

The Role of Industrial Internships in Developing Work Self-Efficacy for Automotive Engineering Students

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Abstract

Ideally, vocational education graduates have the readiness and desire to work after graduation through various experiences at school. Industrial internships in vocational education are expected to support graduates' readiness to know the world of work according to their field of expertise. An anomaly, where so far it is suspected that there are still many vocational education graduates who are unemployed or work because they do not have the desire to work. This study aims to understand the role of the student experience in participating in an industrial internship program on automotive students' work self-efficacy at Yogyakarta State University (YSU). This is survey research with a student population of 102 people. A questionnaire was given to sample of industrial internship participants who were taken at simple random sampling from 91 people. The data were analysed using quantitative descriptive method and Partial Least Square Structural Equation Models using Smart PLS 3 software. The results showed that the developed instrument was proven to be valid for use and had a good estimate of reliability. Most students get internship experience in the good and very good categories. Some students have work self-efficacy in the high and very high categories after industrial internships. The experience of participating in industrial internships is proven to have a positive and significant contribution to student work self-efficacy. It is important for vocational education institutions, especially in the automotive sector, to support industrial internship programs that provide an optimal student experience.

1. Introduction

Vocational education is one of the programs widely supported by policy makers around the world to address negative trends in the youth labor market (Bolli, Oswald-Egg, et al., 2021). Vocational education should always prepare its graduates to be ready to work, but so far there are still many problems that arise related to the implementation of education and its graduates. This can be seen from the open unemployment rate for vocational education graduates and universities. In 2021, there will be a significant increase in the number of open unemployed and at the same time, the highest increase will be among the unemployed with vocational education with an increase of 44.72 percent. The unemployment of university graduates in Indonesia in 2021 will be almost close to 1 million people (Zulfiandi et al., 2021). Vocational students are directed to be employable, although not necessarily fully professional, as well as to provide guidance that is focused on student behaviour in relational aspects and norms in vocational practice, schools, and society (Köpsén, 2014). From this

phenomenon, work readiness is seen as one of the main problems for vocational education graduates to enter the world of work (Suharno et al., 2020). However, job opportunities in the industrial world are actually wide open. One of the vocational fields that has a potential job market is the automotive sector due to the rapid growth of the industry every year (Ministry of Manpower of the Republic of Indonesia, 2021). Therefore, the job readiness of automotive vocational education graduates must be sufficient to fill job opportunities in the industry.

The job readiness of the workforce in the automotive sector is heavily influenced by various factors, so it requires serious effort. According to workers' factors, job readiness can be influenced by work competence, social intelligence, organizational acumen, and personal characteristics (Caballero et al., 2011). The various determinants that affect work readiness need to be the focus of vocational education institutions, including the automotive sector, to run various programs to make a positive contribution to the graduate's work readiness, one of which is industrial internships. Industrial internships are designed to bridge the worlds of vocational education and industry (Kramer-Simpson, 2018). One of the main internships benefits for students is gaining gainful experience in the job market, making them more employable for their next job (Knouse & Fontenot, 2008). In the process, industrial internships can also be integrated with training, so they are considered important in increasing work motivation, satisfaction, and commitment (Zahra et al., 2014).

The implementation of industrial internships for the development of student experience needs to be a concern for vocational education stakeholders in the automotive field. However, many studies emphasize that internships experiences need to be improved so that students and employers become more actively involved in direct processes and activities, including increased mentoring (Zopiatis et al., 2021). Other findings related to the problems that occur in the industrial internships program include the need to add Industrial internships for students, monitoring, and the activeness and involvement of students during industrial practice are also concerns in the implementation of industrial practice (Prasetyo & Sulisty, 2020). Industrial internships, as a program that is expected to provide direct experience to prospective automotive vocational higher education students in the workplace, should provide an experience that contributes to skilled graduates being better prepared for work. In vocational education, the quality of industrial internships significantly influences students' career exploration and professional performance. For students preparing to enter the workforce, internships are often closely aligned with their expected employment opportunities in the near future (Gamboa et al., 2021). For business school students, internships have been shown to have a positive impact, one of which is on self-efficacy for work (Oberman et al., 2021). Many industrial internships for students in the automotive vocational field are carried out in automotive companies, including after-sales companies such as vehicle repair shops. Through direct experience in the industry, automotive students are also expected to have a positive impact on their self-efficacy for work. However, so far not much is known about the specific elements of the internships experience for the participants. This may be a key element that contributes to the job readiness of vocational education graduates at the secondary level or even higher education, especially in the automotive field. Therefore, it is necessary to study related industrial practices experienced by students and their contribution to individuals, including analysis to introduce the typology of apprentices according to the expectations, perceptions, and aspirations of future career development.

Aspects of work readiness can also be seen from the personality factor. From student personality factors, work self-efficacy is considered one of the determinants that contribute to the construction of a student's personality about work (Schyns & von Collani, 2002). Self-efficacy has been considered a pervasive process within a person that influences motivation, performance, and well-being. High feelings of self-efficacy tend to drive their performance against factors in their personalities (Bandura, 1977). Therefore, work self-efficacy is recognized as having a significant role in performance (Çetin & Aşkun, 2018), and work readiness (Pangastuti & Khafid, 2019). The importance of work self-efficacy can be used to predict job involvement and worker performance (Çetin & Aşkun, 2018; Liu & Huang, 2019). Graduates with high work self-efficacy can be said to have better job readiness than vocational education graduates. In the context of automotive vocational higher education in universities, universities need to pay more attention to the involvement of students in industrial internships, so that the effectiveness of internships can be increased, which has implications for tertiary institutions and students (Nghia & My Duyen, 2018). Therefore, it is important to study automotive vocational student work self-efficacy as well as the effectiveness of internship programs that have been held in various formats. For vocational education institutions, industrial practice is recognized as playing an important role in achieving a work-ready automotive vocational graduate profile. Therefore, this research is directed at answering the following research questions:

- What is the profile of the industrial internship experience of UNY automotive vocational students in the industrial world?
- What is the work self-efficacy profile of automotive vocational students after industrial practice?
- How does the level of student's industrial practices experience affect their work self-efficacy?

2. Literature Review

2.1 Industrial Internship in Vocational Education

Vocational education is a form of industry-oriented education, and the world of work is based on certain specific skills. Therefore, education is directed at preparing a workforce that is reliable, competent, and highly competitive through effective learning. Vocational education is focused on: preparing students for the world of work, including informing individuals about the job they choose, preparing individuals for work-life, including developing skills and training for the job they choose, providing continuous development for individuals to deal with the dynamics of the world of work, and providing learning experiences to support job changes in the world of work (Billett, 2011). Thus, learning in vocational education must concentrate on a particular area of expertise and introduce real problems that occur around that expertise in the workplace. One can regard vocational education as a process of applying and developing knowledge and skills according to the jobs required by society (Moodie, 2002), so the main focus of vocational education is work readiness for students when they graduate. Therefore, the curriculum in vocational education almost always involves industrial internships programs, which are expected to support the work readiness of their graduates. In industrial internships in vocational education, students not only gain experience and knowledge in industry but also use it to train various practical skills through hands-on practice in industry, which are not always obtained on campus. Therefore, industrial internships in vocational education generally require a longer duration.

Industrial internships in automotive vocational higher education are identified with industrial work practices. The internship is an important part of vocational education because it is directed to provide hands-on experience to students or students from the workplace industry in addition to training various practical skills for students. Internships can be considered "experiential learning," which is a process in which the transformation of experience can create knowledge (Kolb, 1984). The experiential theory put forward by Kolb is recognized as emphasizing a holistic approach and emphasizing that the learning process can be influenced by experience, including cognition, environmental factors, and emotions. (Cherry, 2019). Thus, industrial internships for automotive vocational higher education students can be used as an effort to gain knowledge and skills based on holistic experience.

The industrial internship is a program that provides opportunities for students to take part in work activities in the industry. Industrial practice is expected to increase student competence and help them better understand the conditions of the world of work so that it will have an impact on their work readiness when they graduate (Industrial Practice Guidelines Merdeka Belajar - Kampus Merdeka, 2020). A standardized internships must define the characteristics of the learning experience as experience, especially knowledge, skills, and abilities (Zopiatis et al., 2021). Internships are also believed to be able to help students consolidate their knowledge and skills, develop their professional skills, direct their career paths, and change their attitudes and learning behaviours so that their involvement in assignments during internships can affect the learning outcomes they get from internships. (Nghia & My Duyen, 2018). Student experience in participating in industrial internships can be seen from their involvement in any internship activity in the industry.

The involvement of students during the internship can shape their experience in constructing their knowledge, abilities, and skills. The factors for implementing industrial internships have been identified as consisting of intellectual challenges, self-presentation, support, and inclusion (Oberman et al., 2021). In addition, the main themes that need to be studied related to internships experience need to cover welfare, the educational environment, and the conditions of the work environment (Zhao et al., 2021). Therefore, in order to improve the quality of internships, it needs to be said that both industry supervisors and coordinators should encourage that internships can offer professional-level experiences even if students have faults in the learning experience process (Kramer-Simpson, 2018). Based on the scope and dimensions of the internship experience that students should gain during industrial practice from the study, it can be synthesized that the industrial internship experience of automotive higher vocational education students can include a variety of student involvement in various activities in the automotive industry. This involvement includes involvement in industrial tasks or work; involvement in industrial organizations; experience development in the industry; self-skill development; and experience gained from the supervision process provided by the supervisor.

2.2 Work Self-efficacy

Self-efficacy is one of the important attributes to support a person doing a particular job. Self-efficacy has been widely recognized as a pervasive process that influences motivation, performance, and human well-being (Barbaranelli et al., 2018). Self-efficacy is defined as a person's assessment of their ability to organize and perform an action necessary to achieve a certain performance (Bandura, 1977). Viewed from a cognitive social theory perspective, self-efficacy is defined as a person's belief in their ability to exercise some measure of control over their environmental events and functions (Bandura, 2010). Thus, self-efficacy plays an important

role in encouraging individuals to do a job/business. Self-efficacy is one of the key elements because it is proven to have a significant correlation with work engagement, and work engagement has a significant correlation with performance (Tian et al., 2019). In addition, it is recognized that self-efficacy makes a significant contribution to work performance, especially tasks and contextual work performance, but there is no correlation with counterproductive behaviour (Abun et al., 2021). This is supported by other research showing that the importance of work self-efficacy can be used to predict work involvement and worker performance (Çetin & Aşkun, 2018; Liu & Huang, 2019). Therefore, elements of high work self-efficacy play an important role as an attribute that must be possessed by every graduate, even automotive vocational higher education students.

Work self-efficacy is an intermediate construct, part of general self-efficacy, that focuses on the work domain. Therefore, work self-efficacy refers to the belief that a person is competent to fulfil work-related tasks or activities (Peng et al., 2021). Job self-efficacy is defined as the employee's perceived ability to manage performance and work activities that are goal-oriented (Barbaranelli et al., 2018). To find out, various factors have been formed from work self-efficacy including self-confidence, command, adaptability, personal effectiveness, a positive attitude, and individuality as important constituents of self-efficacy (Pethe et al., 2000). Thus, concerning graduates of vocational education in the automotive field, work self-efficacy can be seen in confidence in getting a job, confidence in meeting work demands, confidence in being able to solve problems in the world of work, and confidence in being able to improve the quality of work in the industry.

2.3 The Effect of Industrial Internship Experience on Work Self-Efficacy

An industrial internship is a program expected to provide experience to vocational education students through direct work involvement in the industry. It is recognized that direct work involvement acts as a partial mediator in the self-efficacy-performance relationship, so work involvement acts as a key factor in work-related well-being that can change the effect of self-efficacy on work performance (Tian et al., 2019). This confirms that student experience in the industry can provide student work involvement to support the achievement of work self-efficacy. Partially, competency and internships experience have been shown to make a positive contribution to work readiness (Utami & Raharjo, 2020). This is reinforced by the results of research showing that internships make a positive contribution to self-efficacy for work for business students (Oberman et al., 2021). Students can gain various forms of industrial experience, such as involvement in industrial assignments, involvement in industrial organizations, experience development, skill development, and experience getting guidance from industry. These various forms of involvement are expected to support students' work self-efficacy, where work self-efficacy can be seen as confidence in getting a job, confidence in meeting work demands, confidence in being able to solve problems in the world of work, and confidence in being able to improve the quality of work in the industry. Thus, it can be synthesized that student experience through industrial practice can directly support the achievement of student work self-efficacy. Therefore, it can be hypothesized that there is a positive influence of industrial practice on student work self-efficacy.

3. Research Methods

3.1 Types of Research

This research is a quantitative study with a cross-sectional survey method. According to the research objectives, this survey research was conducted to find out the experience of industrial internships and self-efficacy for automotive students at YSU after participating in an industrial practice or internship program. With this survey research, quantitative data will be obtained on the variables of experience following industrial practices and work self-efficacy.

3.2 Population and Research Sample

The population of this study was automotive students at the Faculty of Engineering, Yogyakarta State University, in semester 6 who had attended an industrial practice program. The total student population is 102. The research sample was carried out using a simple random sampling technique to determine which students were the respondents for data collection. The number of samples selected based on the Krejcie and Morgan table to anticipate an error of 5% is at least 82 people. Therefore, the sample size of this study was 91 people to minimize sampling error.

3.3 Data Collection Methods and Instruments

The survey was conducted by giving questionnaires to respondents who were selected randomly. The questionnaire consisted of 30 items that measured industrial internship experience and 20 items that measured student work self-efficacy. The implementation of industrial practice consists of five identified constructs:

involvement in industrial tasks/work (TI), involvement in industrial organizations (OI), development of experience in the industry (ED), development of self-skills (SD), and experience of guidance/supervision (SP). Work Self-efficacy consists of 4 constructs, confidence in getting a job (GJ), confidence in meeting work demands (WD), confidence in being able to solve problems in the world of work (PS), and confidence in being able to improve the quality of work in the industry (QI). The instrument items were developed by adapting the developed instruments (Oberman et al., 2021; Schyns & von Collani, 2002), but modifications and additions to the instrument items were made according to the construct and context in Indonesia. In addition, because it adapts the instrument items for business students, the instrument items developed are adapted to the characteristics of industrial internships in automotive vocational higher education. The instrument items were tested for content validity using Aiken's V with a minimum Aiken's V score of 0.795 and a maximum of 0.955. Construct validity is proven through confirmatory factor analysis. Meanwhile, to estimate the reliability coefficient, Cronbach's alpha formula is used. The results of the estimated reliability analysis of the internship experience instrument show that the minimum Cronbach alpha value is 0.792 in the experience development construct and the maximum value is 0.931 in the guidance contribution construct, while the overall alpha value of the internship instrument is 0.956. Thus, the industrial internship experience instrument is reliable (minimum value: 0.7) (Hair et al., 2014). The results of the estimated reliability analysis of the work self-efficacy instrument construct obtained a minimum Cronbach's alpha value of 0.868 in the getting job efficacy construct, and a maximum value of 0.910 in the work demand fulfilment construct. While the questionnaire reliability rate was 0.960. Thus, it can be interpreted that the work self-efficacy instrument is reliable. The results of the analysis show that the instruments used have been proven valid and reliable. Questionnaires were given to respondents via e-mail and WhatsApp in Google Form format, to students who had just completed an industrial internship program.

3.4 Data Analysis

A quantitative analysis was employed, consisting of two stages, namely describing the students' industrial practice experience and self-efficacy profile for post-industrial work, and continued with structural equation model analysis to see the effect of industrial internship experience as an exogenous latent variable and student work self-efficacy as an endogenous latent variable. Data analysis was carried out through PLS-SEM with Smart PLS software to determine the magnitude of the direct influence of implementing industrial practices on work self-efficacy. In addition, a significance analysis of the paths obtained was also carried out.

3.5 Ethical Clearance

Data collection was ensured to meet the permission of all research participants. Guarantee that all data (including identity) is kept confidential. All data is for research purposes only, so it does not affect the fate of participants in the future.

4. Results

This study seeks to reveal the effectiveness of industrial practical experience on students' work self-efficacy. The developed research instrument was carried out to prove its validity and test its reliability estimation. The results of the content validity verification test on 11 experts showed that Aiken's V results were in the range of 0.795 to 0.955. Thus, all the items used in the instrument fulfil the element of content validity because they are greater than the value of Aiken's V table, which is 0.7 (Aiken, 1985). Furthermore, the instrument was tested empirically for construct validity and reliability. The analysis was performed by confirmatory factor analysis (CFA). In the results of the discriminant validity analysis of each instrument, it was found that the student internship experience instrument met good discriminant validity as seen from the AVE root value, which was greater than the correlation coefficient between constructs. These results are shown in the internship experience and work self-efficacy instruments.

Subsequent analysis was carried out to test the construct validity of each instrument item. The results of the analysis for the industrial practical experience instrument show that the loading factor value for each item of the student experience instrument in participating in industrial practise has a loading factor value ≥ 0.7 . Thus, it can be concluded that the instrument is proven to have good construct validity (Hair et al., 2014). All instrument items have a high loading factor (> 0.7). The results of proving the construct validity of the work-self-efficacy instrument also show that all instrument items are proven to fulfil the construct validity of the instrument with a high loading factor (> 0.7). With the validity and reliability of the instrument confirmed, the results of the research data were then analysed to answer the research questions posed.

This study included 91 students who completed industrial practice in various authorized workshops, non-authorized workshops, and automotive manufacturing companies. The demographic details of the participants are presented in Table 1.

Table 1 Respondent demographics

Demographic information		Amount	Percentage
Total respondents		1	2
Gender	Male	82	90,1%
	Female	9	9,9%
Duration of internship	4 months	11	12,1%
	5 months	36	39,6%
	6 months	44	48,4%
Internship industry	Authorized workshop	52	57,1%
	Non authorized workshop	21	23,1%
	Automotive manufacturing	18	19,8%
Intern location	Yogyakarta Province	69	75,8%
	Outside the province of Yogyakarta	22	24,2%

Table 1 shows that the duration of student internships ranges from 4 to 6 months. Most participants completed their internships at authorized automotive workshops, while some interned at non-authorized workshops or in the automotive manufacturing industry. Additionally, the majority of internships took place in industries located within Yogyakarta Province.

4.1 Profile of Students Industrial Internship Experience in the Industrial World

The profile of student internships or industrial practise experience can be seen from the intensity of the student experience in participating in the programme. The construct of student industrial internship experience consists of involvement in industrial tasks or work, involvement in industrial organisations, development of experience in the industry, development of self-skills, and experience of guidance from industry. The results of the descriptive analysis of the level of student industrial internship experience can be seen in Figure 1.

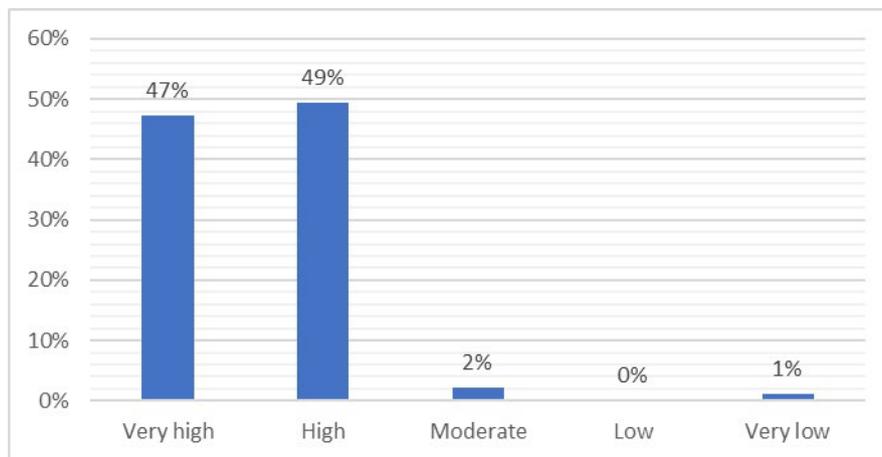


Fig. 1 Distribution of experience levels of students participating in industrial internships

Figure 1 shows that, for the most part, student industry internship experience is in the high and very high categories. Judging from the overall average score of all questionnaire items on student internship experience, a value of 4.21 was obtained from a minimum average score of 1 and a maximum average of 5. The achievement of this average questionnaire score can illustrate that the level of student internship experience is very good. This shows that students have intensively attended industrial practise programmes. Judging from the average score of each indicator of industrial practical experience, it can be seen in the following figure:

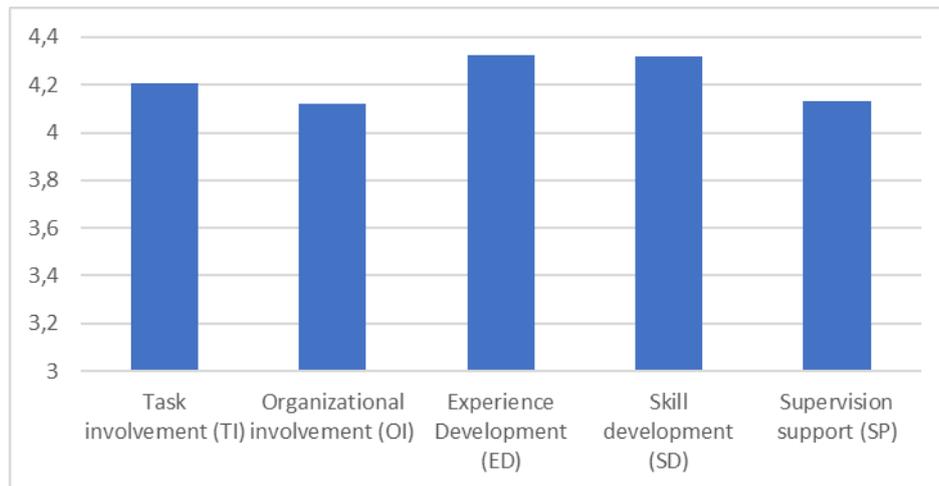


Fig. 2 The level of experience of students participating in industrial internships based on indicators

Figure 2 shows that all indicators of industrial internship experience that students take part in have a high score, they can even be categorised as good and very good. There are only 2 indicators that are still lacking, namely in the aspects of organisational involvement and guidance/supervision experience, even though they are in a suitable category. Students showed a high level of involvement in their internship tasks, with an average score of 4.2 out of 5. This indicates that students feel very involved and active in carrying out the tasks given during the internship. Additionally, the internship provided significant development experiences for the students. They felt that the internship provided a good opportunity to expand their experience in the automotive field. With an average score of 4.1, students felt that the internship had contributed to the development of their skills. Although not as high as the score on the development experience aspect, this still shows that the internship has a positive impact on students' skill mastery. The average score of 4.1 indicates that students feel involved in the organization where they are interning. Students feel that they have been well integrated into the organizational structure and participate in workshop organization activities. The average score of 4.1 indicates that students feel they have received adequate support from their supervisors. This indicates that the supervision provided during the internship is considered effective in helping students face challenges and develop skills.

4.2 Profile of Student Work Self-Efficacy for Post-Industry Internship

The student's work self-efficacy profile can be seen from the frequency distribution of the student's self-efficacy level in the total score obtained. There are several constructs that build student efficacy for work, namely confidence in getting a job, confidence in meeting work demands, confidence in being able to solve problems in the world of work, and confidence in being able to improve the quality of work in industry. The results of the quantitative descriptive analysis of the self-efficacy of students to work after participating in industrial internships can be seen in Figure 3.

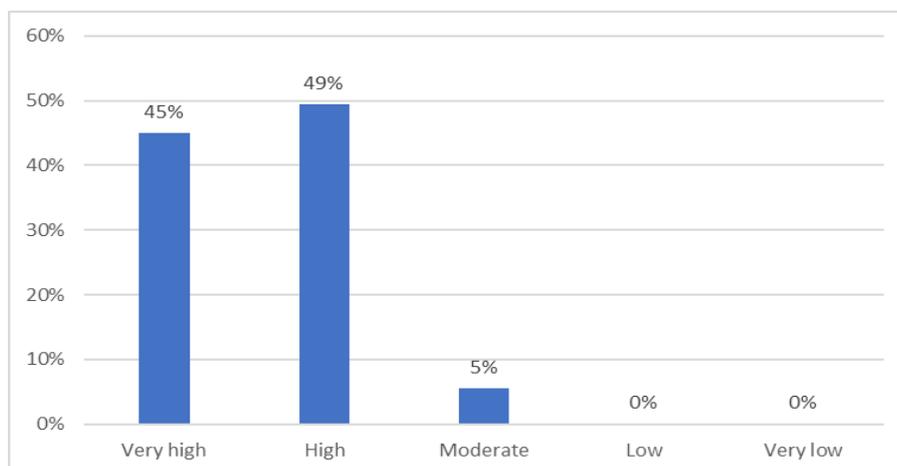


Fig. 3 Distribution of student work self-efficacy

Figure 3 shows that most students have work self-efficacy in the high and very high categories. Only 5% of students have moderate work self-efficacy. The results of descriptive data analysis also show that students have a high level of self-confidence in their ability to get a job. A score of 4.27 out of 5 indicates that students feel quite confident about their chances of success in the job search process after graduation. In terms of self-confidence in meeting job demands, an average score of 4.32 indicates that students feel ready to face various challenges and expectations that may be faced in the world of work. In terms of self-confidence to solve problems that arise in the workplace, a score of 4.14 out of 5 is slightly lower than other aspects. However, this score still shows positive beliefs in their problem-solving skills. In terms of students' beliefs to improve the quality of work in the industry, an average score of 4.25 out of 5 indicates that students have a strong belief in contributing to improving work standards in the industrial environment.

4.3 The Effect of Industrial Internship Experience on Work Self-Efficacy

This section tries to explain the results of testing the research hypothesis, which says the role of industrial practical experience contributes positively and significantly to student work self-efficacy. The results of the PLS-SEM analysis show that the empirical model between the two latent variables is depicted in Figure 4.

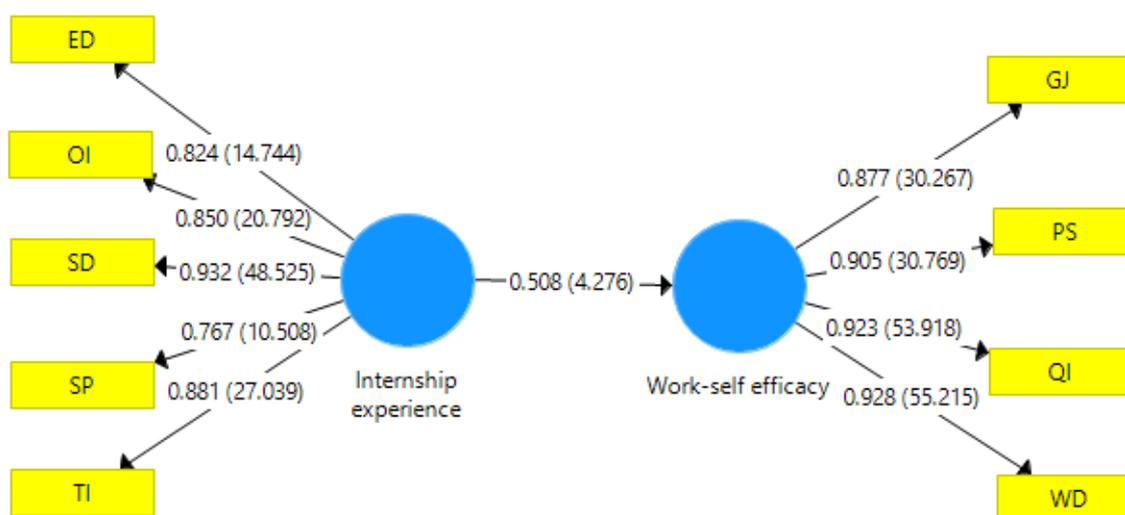


Fig. 4 The empirical model of industrial internships experience on student work self-efficacy

Figure 4 shows that the path coefficient between industrial internships experience on work self-efficacy is 0.508 with a T value of 4.276 and a significance of $0.000 < 0.050$. It can be interpreted that industrial internship experience contributes positively and significantly to students' work self-efficacy. Judging from the fit model, the SRMR value of the test results obtained a value of 0.062, so the resulting model meets the fit criteria, because the SRMR value < 0.100 with an NFI value of 0.919. Judging from the construct reliability and validity, it was found that all Cronbach's alpha values were > 0.7 , while the average variance extracted values were all > 0.5 . Thus, the model meets good reliability and validity estimates. Judging from the coefficient of determination, it is known that the value of R^2 is 0.265. Thus, it can be explained that the variance of student work self-efficacy can be explained by 26.5% of the variance of student experience variables in industrial internships. Students work self-efficacy is also influenced by other variables beyond the experience of participating in an industrial internship.

5. Discussion

Industrial internships play a crucial role in enhancing vocational education in the automotive sector. These internships are designed to provide students with hands-on experience in the industry, which is expected to improve their readiness for the workforce. Investing in internships is essential, as they can significantly enhance the quality of education (Bolli, Caves, et al., 2021). The effectiveness of these internships can be evaluated based on the experience gained by students.

In the automotive field, vocational students are involved in various aspects of the industry, including automotive manufacturing and after-sales services like automotive repair shops. These internships are intended to support job readiness for graduates. One key attribute is work self-efficacy. Therefore, assessing the level of experience students gain from their internships is crucial for evaluating the effectiveness of the program. This research indicates that automotive students at the Faculty of Engineering YSU have had a very good internship experience. This is significant because internship experience increases the likelihood of being invited to job

interviews (Baert et al., 2021). Most students reported optimal experiences, with task involvement, experience development, and skill development rated very good. However, organizational involvement and supervision support were rated as good. This finding aligns with Birhan & Merso (2021) who noted that some students do not perceive internship mentoring as beneficial for improving communication skills and career prospects.

Involvement in industrial tasks is essential for automotive students to adapt to industry conditions and culture. While academic institutions strive to simulate industrial environments, real-world experience is irreplaceable. Developing a strong internship experience is an indicator of the program's success. Many vocational institutions argue that internship experience is crucial for job readiness. Challenges during internships, such as supervisor support and role conflicts, significantly impact students' career decision-making (Odio & Kerwin, 2016). Internships help students develop essential skills needed for their future careers (Di Pietro, 2022). However, organizational involvement and supervision support may be limited due to constraints in resources and the need for industry assistance. Organizational involvement and effective supervision are critical for fostering a positive industrial culture and enhancing student performance (Lasrado & Kassem, 2021; Mahfar et al., 2023; Ullah et al., 2022).

From the perspective of work self-efficacy, this study found that automotive engineering students at YSU reported high levels of self-efficacy following their internships. This supports previous research indicating that internships help students consolidate their knowledge, develop relevant skills, and shape their career paths (Nghia & My Duyen, 2018). High self-efficacy in areas such as job acquisition, meeting work demands, problem-solving, and improving work quality reflects the positive impact of internships on students' confidence. This result corroborates findings by Oberman et al. (2021) and Utami & Raharjo (2020), which highlight the positive contributions of internships to work readiness.

Given the significant impact of internship experiences on work self-efficacy, it is crucial to effectively organize internship programs. Emphasizing intensive student involvement and strengthening guidance and supervision from both academic and industry mentors is essential. Enhancing students' work self-efficacy can support their work engagement and performance (Çetin & Aşkun, 2018; Liu & Huang, 2019; Tian et al., 2019). Future research should explore ways to overcome obstacles and improve organizational involvement and supervisory support in internships.

6. Conclusions

Internships or industry practise play an important role in vocational education in the automotive field. This study seeks to find out the implementation of automotive industry internships for automotive vocational higher education students in terms of student experience in the industry, to find out the profile of self-efficacy for working in automotive after industrial practise, and to find out the effect of implementing industrial practise on self-efficacy in student work. Based on the results of the research that has been discussed, it can be concluded that several things are related to the implementation of automotive industry internships for YSU students. First, judging from the experience of automotive students in participating in industrial internships, most students have industrial internship experience in the very good and good categories, although it needs strengthening in the aspects of involvement with industrial organisations and strengthening guidance/supervision. It can be concluded that the implementation of industrial internships has been intensively attended to by automotive students. Second, the work self-efficacy of automotive students after participating in industrial internships is at a high and very high level. This is valuable information for stakeholders in the automotive field of vocational education. Third, the results of the structural equation modelling analysis concluded that industrial internship experience contributed positively and significantly to the development of students' work self-efficacy. The results of this study confirm that an intensive industrial internship programme carried out in relevant industries will strengthen the vocational students' work self-efficacy. This is certainly expected to have a positive effect on the readiness of graduates to work. For future research, we suggest the need for research to deepen the obstacles and efforts to increase organizational involvement and implementation of supervision for internship participants. In addition, broader research is needed to examine the benefits of industrial internships experience for automotive vocational education not only on work readiness but also on readiness for entrepreneurship as another goal of vocational education.

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Conflict of Interest

Authors declare that there is no conflict of interests regarding the publication of the paper.

Author Contribution

The authors confirm contribution to the paper as follows: **study conception and design:** Tafakur, Sudji Munadi; **data collection:** Tafakur, Zainal Arifin; **analysis and interpretation of results:** Tafakur, Samsul Hadi, Sudji Munadi; **draft manuscript preparation:** Tafakur, Zainal Arifin. All authors reviewed the results and approved the final version of the manuscript.

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