



Indonesia's Labour Absorption Dilemma: Improving Students' Soft Skill Competitiveness Through Education

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Abstract: This study explores how students' soft skills relate to demographic factors such as gender, education, and age, with a specific focus on Indonesia's labour absorption challenges. Using a survey of more than five hundred respondents, the research identifies patterns in how soft skills are perceived and developed among students from diverse backgrounds. The findings reveal that certain competencies—such as communication, teamwork, empathy, and leadership—show significant variation based on gender and educational level, while most soft skills remain relatively stable across age groups. The analysis also highlights strong interrelationships among specific soft skill components, indicating that they function as an integrated set rather than isolated attributes. These insights suggest that higher education institutions should strengthen curriculum design and learning strategies to equip graduates with the soft skills demanded by the labour market. By emphasising inclusive and targeted development of interpersonal competencies, universities can enhance graduate employability and help address the structural gap between education and workforce readiness. This study offers both theoretical insights and practical implications for soft skill development in emerging economies such as Indonesia.

Keyword: Soft Skills; Higher Education; Gender Differences; Employability

Introduction

As organisations navigate rapid change and intense competition, the demand for graduates with robust interpersonal and adaptive skills—commonly referred to as soft skills—has increased significantly. Soft skills encompass a range of non-technical competencies, such as effective communication, teamwork, adaptability, and leadership, which are essential for navigating complex professional environments and achieving career progression (Jackson, 2010). Unlike hard skills, which are specific, teachable abilities or knowledge sets, soft skills are more concerned with how individuals interact with others and manage their behaviour in diverse contexts. Succi and Canovi (2019) explore these distinctions by investigating the perceptions of both students and employers across various European countries, revealing that 86% of respondents have observed an increased emphasis on soft skills over the past decade. Their study underscores a misalignment between the soft skills prioritised by employers—namely communication, problem-solving, and adaptability—and students' self-perceptions, highlighting a pressing need for stronger alignment between Higher Education Institutions (HEIs) and industry stakeholders to bridge this gap.

Previous research also emphasises a persistent mismatch between the soft skills possessed by graduates and those demanded by employers, despite long-standing recognition of their importance for employability and professional success (Crossman & Clarke, 2010; Clarke, 2017). Succi's work advances this dialogue by offering a framework for HEIs to recalibrate curricula based on labour market expectations, drawing on validated surveys and HR interviews

to propose actionable reforms in education. Furthermore, research into demographic influences reveals that soft skills, such as empathy, can vary significantly with age—suggesting that aspects like empathic accuracy may decline over time, which points to the relevance of gender differences and age in understanding soft skill development (Wieck et al., 2021).

In the Indonesian context, a pilot study by the International Labour Organisation (ILO, 2018), in partnership with the Alliance of Indonesian Youth (ARI) and Binus University, identified 14 soft skills considered vital by local stakeholders. These include vision setting, professional development, negotiation, creative thinking, critical reasoning, interpersonal communication, and public speaking. Such competencies not only reflect cross-cultural leadership capabilities (Caligiuri & Tarique, 2012), but also highlight the role of targeted developmental interventions in fostering leadership potential among Indonesian youth. This reinforces the importance of systematically integrating soft skills into higher education to equip graduates with relevant and globally competitive abilities. Overall, these findings provide strong empirical support for positioning Soft Skills, Higher Education, Gender Differences, and Employability as central themes in the discourse on preparing students for the complexities of the future workforce.

Literature Review

Theoretical Background

Various demographic factors, notably gender, education, and age, influence the development and manifestation of soft skills. This theoretical background explores these dimensions through the lens of recent empirical studies and established theories.

Soft Skills and Gender

Gender differences in soft skills have been a focal point in organisational behaviour research. A study by Testa et al. (2024) investigated the relationship between perceived value and students' intention to adopt Natural Language Processing (NLP) models, considering gender as a moderating factor. The findings revealed that while a higher perceived value positively influenced the intention to use NLP models for both genders, females were less inclined to adopt these technologies compared with males. This aligns with Gendered Socialisation Theory (GST) (Eagly & Wood, 2002), suggesting that societal norms and expectations shape the development and application of soft skills differently across genders.

Soft Skills and Education

The role of education in enhancing soft skills is well-documented. Holik and Sanda (2021) examined the integration of transferable skills into education and training programmes, focusing on a young women's training programme. The study demonstrated that embedding transferable skills into educational curricula significantly improved participants' competencies, underscoring the importance of educational interventions in soft skills development. This finding resonates with Transformative Learning Theory (TLT) (Mezirow, 2009), which posits that critical reflection and experiential learning within educational settings facilitate profound personal and professional growth.

Soft Skills and Age

Age-related variations in soft skills have garnered attention in organisational studies. Research by Testa et al. (2024) explored the moderating effect of age on the relationship between soft skills and career engagement. The study found that psychological capital mediates this relationship differently across age groups, suggesting that younger and older employees may leverage distinct soft skills to enhance their career engagement. This observation aligns with the Lifespan Theory of Motivation (LTM) (Heckhausen et al., 2010), which suggests that individuals' goals and motivations evolve with age, influencing the development and application of various competencies, including soft skills.

Understanding the interplay between demographic factors and soft skills is crucial for designing effective educational programmes and workplace policies. Gender-specific socialisation patterns, educational interventions, and age-related motivational shifts all contribute to the development and application of soft skills. Future research should continue to explore these dynamics to inform strategies that promote equitable and effective soft skills development across diverse populations.

Hypothesis Development

Soft skills—such as communication, teamwork, and adaptability—are increasingly recognised as essential for success in the modern workforce, often more so than technological or strategic advantages (Dogara et al., 2020; Cortellazzo

et al., 2020; Börner et al., 2018). For school and university graduates, developing these competencies enhances employability and supports organisational effectiveness (Singh & Srivastava, 2014). Unlike hard skills, soft skills are transferable across industries and are vital for navigating interpersonal interactions and leading in diverse environments (CSP Global, 2017; Gnecco et al., 2023). Their importance is further reinforced by studies showing that effective training approaches, such as time-spaced learning, significantly improve performance outcomes (Ibrahim et al., 2017).

Jackson (2010) emphasises the need to align educational outcomes with industry expectations by integrating soft skills into university curricula. Succi & Canovi (2019) found that 86% of employers have increased their focus on soft skills in the past decade, yet students' perceptions often do not match employer expectations—highlighting a persistent skills gap. This gap underscores the importance of stronger collaboration between higher education institutions and industries to cultivate relevant competencies. Studies also emphasise the significance of demographic factors, such as gender, age, and educational background, in shaping perceptions and the development of soft skills (Succi & Canovi, 2019). In the Indonesian context, gender gaps in education—especially in rural areas—remain a challenge, although female literacy rates are improving (Central Bureau of Statistics, 2020). According to McKinsey (2018), achieving gender equality could add \$135 billion to Indonesia's economy by 2025. Meanwhile, unemployment among educated youth suggests a need to reform higher education to emphasise entrepreneurship and soft skills.

Caligiuri & Tarique (2012) highlight the importance of soft skills such as cultural flexibility in preparing future global leaders, while Patacsil & Tablatin (2017) stress teamwork and communication as critical areas often neglected in academic settings. Their study on IT students and industry supervisors confirms that soft skills are just as vital as technical ones in the workplace. In conclusion, the development of soft skills—across gender, education levels, and cultural backgrounds—is essential for enhancing graduate employability and national human capital. Educational institutions must prioritise these skills to meet the evolving demands of the global labour market.

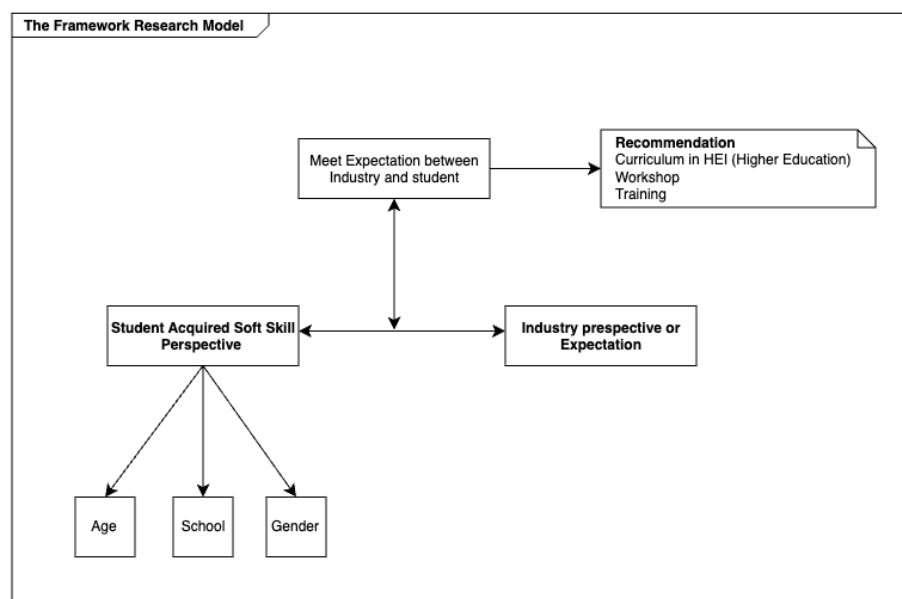


Figure 1. Research Framework

Source: own research, 2025

Given that the conditions discussed relate to the employment outcomes of student graduates and the responsibilities of educational institutions, this article aims to provide a theoretical overview of the soft skills possessed by students and the role of demographic factors, while also examining how these soft skills are interconnected. Accordingly, this study proposes the following hypotheses.

Hypothesis 1: There are significant differences in soft skills component scores across gender, age, and education levels.

Hypothesis 2: There is a significant relationship between soft-skill components based on the Pearson correlation value.

Methodology and Data Collection Process

This research employs a survey-based approach using a structured, self-administered online questionnaire to examine whether gender, age, and education influence students' perceptions of their soft skills and how soft skill components correlate. The study focuses on respondents located in Indonesia and utilises a quantitative research methodology. The study utilized a sample of 509 participants selected from a population of approximately 4 million workers in Indonesia, