

Pathways to Perceived Employability Among Higher Education and TVET Graduates: A PIs-Sem Analysis

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ABSTRACT - This study investigates the pathways influencing perceived employability among Bachelor of Technology and Livelihood Education (BTLEd) graduates, majoring in Home Economics, from 2019 to 2023 at Biliran Province State University. Using Partial Least Squares Structural Equation Modeling (PLS-SEM), the study examined relationships among educational experiences, TVET-aligned competencies, and work readiness in shaping perceived employability. The respondents were 76 BTLEd Home Economics graduates, surveyed using a self-administered questionnaire measuring educational experience, TVET competencies, work readiness, and perceived employability on a 5-point Likert scale. Descriptive analysis revealed high levels of educational satisfaction, competency acquisition, work readiness, and perceived employability. PLS-SEM results showed that both educational experience ($\beta = 0.35$, $p < 0.01$) and TVET competencies ($\beta = 0.40$, $p < 0.01$) significantly predict perceived employability. Work readiness partially mediated these relationships, highlighting its critical role in enhancing employability perceptions. The findings suggest that integrating practical skills and adaptive readiness into Home Economics programs strengthens graduates' perceived employability, providing insights for curriculum development, policy formulation, and career guidance.

INTRODUCTION

Graduate employability has increasingly become a major concern for both higher education (HE) institutions and Technical-Vocational Education and Training (TVET) programs worldwide. Employability is defined not only as the ability to secure employment but also as the capacity to sustain and develop one's career in a dynamic labor market (Fugate et al., 2004). For graduates in specialized fields such as Home Economics under the Bachelor of Technology and Livelihood Education (BTLEd) program, employability requires a combination of theoretical knowledge, practical skills, and workplace adaptability. These graduates are expected to demonstrate proficiency in areas such as Cookery, Baking, Housekeeping, Dressmaking, and Entrepreneurship, aligning with the dual objectives of HE and TVET frameworks (Gonzales et al., 2022).

The Philippine education system has emphasized competency-based learning to enhance the employability of graduates (CHED, 2020). Competency-based education ensures that learners acquire not only academic knowledge but also practical skills directly relevant to industry demands. For Home Economics graduates, this means bridging classroom learning with real-world applications such as catering, textile production, or small business management. Despite these efforts, studies suggest a persistent gap between graduates' perceived employability and actual labor market requirements (Reyes, 2021). This gap underscores the need for research to identify the factors that contribute to perceived employability, particularly the role of work readiness and TVET competencies.

Perceived employability reflects a graduate's confidence in their ability to obtain employment in their field of study. Recent studies indicate that both educational experience and vocational skills influence these perceptions (Lee et al., 2021). Educational experiences, including curriculum quality, teaching strategies, and support systems, contribute to the acquisition of critical thinking, problem-solving, and soft skills necessary for employment. Meanwhile, TVET competencies ensure that graduates are technically prepared to meet specific industry standards, thereby enhancing their marketability.

Work readiness, as defined by employability frameworks, encompasses self-efficacy, adaptability, interpersonal skills, and professional ethics (Fugate et al., 2004; Fernandez & Tan, 2022). It is increasingly recognized as a key mediator between acquired skills and actual employability outcomes. Graduates who are well-prepared for the workplace are more likely to perceive themselves as employable, highlighting the need to integrate readiness programs into BTLEd curricula.

This study aims to examine the pathways influencing perceived employability among BTLEd Home Economics graduates of Biliran Province State University, from 2019 to 2023, with particular focus on the relationships among educational experience, TVET competencies, work readiness, and perceived employability. Understanding these pathways will inform curriculum improvements, policy formulation, and strategies to enhance graduate employability in the local context.

THEORETICAL FRAMEWORK

This study is grounded in Human Capital Theory (Becker, 1964) and Career Construction Theory (Savickas, 2005). Human Capital Theory posits that investments in education and skill development increase an individual's economic value and employability. Applied to Home Economics graduates, the theory suggests that both higher education coursework and TVET-aligned competencies enhance labor market readiness by equipping students with relevant knowledge and technical skills.

Career Construction Theory emphasizes adaptability and self-perceived readiness in navigating career paths. According to this theory, employability is not solely a function of skills but also of graduates' confidence, career adaptability, and resilience in the face of labor market changes (Savickas, 2005). This perspective aligns with the current study's focus on work readiness as a mediating variable between competencies and perceived employability.

Previous studies integrating these theories suggest that graduates' perceptions of employability are shaped by both tangible skills (technical, vocational, and academic) and intangible factors such as adaptability, self-efficacy, and professional identity (Lee et al., 2021; Fernandez & Tan, 2022). Hence, combining Human Capital Theory with Career Construction Theory provides a comprehensive framework to understand the pathways through which educational experiences and TVET competencies influence perceived employability.

CONCEPTUAL FRAMEWORK

Figure 1 presents the study's structural model, showing that Educational Experience (EE) and TVET Competencies (TC) influence Workplace Readiness (WR), which in turn affects Perceived Employability (PE). EE and TC also have direct effects on PE, while WR partially mediates these relationships. This

model highlights that both academic quality and technical skills, together with workplace preparedness, play key roles in enhancing graduates' perceived employability.

