2015), which identifies self-efficacy as an important form of career adaptivity that facilitates the development of career adaptability. Consequently, confidence in one's own abilities becomes an essential psychological foundation for adapting to career demands and developmental challenges.

The present findings are also consistent with previous empirical studies reporting that self-efficacy is positively associated with career readiness, career exploration, and career adaptability among adolescents (Hirschi, 2012; Hirschi & Koen, 2021; Salim et al., 2023). Moreover, they align with more recent evidence demonstrating that psychological and socio-emotional resources contribute substantially to career adaptability among school-aged populations (Datu & Buenconsejo, 2021; Pellegrino et al., 2025). Collectively, these findings reinforce the growing consensus that self-efficacy functions not only as an individual psychological attribute but also as a critical developmental resource supporting successful educational and occupational transitions during adolescence.

Regarding the third research question, the regression analysis showed that self-efficacy explained a substantial proportion of variance in career adaptability ($R^2 = 0.678$). This finding indicates that self-efficacy contributes significantly to students' career adaptability and highlights its importance as a personal resource in adolescent career development. Theoretically, this finding is understandable because the four dimensions of

career adaptability—concern, control, curiosity, and confidence—require individuals to believe that they are capable of planning their future, making career decisions, exploring opportunities, and overcoming obstacles (Savickas & Porfeli, 2012). Students with stronger self-efficacy are therefore more likely to demonstrate proactive behavior, persistence, and flexibility when responding to educational and occupational challenges. Similar conclusions have also been reported in previous studies examining adaptive career behaviors among adolescents (Hirschi, 2012; Salim et al., 2023; Wang et al., 2024; Zhang et al., 2025).

Despite these strong statistical relationships, the findings should be interpreted cautiously. In a simple linear regression model with a single predictor, the coefficient of determination is mathematically derived from the squared correlation coefficient; therefore, the similarity between the correlation and regression results is statistically expected. Nevertheless, the observed strength of the relationship may also have been influenced by methodological factors. Because both variables were measured using self-report questionnaires administered simultaneously through identical response formats, common method bias may have increased the covariance between constructs (Cooper et al., 2020; Kock et al., 2021). Furthermore, self-efficacy and career adaptability both represent psychological resources associated with individuals' perceived capability to manage future demands. Consequently, conceptual overlap and semantic similarities between the constructs may partially explain the high correlation observed in this study (Fischer et al., 2023).

Taken together, these considerations suggest that the findings should be interpreted as evidence of a robust relationship rather than definitive proof of causal influence. While the results extend previous literature by confirming the importance of self-efficacy in adolescent career adaptability, they also emphasize that the magnitude of this relationship may reflect both genuine psychological processes and similarities in measurement approaches. Accordingly, the present findings support earlier studies while highlighting the importance of interpreting self-efficacy and career adaptability within broader educational contexts instead of considering them as entirely independent psychological constructs..

Addressing the second research question, this study identified significant differences between SMA and SMK students, with vocational high school students demonstrating higher levels of self-efficacy and career adaptability. These findings suggest that career development is influenced not only by individual characteristics but also by educational environments that shape students' preparation for future educational and occupational transitions (Blokker et al., 2023; Hirschi & Koen, 2021; Savickas, 2013). Research on school-to-work transitions similarly emphasizes that educational pathways provide distinct developmental experiences that influence psychological readiness for future careers (Blokker et al., 2023). Therefore, differences between SMA and SMK should be viewed as reflecting different educational contexts rather than merely administrative distinctions.

This interpretation is further supported by the characteristics of vocational education, which is specifically designed to prepare students for employment through competency-based learning and closer connections with labor market demands (OECD,

2023). Consequently, SMK students may experience more opportunities to evaluate their career readiness, develop practical competencies, and strengthen confidence in facing post-school transitions. Similar findings have been reported among senior high school students in Hong Kong (Leung et al., 2022) and vocational students in China (Zeng et al., 2022), both of which emphasize the importance of career adaptability and academic self-efficacy during adolescence. Nevertheless, because this study employed a cross-sectional design, these differences should be interpreted as group variations rather than evidence that school type directly causes higher self-efficacy or career adaptability.

Within the Indonesian educational context, these findings acquire additional significance because SMA and SMK differ not only in curriculum orientation but also in societal expectations regarding higher education, employment, and post-school transitions (BPS, 2023; OECD, 2021; Sudira, 2016). Vocational schools generally provide learning experiences that explicitly emphasize employability and workplace preparation, whereas senior high schools often prioritize broader academic preparation for higher education. Consequently, differences in self-efficacy and career adaptability may reflect not only individual psychological variation but also differences in institutional support, opportunities for career exploration, and perceptions of future readiness. Career development in Indonesia is therefore shaped by interactions among educational pathways, family expectations, and broader sociocultural influences.

From a practical perspective, these findings suggest that strengthening self-efficacy should become a central component of school career guidance and counseling services. Career interventions should extend beyond providing occupational information by incorporating mastery experiences, constructive feedback, guided career exploration, and structured opportunities for career decision-making. According to Bandura (1997), successful experiences constitute the primary source of self-efficacy development; therefore, schools should create learning environments that enable students to experience success while developing confidence in their capacity to manage future educational and occupational challenges. Through such approaches, career guidance programs can simultaneously strengthen self-efficacy and career adaptability, thereby supporting students in making informed career decisions and preparing successfully for future transitions.

E. Implication

This study has theoretical, practical, and policy implications. Theoretically, the findings reinforce the relevance of Social Cognitive Theory and Career Construction Theory by demonstrating that self-efficacy functions as an essential psychological resource for career adaptability and that adolescent career development should be understood within both individual and educational contexts (Bandura, 1997; Hirschi et al., 2015; Savickas, 2013). Practically, school counselors should strengthen students' self-efficacy through mastery experiences, constructive feedback, career exploration, problem-solving activities, and career decision-making opportunities to enhance career adaptability (Bandura, 1997;

Nota et al., 2016; Zhang et al., 2025). At the curriculum level, career development should be integrated into classroom and co-curricular learning through reflective, project-based, and career-oriented activities, with approaches tailored to academic and vocational pathways (Murphy-Graham & Cohen, 2022; OECD, 2021; OECD, 2023). At the policy level, educational authorities should promote context-sensitive career development policies that strengthen self-efficacy, career adaptability, transition readiness, and equitable support across secondary education pathways (Direktorat Jenderal Pendidikan Vokasi, 2022; OECD, 2021; OECD, 2023; Sudira, 2016).

F. Limitation and Suggestion for Further Research

This study has several limitations that should be considered when interpreting the findings. First, the use of a cross-sectional design limits the interpretation of the results to association and statistical contribution rather than causal direction, because the temporal ordering of variables cannot be established within a single measurement point (Setia, 2016; Wang & Cheng, 2020). Second, the participants were recruited through convenience sampling with snowball characteristics, which may limit the representativeness of the sample and reduce the generalizability of the findings to broader groups of Indonesian secondary school students (Cohen et al., 2018; Etikan, 2016). Third, the unequal number of SMA and SMK students may also have influenced the stability of group comparisons. Fourth, all variables were measured using self-report instruments collected at the same time and through the same response format, which raises the possibility of common method bias and may have amplified the strength of the observed associations between constructs (Cooper et al., 2020; Kock et al., 2021). Therefore, although the findings provide meaningful evidence regarding the relationship between self-efficacy and career adaptability, they should still be interpreted with caution in light of these methodological constraints.

Based on these limitations, several directions for further research are recommended. First, future studies should use longitudinal designs to better examine the direction and development of the relationship between self-efficacy and career adaptability over time, especially during important educational transitions in adolescence (Negru-Subtirica & Pop, 2016; Wang & Cheng, 2020). Second, future research may employ mixed-method designs to complement quantitative findings with qualitative insights into how students interpret career challenges, school context, and confidence in planning their futures. Such an approach would allow a richer understanding of career adaptability not only as a statistical construct but also as a lived developmental experience within specific educational and sociocultural settings (Creswell & Creswell, 2018; Murphy-Graham & Cohen, 2022). Third, future studies should involve more balanced and diverse samples from different regions and school contexts in Indonesia to improve generalizability. Finally, the use of multiple data sources, such as teacher reports, counselor observations, or interviews, as well as the inclusion of other relevant variables such as parental support, school climate, and career guidance experiences, would help reduce single-source bias and provide a more

comprehensive understanding of adolescent career development (Cooper et al., 2020; Kock et al., 2021).

G. Conclusion

This study concludes that self-efficacy is positively and significantly related to career adaptability among Indonesian secondary school students, that vocational high school students show higher self-efficacy and career adaptability than senior high school students, and that self-efficacy explains a substantial proportion of variation in career adaptability. These findings indicate that self-efficacy constitutes an important psychological resource in adolescent career development and that school type is a relevant educational context for understanding differences in students' readiness to face future academic and occupational transitions. The study contributes to the literature by providing evidence from the Indonesian secondary education context that career adaptability should be understood not only in relation to individual psychological resources, but also in relation to differences between academic and vocational educational pathways.

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