



Building work readiness through teamwork and problem solving skills

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ABSTRACT

Despite the growing importance of employability skills in healthcare education, previous studies have reported inconsistent findings regarding the effects of teamwork and problem-solving on work readiness and have rarely examined the moderating role of Personal Qualities, particularly among Diploma III Midwifery students. This study therefore addresses this gap by investigating whether Personal Qualities strengthen the relationships between teamwork, problem-solving skills, and work readiness. An explanatory quantitative research design was employed using a sample of 170 Diploma III Midwifery students, selected through a total sampling technique. Data were collected using an online questionnaire and analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS 4. The analysis included measurement and structural model evaluation, followed by bootstrapping to test the proposed hypotheses. The results showed that teamwork ($\beta = 0.406$; $p < 0.001$), problem-solving skills ($\beta = 0.395$; $p < 0.001$), and Personal Qualities ($\beta = 0.319$; $p < 0.001$) had significant positive effects on work readiness, whereas the moderating effects of Personal Qualities on the relationships between teamwork and work readiness ($p = 0.201$) and between problem-solving skills and work readiness ($p = 0.275$) were not significant. These findings extend the Employability Skills Theory by demonstrating that Personal Qualities function as an independent predictor rather than a moderating mechanism in explaining work readiness. Practically, the findings provide evidence for higher education institutions, curriculum developers, and policymakers to strengthen teamwork, problem-solving, and personal qualities through collaborative learning, simulation-based education, and clinical practice to enhance graduate employability and professional readiness.

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1. INTRODUCTION

Higher education is expected to prepare graduates who possess not only academic competence but also employability skills that enable them to adapt to the increasingly dynamic labor market (Succi & Canovi, 2020). Employers increasingly expect graduates to demonstrate teamwork, problem-solving, communication, and adaptability in addition to technical competence (Ingusci et al., 2026; Ananda et al., 2023; WifiTalents, 2026). For Diploma III Midwifery students, these

competencies are essential because healthcare services require collaboration among multidisciplinary professionals and the ability to make timely clinical decisions to ensure patient safety and service quality (Pakaang et al., 2024; Umar, 2024; Reeves, 2013). Despite these expectations, the unemployment rate among Diploma graduates remains relatively high while Indonesia continues to experience a shortage of healthcare professionals, indicating a mismatch between graduates' competencies and labor market needs (Chen, 2024; Ayaturrahman & Rahayu, 2023; Ayuni & Nio, 2025; BPS, 2023).

According to Employability Skills Theory, work readiness is influenced not only by technical knowledge but also by employability competencies that enable individuals to perform effectively in professional environments (Rahmat et al., 2015). Among these competencies, teamwork and problem-solving are regarded as fundamental because healthcare professionals are required to collaborate with multidisciplinary teams, analyze clinical situations, and make appropriate decisions under pressure. The theory also emphasizes the importance of personal qualities, including responsibility, self-management, and self-confidence, which facilitate the effective application of technical and cognitive competencies in workplace settings. Therefore, Employability Skills Theory provides a strong theoretical foundation for explaining how teamwork and problem-solving contribute to work readiness and how Personal Qualities may strengthen these relationships.

Previous studies have generally reported that teamwork and problem-solving positively influence work readiness (Ayaturrahman & Rahayu, 2023). However, Pranitasari et al. (2025) found that teamwork soft skills did not significantly affect work readiness, indicating inconsistent empirical findings. These inconsistencies may be explained by differences in research contexts, participant characteristics, and analytical models, suggesting that additional explanatory variables should be considered. Furthermore, previous studies have primarily examined nursing students, employees, or general university students, whereas empirical evidence focusing specifically on Diploma III Midwifery students remains limited. Most studies have also investigated teamwork and problem-solving separately, with limited attention to their simultaneous effects or the moderating role of Personal Qualities in strengthening work readiness.

Based on these findings, four research gaps can be identified. First, an empirical gap exists because previous studies have produced inconsistent findings regarding the influence of teamwork on work readiness. Second, a contextual gap remains because studies involving Diploma III Midwifery students are still limited despite their unique clinical learning environment. Third, a methodological gap exists because previous research has generally examined teamwork and problem-solving independently rather than simultaneously within a single structural model. Fourth, a theoretical gap remains because few studies have applied Employability Skills Theory to explain the moderating role of Personal Qualities in the relationship between employability skills and work readiness.

Accordingly, this study offers several contributions. It simultaneously examines the effects of teamwork and problem-solving on the work readiness of Diploma III Midwifery students while introducing Personal Qualities as a moderating variable based on Employability Skills Theory. This approach extends previous research by providing a more comprehensive explanation of how employability skills are translated into work readiness within the context of Indonesian midwifery education.

Therefore, the objective of this study is to analyze the effects of teamwork and problem-solving on the work readiness of Diploma III Midwifery students and to examine whether Personal Qualities strengthen these relationships. The findings are expected to enrich the literature on employability skills and provide practical recommendations for higher education institutions in designing learning strategies that enhance graduates' professional readiness and competitiveness in the healthcare workforce.

2. RESEARCH METHOD

This study employed a quantitative explanatory research design to examine the effects of teamwork competency and problem-solving skills on the work readiness of Diploma III Midwifery students, with Personal Qualities serving as a moderating variable. Teamwork and problem-solving were specified as exogenous variables, work readiness as the endogenous variable, and Personal

Qualities as the moderating construct. The target population comprised all active Diploma III Midwifery students who had completed clinical learning or professional midwifery practice. A census (total sampling) technique was applied, resulting in a final sample of 170 respondents, which is considered adequate for Partial Least Squares Structural Equation Modeling (PLS-SEM) to ensure stable parameter estimation and sufficient statistical power (Hair et al., 2021). Primary data were collected through a structured online questionnaire administered via Google Forms. The measurement instrument was adapted from the Employability Skills framework proposed by Rahmat et al. (2015), encompassing four latent constructs teamwork, problem-solving, Personal Qualities, and work readiness measured using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The operational definitions of the variables and their corresponding indicators are presented in Table 1.

Table 1. Operational definition of variables

Variable	Indicators	Source
Teamwork	Ability to work independently and in teams; leadership; supporting team members; flexibility; providing services to clients/patients; working in diverse environments	Rahmat et al. (2015)
Problem-Solving	Identifying problems; applying decision-making strategies; implementing creative, innovative, and practical solutions	Rahmat et al. (2015)
Personal Qualities	Responsibility; self-confidence/self-esteem; self-management	Rahmat et al. (2015)
Work Readiness	Communication skills; teamwork; critical thinking and problem-solving; adaptability; personal qualities	Rahmat et al. (2015)

Data analysis was conducted using SmartPLS version 4. The measurement model (outer model) was first evaluated through convergent validity using Outer Loadings (≥ 0.70) and Average Variance Extracted ($AVE \geq 0.50$), followed by reliability assessment using Composite Reliability ($CR \geq 0.70$). Discriminant validity was assessed using the Heterotrait–Monotrait Ratio (HTMT < 0.90) in accordance with the recommendations of Hair et al. (2021). After the measurement model satisfied the required validity and reliability criteria, the structural model (inner model) was evaluated by examining the coefficient of determination (R^2), predictive relevance (Q^2), and path coefficients. Hypothesis testing, including the assessment of both direct effects and moderating effects, was performed using the bootstrapping procedure in SmartPLS with 5,000 bootstrap subsamples. The significance of the structural relationships was determined using t-statistics (> 1.96) and p-values (< 0.05) at the 5% significance level (Hair et al., 2021).

3. RESULTS AND DISCUSSIONS

Description of Respondent Characteristics

Table 2 displays the respondent distribution based on demographic attributes to illustrate the composition and characteristics of the participants included in this research. The information presented encompasses several identification variables, namely sex, age category, educational program, and academic stage, which collectively describe the background profile of the selected sample.

Table 2. Demographic characteristics of respondents (n = 170)

Characteristic	Category	Frequency	Percentage (%)
Gender	Female	170	100.0
Age	17–20 years	37	21.8
	21–25 years	120	70.6
	≥ 30 years	13	7.6
Study Program	Midwifery	170	100.0
Academic Level	Diploma III (D3)	94	55.3
	Bachelor's (S1)	57	33.5
	Professional Program	13	7.6
	Diploma IV (D4)	2	1.2
	Master's (S2)	4	2.4

Table 2 shows that all respondents were female (100.0%) and enrolled in the Midwifery Study Program (100.0%). Most respondents were aged 21–25 years (70.6%), followed by 17–20

years (21.8%) and 30 years or older (7.6%). Regarding academic level, the majority were Diploma III (D3) students (55.3%), followed by Bachelor's (S1) students (33.5%), while the remaining respondents were from the Professional Program (7.6%), Master's (S2) (2.4%), and Diploma IV (D4) (1.2%). Overall, these findings indicate that the sample was predominantly composed of female midwifery students in their early adulthood, representing the primary target population of this study.

Measurement Model Assessment

The evaluation of the measurement model involved a comprehensive examination of construct quality through several statistical parameters, including outer loading coefficients, Composite Reliability (CR), Cronbach's Alpha (CA), and Average Variance Extracted (AVE). The adequacy of individual indicators was determined based on their loading performance, where values exceeding the threshold of 0.70 were interpreted as demonstrating sufficient convergent validity. Furthermore, the reliability and validity of the latent variables were confirmed when CR and CA coefficients surpassed 0.70, accompanied by AVE values higher than 0.50, reflecting acceptable internal consistency and convergent representation of the constructs. Detailed findings from the measurement model analysis are displayed in Table 3.

Table 3. Results of validity and reliability

Variable	Indicator	Outer Loading	CR	CA	AVE	Status
Teamwork (X1)	Teamwork Skills 1	0,723	0,962	0,957	0,734	Valid
	Teamwork Skills 2	0,843				Valid
	Teamwork Skills 3	0,828				Valid
	Teamwork Skills 4	0,833				Valid
	Teamwork Skills 5	0,867				Valid
	Teamwork Skills 6	0,836				Valid
	Teamwork Skills 7	0,814				Valid
	Teamwork Skills 8	0,824				Valid
	Teamwork Skills 9	0,800				Valid
	Teamwork Skills 10	0,834				Valid
	Teamwork Skills 11	0,806				Valid
	Teamwork Skills 12	0,886				Valid
Problem Solving Skills (X2)	Problem Solving Skills 1	0,873	0,941	0,925	0,771	Valid
	Problem Solving Skills 2	0,839				Valid
	Problem Solving Skills 3	0,847				Valid
	Problem Solving Skills 4	0,835				Valid
	Problem Solving Skills 5	0,856				Valid
	Problem Solving Skills 6	0,864				Valid
Personal Qualities (Z)	Personal Qualities 1	0,881	0,943	0,927	0,727	Valid
	Personal Qualities 2	0,846				Valid
	Personal Qualities 3	0,845				Valid
	Personal Qualities 4	0,836				Valid
	Personal Qualities 5	0,881				Valid
	Personal Qualities 6	0,849				Valid
Work Readiness (Y)	Work Readiness1	0,904	0,971	0,967	0,681	Valid
	Work Readiness2	0,878				Valid
	Work Readiness3	0,843				Valid
	Work Readiness4	0,827				Valid
	Work Readiness5	0,878				Valid
	Work Readiness6	0,915				Valid
	Work Readiness7	0,911				Valid
	Work Readiness8	0,904				Valid
	Work Readiness9	0,893				Valid
	Work Readiness10	0,823				Valid

Source: Processed data using SmartPLS 4 (2026)

As demonstrated in Table 2, the measurement model assessment revealed that each observed variable fulfilled the required loading criteria, with outer loading coefficients surpassing the minimum acceptable value of 0.70. This evidence indicates that the indicators adequately represent their respective latent variables. In addition, the evaluation of internal consistency showed that every construct obtained Composite Reliability (CR) and Cronbach's Alpha (CA) coefficients above 0.70, accompanied by Average Variance Extracted (AVE) values exceeding the

minimum standard of 0.50. Accordingly, the measurement model can be considered reliable and capable of establishing sufficient convergent validity, allowing the analysis to proceed to the evaluation of the structural model. Subsequently, discriminant validity testing was conducted through the Fornell–Larcker approach, in which the square root value of the Average Variance Extracted (AVE) of each construct was assessed against its correlation coefficients with the remaining constructs. The outcomes of this evaluation are displayed in Table 4.

Table 4. Results of the fornell–larcker criterion

Variable	Y	Z	X1	X2
Work Readiness (Y)	0,878			
Personal Qualities (Z)	0,660	0,856		
Teamwork (X1)	0,723	0,498	0,825	
Problem Solving Skills (X2)	0,736	0,504	0,532	0,852

Source: Processed data using SmartPLS 4 (2026)

Discriminant validity assessment using the Fornell–Larcker approach revealed that every latent variable's AVE square root exceeded its associations with alternative constructs, demonstrating clear conceptual separation among measurements in the proposed model. Additional evaluation was conducted through the Heterotrait–Monotrait Ratio (HTMT) analysis to strengthen the validity assessment. All HTMT coefficients remained under the 0.90 benchmark, confirming acceptable discriminant validity across constructs. Detailed outcomes of this examination are displayed in Table 5 & 6 and provide empirical evidence supporting the robustness of the measurement framework context.

Table 5. Cross loading test results

Indicator	Work Readiness (Y)	Personal Qualities (Z)	Teamwork (X1)	Problem Solving Skills (X2)
KK.1	0,904	0,559	0,618	0,662
KK.2	0,878	0,543	0,589	0,589
KK.3	0,843	0,568	0,659	0,611
KK.4	0,827	0,609	0,645	0,655
KK.5	0,878	0,612	0,681	0,659
KK.6	0,915	0,616	0,651	0,694
KK.7	0,911	0,543	0,621	0,666
KK.8	0,904	0,598	0,661	0,676
KK.9	0,893	0,562	0,604	0,674
KK.10	0,823	0,574	0,610	0,564
KP.1	0,558	0,881	0,424	0,426
KP.2	0,584	0,846	0,457	0,376
KP.3	0,609	0,845	0,398	0,464
KP.4	0,529	0,836	0,411	0,375
KP.5	0,545	0,881	0,460	0,452
KP.6	0,557	0,849	0,411	0,496
KT.1	0,588	0,450	0,723	0,464
KT.2	0,583	0,422	0,843	0,409
KT.3	0,590	0,364	0,828	0,427
KT.4	0,541	0,343	0,833	0,435
KT.5	0,617	0,427	0,867	0,383
KT.6	0,652	0,409	0,836	0,383
KT.7	0,591	0,446	0,814	0,506
KT.8	0,531	0,377	0,824	0,464
KT.9	0,632	0,403	0,800	0,458
KT.10	0,580	0,424	0,834	0,405
KT.11	0,589	0,420	0,806	0,457
KT.12	0,639	0,440	0,886	0,482
PM.1	0,632	0,473	0,490	0,873
PM.2	0,528	0,361	0,383	0,839
PM.3	0,674	0,428	0,450	0,847
PM.4	0,645	0,456	0,479	0,835
PM.5	0,585	0,374	0,416	0,856
PM.6	0,677	0,470	0,487	0,864

Source: Processed data using SmartPLS 4 (2026)

Table 5 presents the cross-loading results used to assess discriminant validity at the indicator level. The findings indicate that each indicator exhibits its highest loading on the construct it is intended to measure compared with the remaining constructs. Specifically, the indicators of Work Readiness (WR1–WR10) load highest on the Work Readiness construct (0.823–0.915), Personal Qualities indicators (PQ1–PQ6) load highest on Personal Qualities (0.836–0.881), Teamwork indicators (TW1–TW12) load highest on Teamwork (0.723–0.886), and Problem-Solving indicators (PS1–PS6) load highest on Problem-Solving (0.835–0.873). These results satisfy the cross-loading criterion for discriminant validity, indicating that each indicator is more strongly associated with its intended latent construct than with any other construct in the model. This finding confirms that the measurement instrument demonstrates adequate construct distinctiveness, thereby supporting the reliability of the measurement model and providing a sound basis for subsequent structural model analysis.

Table 6. Results of the heterotrait–monotrait ratio (HTMT)

Relationship Between Construct	HTMT Value	Criterion	Status
Personal Qualities (Z) ↔ Work Readiness (Y)	0,695	< 0,90	Valid
Teamwork (X1) ↔ Work Readiness (Y)	0,749	< 0,90	Valid
Teamwork (X1) ↔ Personal Qualities (Z)	0,528	< 0,90	Valid
Problem Solving Skills (X2) ↔ Work Readiness (Y)	0,772	< 0,90	Valid
Problem Solving Skills (X2) ↔ Personal Qualities (Z)	0,540	< 0,90	Valid
Problem Solving Skills (X2) ↔ Teamwork (X1)	0,563	< 0,90	Valid

Source: Processed data using SmartPLS 4 (2026)

The assessment of discriminant validity presented in Table 6 demonstrates that the Heterotrait–Monotrait Ratio (HTMT) coefficients obtained for every latent variable relationship remain within the acceptable range, with values extending from 0.528 to 0.772. Since none of the reported ratios exceed the maximum criterion of 0.90, the measurement model indicates adequate separation among the examined constructs. Consequently, these statistical findings reinforce the validity of construct differentiation and are consistent with the conclusions derived from the Fornell–Larcker criterion analysis.

Structural Model Assessment (Inner Model)

Assessment of the structural framework incorporated R^2 , f^2 , and Q^2 Predict analyses for determining variance explanation, predictor influence, and forecasting accuracy within the model. Findings from this evaluation are presented comprehensively in Table 7, highlighting the outcomes of the structural analysis.

Table 7. Results of the structural model assessment

Assessment	Variable/Relationship	Value	Interpretation
Coefficient of Determination (R^2)	Work Readiness	0.764	Strong
Effect Size (f^2)	Adjusted R^2	0.757	–
	Teamwork → Work Readiness	0.406	Large
	Problem Solving Skills → Work Readiness	0.410	Large
	Personal Qualities → Work Readiness	0.269	Medium
	Personal Qualities × Teamwork → Work Readiness	0.008	Negligible
Predictive Relevance (Q^2 Predict)	Personal Qualities × Problem Solving Skills → Work Readiness	0.003	Negligible
	Work Readiness Indicators (Work Readiness 1–Work Readiness 10)	0.513–0.636	All values > 0, indicating predictive relevance

Source: Processed data using SmartPLS 4 (2026)

Table 7 shows that the structural model has strong explanatory and predictive capabilities. The R^2 value of 0.764 indicates that 76.4% of the variance in *Work Readiness* is explained by *Teamwork*, *Problem Solving Skills*, *Personal Qualities*, and their interaction effects. The f^2 results demonstrate that *Teamwork* and *Problem Solving Skills* have large effects on *Work Readiness*, while *Personal Qualities* has a moderate effect and the interaction terms contribute only negligibly. The positive Q^2 Predict values ranging from 0.513 to 0.636 indicate that the model possesses

satisfactory predictive capability for all indicators of work readiness. This finding implies that the proposed model is not only capable of explaining relationships among constructs but also demonstrates adequate out-of-sample predictive performance. Therefore, teamwork, problem-solving skills, and personal qualities can be considered meaningful predictors of students' work readiness in practical settings.

Hypothesis Testing

The assessment of the proposed structural associations was conducted through the bootstrapping algorithm implemented in SmartPLS 4, which enabled statistical verification of the hypothesized effects. Determination of relationship significance was established by interpreting several inferential indicators, including the Original Sample value representing the path coefficient, t-statistical magnitude, and corresponding p-value. The complete outcomes obtained from the hypothesis examination process are displayed in Table 6.

Table 6. Results of hypothesis testing

Hypothesis	Original Sample (O)	T- Statistics	P- Values	Decision
Teamwork (X1) → Work Readiness (Y)	0,406	7,393	0,000	Accepted
Problem Solving Skills (X2) → Work Readiness (Y)	0,395	7,987	0,000	Accepted
Personal Qualities (Z) → Work Readiness (Y)	0,319	5,211	0,000	Accepted
Personal Qualities × Teamwork → Work Readiness	0,053	0,838	0,201	Rejected
Personal Qualities × Problem Solving Skills → Work Readiness	0,039	0,599	0,275	Rejected

Source: Processed data using SmartPLS 4 (2026)

Table 6 shows that Teamwork, Problem-Solving Skills, and Personal Qualities have significant positive effects on Work Readiness, as indicated by positive path coefficients, t-statistics greater than 1.96, and p-values below 0.05. These findings suggest that students with stronger teamwork competencies, better problem-solving skills, and higher personal qualities tend to demonstrate greater readiness to enter the workforce. Among the three direct relationships, Teamwork ($\beta = 0.406$) exhibits the strongest positive effect, followed by Problem-Solving Skills ($\beta = 0.395$) and Personal Qualities ($\beta = 0.319$), highlighting the important role of employability skills in preparing midwifery students for professional practice. In contrast, the interaction effects of Personal Qualities × Teamwork ($\beta = 0.053$, $p = 0.201$) and Personal Qualities × Problem-Solving Skills ($\beta = 0.039$, $p = 0.275$) are not statistically significant, indicating that Personal Qualities do not strengthen or weaken the relationships between Teamwork, Problem-Solving Skills, and Work Readiness. One possible explanation is that Personal Qualities function as an independent predictor rather than a moderating factor, contributing directly to students' work readiness regardless of their levels of teamwork or problem-solving ability. Additionally, the relatively homogeneous characteristics of the respondents, who shared similar educational backgrounds and clinical learning experiences, may have reduced the variability required to detect significant interaction effects. Therefore, while the direct effects proposed in the model are supported, the moderating role of Personal Qualities is not empirically confirmed in this study.

Discussion

The Effect of Teamwork on Work Readiness

The hypothesis testing results indicate that Teamwork has a positive and significant effect on Work Readiness, supporting the first hypothesis. This finding suggests that students with stronger teamwork competencies are better prepared to enter professional practice because they are more capable of communicating, coordinating responsibilities, and collaborating effectively in multidisciplinary healthcare teams. Within the context of midwifery education, teamwork is continuously developed through collaborative learning, laboratory simulations, and clinical placements, where students work closely with lecturers, clinical supervisors, midwives, nurses, and other healthcare professionals. These learning experiences enable students to apply teamwork skills in authentic clinical situations, thereby strengthening their readiness for employment. This finding supports the Employability Skills Theory (Darmawang, 2023), which identifies teamwork as a core employability competency, and is consistent with the studies of Nudelman et al. (2022) and

Bawazir and Suhana (2023). The results imply that higher education institutions should further integrate collaborative and interprofessional learning into the curriculum to improve graduates' employability and professional readiness.

The Effect of Problem Solving Skills on Work Readiness

The results demonstrate that Problem-Solving Skills have a positive and significant effect on Work Readiness, confirming the second hypothesis. Students with stronger analytical thinking and decision-making abilities are more capable of addressing complex clinical situations and adapting to workplace challenges. This relationship is particularly relevant in midwifery education, where students routinely encounter case-based learning, simulations, and clinical practice requiring rapid assessment and appropriate decision-making. These experiences strengthen their ability to translate theoretical knowledge into professional practice, thereby improving work readiness. The findings are consistent with the Employability Skills Theory (Darmawang, 2023) and supported by Umar (2024) and Asaria and Mansyur (2024), who emphasized the importance of problem-solving competence in preparing graduates for the labor market. Academically, this study reinforces the role of problem-solving as a key employability competency, while practically it highlights the need for universities to strengthen case-based learning and clinical simulations throughout the curriculum.

The Effect of Personal Qualities on Work Readiness

The findings indicate that Personal Qualities positively and significantly influence Work Readiness, supporting the third hypothesis. Students who demonstrate responsibility, adaptability, discipline, self-confidence, and self-management are more likely to be prepared for professional practice because these characteristics enable them to cope with workplace demands and perform effectively in clinical environments. In midwifery education, these qualities are developed not only through classroom instruction but also through clinical placements that require ethical behaviour, professional responsibility, and emotional resilience. This finding supports the Employability Skills Theory (Darmawang, 2023) and is consistent with Chen (2024) and Liana and Putra (2022), who emphasized the importance of individual attributes in improving professional outcomes. The findings suggest that universities should complement technical competency development with character education and professional ethics to produce graduates who are both technically competent and professionally prepared.

The Moderating Role of Personal Qualities on the Relationship between Teamwork and Work Readiness

The results reveal that Personal Qualities do not significantly moderate the relationship between Teamwork and Work Readiness, leading to the rejection of the fourth hypothesis. This finding suggests that teamwork contributes to students' work readiness regardless of differences in their personal qualities. A possible explanation is that teamwork has become a fundamental competency developed through collaborative learning and clinical practice experienced by all respondents, thereby reducing the influence of personal characteristics on this relationship. Although this finding differs from Zhang and Hao (2022), it remains consistent with the Employability Skills Theory (Darmawang, 2023), which suggests that employability competencies may contribute independently rather than interactively. This non-significant moderation provides an important theoretical contribution by indicating that Personal Qualities function as a direct predictor of work readiness rather than as a factor strengthening the effect of teamwork. Therefore, universities should continue developing teamwork and personal qualities simultaneously as complementary competencies.

The Moderating Role of Personal Qualities on the Effect of Problem Solving on Work Readiness

The findings show that Personal Qualities do not significantly moderate the relationship between Problem-Solving Skills and Work Readiness, resulting in the rejection of the fifth hypothesis. This indicates that problem-solving skills contribute directly to students' work readiness regardless of their level of personal qualities. One possible explanation is that problem-solving competence is primarily developed through standardized educational experiences, including case-

based learning, simulation, and supervised clinical practice, allowing students to acquire similar levels of analytical competence irrespective of individual characteristics. Although this result differs from Pitaloka (2022), it supports the Employability Skills Theory (Darmawang, 2023), which argues that employability competencies may influence work readiness independently. The absence of a moderating effect represents an important contribution of this study by demonstrating that Personal Qualities enhance work readiness directly rather than strengthening the effect of problem-solving skills. Practically, higher education institutions should continue developing both competencies through integrated but complementary learning strategies.

4. CONCLUSION

Based on the results of the data analysis and hypothesis testing, it can be concluded that teamwork, problem-solving skills, and Personal Qualities have a positive and significant direct effect on the work readiness of Diploma III Midwifery students, whereas Personal Qualities do not significantly moderate the relationships between teamwork and work readiness or between problem-solving skills and work readiness. These findings indicate that teamwork, problem-solving skills, and Personal Qualities contribute independently to improving students' work readiness. This study contributes to the development of the Employability Skills Theory by providing empirical evidence that, in the context of midwifery education, employability competencies function primarily as direct predictors of work readiness rather than through moderating mechanisms, thereby addressing the existing empirical gap regarding the role of Personal Qualities as a moderating variable. Practically, the findings imply that higher education institutions should strengthen teamwork, problem-solving skills, and Personal Qualities through collaborative learning, case-based learning, simulation-based education, and clinical practice, while curriculum developers and policymakers, including the Ministry of Higher Education and midwifery education associations, may use these findings to reinforce graduate competency standards that integrate employability skills with technical competencies. In clinical practice, strengthening these competencies is expected to improve collaboration within multidisciplinary healthcare teams and support more effective clinical decision-making, ultimately enhancing the quality of midwifery services. This study is limited by its focus on students from a single study program and the use of a cross-sectional survey design, which may limit the generalizability of the findings and prevent causal inference. Therefore, future research is recommended to include additional variables, such as self-efficacy, communication skills, emotional intelligence, and clinical practice experience, while involving broader samples from different institutions and employing longitudinal or mixed-method approaches to provide a more comprehensive understanding of students' work readiness.

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