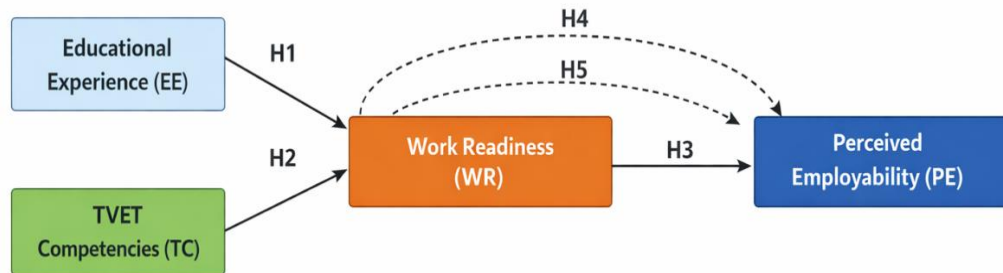


Figure 1. Structural Model

LITERATURE REVIEW

Research on graduate employability emphasizes the importance of combining academic and vocational competencies. Fernandez and Tan (2022) argue that competency-based programs enhance employability by integrating theoretical knowledge with hands-on skills. In the Philippine context, BTLED Home Economics graduates require both technical mastery and work readiness to meet labor market demands (Gonzales et al., 2022).

Educational experiences contribute to employability by developing cognitive and soft skills. Reyes (2021) highlights that graduates who perceive their curriculum as relevant report higher confidence in career readiness. Similarly, Lee et al. (2021) found that work readiness mediates the relationship between skill acquisition and employability perceptions, underscoring the need to incorporate adaptability, problem-solving, and professional behaviors into training programs.

TVET competencies, including practical skills in cooking, housekeeping, dressmaking, and entrepreneurship, have been consistently linked to enhanced employability (CHED, 2020). Graduates who acquire these skills are better prepared for both employment and entrepreneurship opportunities, increasing their perceived and actual employability.

Work readiness is central to perceived employability. Fugate et al. (2004) define work readiness as a combination of personal adaptability, self-efficacy, and motivation, which enables graduates to effectively transition to the workplace. This mediating role is critical, as even highly skilled graduates may perceive lower employability without confidence in their readiness to apply skills in real-world contexts.

By integrating educational experiences, TVET competencies, and work readiness, this study builds on existing literature to identify key pathways influencing perceived employability among BTLED Home Economics graduates. It addresses a research gap in combining HE and TVET perspectives within the local Philippine context, providing actionable insights for curriculum development and policy formulation.

METHODS AND MATERIALS

4.1 Research Design

This study used a quantitative research design to examine the relationships among Educational Experience (EE), Technical Competence (TC), Workplace Readiness (WR), and Perceived Employability (PE). Partial Least Squares Structural Equation Modeling (PLS-SEM) was employed to

analyze both the measurement and structural models. PLS-SEM is appropriate for small sample sizes and complex models and does not require strict normality assumptions (Hair et al., 2023).

4.2 Respondents

The respondents were 76 graduates of the Bachelor of Technology and Livelihood Education (BTLEd) major in Home Economics from Biliran Province State University who graduated between 2019 and 2023. They were selected through purposive sampling to ensure that only graduates relevant to the study objectives were included.

4.3 Instrumentation

A self-administered questionnaire was utilized as the primary data-gathering instrument of the study. The instrument measured four major constructs: Educational Experience (EE), which covered curriculum satisfaction and academic support; Technical Competence (TC), which assessed skills in Cookery, Dressmaking, Baking, Housekeeping, and Entrepreneurship; Workplace Readiness (WR), which included self-efficacy, adaptability, and workplace preparation; and Perceived Employability (PE), which focused on graduates' perceptions of their employability. All items were rated using a 5-point Likert scale ranging from strongly disagree to strongly agree. The reliability and validity of the instrument were established through Cronbach's alpha to determine internal consistency and through Partial Least Squares Structural Equation Modeling (PLS-SEM) measurement model evaluation to ensure construct validity.

4.4 Data Collection Procedure

Data were collected by contacting graduates through email, social media, and alumni networks. Participation was voluntary, and informed consent was obtained from all respondents. The data collection period lasted for two weeks.

4.5 Data Analysis

Descriptive statistics were used to summarize the levels of each construct. Partial Least Squares Structural Equation Modeling (PLS-SEM) was employed to examine structural relationships and mediation effects, with significance testing performed using 5,000 bootstrap resamples.

RESULTS AND DISCUSSION

5.1 Descriptive Statistics

The descriptive statistics indicate that all constructs were rated high by the respondents as shows in Table 1. Educational Experience (EE) obtained the highest mean ($M = 4.21$, $SD = 0.56$), followed by Perceived Employability (PE) ($M = 4.12$, $SD = 0.57$), Work Readiness (WR) ($M = 4.10$, $SD = 0.58$), and TVET Competencies (TC) ($M = 4.05$, $SD = 0.60$). The relatively low standard deviations suggest consistent responses among graduates. The results imply that respondents positively evaluated their educational experience, technical competencies, workplace readiness, and perceived employability.

Table 1. Descriptive statistics

Construct	Mean	SD	Interpretation
Educational Experience (EE)	4.21	0.56	High
TVET Competencies (TC)	4.05	0.60	High
Work Readiness (WR)	4.10	0.58	High
Perceived Employability (PE)	4.12	0.57	High

5.2 PLS-SEM Path Coefficients

The PLS-SEM analysis revealed that all hypothesized paths were statistically significant as shown in Table 2. Educational Experience (EE) had a positive effect on Perceived Employability (PE) ($\beta = 0.35$, $t = 3.45$, $p < 0.01$) and on Workplace Readiness (WR) ($\beta = 0.30$, $t = 2.85$, $p < 0.05$). Similarly, Technical Competence (TC) positively influenced PE ($\beta = 0.40$, $t = 4.12$, $p < 0.01$) and WR ($\beta = 0.38$, $t = 3.92$, $p < 0.01$). Workplace Readiness also significantly affected PE ($\beta = 0.50$, $t = 5.20$, $p < 0.01$). These results indicate that EE and TC contribute to both WR and PE, and that WR plays a strong role in enhancing graduates' perceived employability.

Table 2. PLS-SEM Path Coefficients

Path	β	t-value	p-value	Significance
EE $\rightarrow$ PE	0.35	3.45	<0.01	Significant
TC $\rightarrow$ PE	0.40	4.12	<0.01	Significant
EE $\rightarrow$ WR	0.30	2.85	<0.05	Significant
TC $\rightarrow$ WR	0.38	3.92	<0.01	Significant
WR $\rightarrow$ PE	0.50	5.20	<0.01	Significant

5.3 Mediation Effects

The mediation analysis showed that Workplace Readiness (WR) partially mediates the relationships between the predictors and Perceived Employability (PE). Specifically, the indirect effect of Educational Experience (EE) on PE through WR was significant ($\beta = 0.15$, $t = 2.10$, $p < 0.05$), and the indirect effect of Technical Competence (TC) on PE through WR was also significant ($\beta = 0.20$, $t = 2.75$, $p < 0.05$). These results suggest that WR serves as an important pathway through which both EE and TC enhance graduates' perceived employability as shown in Table 3.

Table 3. Mediation effects

Indirect Path	β	t-value	p-value
EE $\rightarrow$ WR $\rightarrow$ PE	0.15	2.10	<0.05
TC $\rightarrow$ WR $\rightarrow$ PE	0.20	2.75	<0.05

5.4 Model Fit

The model demonstrated a strong fit, with the coefficient of determination (R^2) for Perceived Employability (PE) equal to 0.68. This indicates that 68% of the variance in PE is explained by Educational Experience (EE), Technical Competence (TC), and Workplace Readiness (WR), suggesting that the model has substantial explanatory power. Table 4 shows the Model fit.

Table 4. Model Fit

Construct	R^2
Perceived Employability (PE)	0.68

CONCLUSIONS

The study concludes that Educational Experience (EE) and Technical Competence (TC) significantly influence Workplace Readiness (WR) and Perceived Employability (PE) among BTLED Home Economics graduates. Workplace Readiness was found to partially mediate the relationship between EE and PE, as well as between TC and PE, highlighting its crucial role in translating educational and technical skills into employability outcomes. Overall, the model explained a substantial portion of the variance in graduates' perceived employability ($R^2 = 0.68$), indicating that a well-rounded curriculum, strong technical skills, and preparedness for the workplace collectively enhance graduates'

employability perceptions. These findings underscore the importance of integrating academic support, skill development, and workplace readiness initiatives in higher education programs to better equip graduates for employment.

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CONFLICT OF INTEREST

The author declares no conflict of interest in conducting this research.

AUTHORS CONTRIBUTION

The author was solely responsible for the conceptualization, data collection, analysis, and manuscript preparation.

AVAILABILITY OF DATA AND MATERIALS

Data available on request from the corresponding author. The datasets generated and/or analyzed during the current study are not publicly available because they contain information that could compromise participant confidentiality but are available from the corresponding author upon reasonable request.

DECLARATION OF GENERATIVE AI

During the preparation of this work, the authors used ChatGPT (OpenAI) to enhance the clarity, grammar, organization, and readability of the manuscript. After using ChatGPT, the authors carefully reviewed, revised, and edited all content and take full responsibility for the accuracy, originality, and integrity of the manuscript.

ETHICAL CONSIDERATIONS

This study involved human participants. Prior to data collection, informed consent was obtained from all respondents. Participation was voluntary, and participants were informed of the purpose of the study, their right to withdraw at any time without penalty, and the confidentiality of their responses. No personally identifiable information was collected, and all data were analyzed and reported in aggregate form to protect participants' privacy.

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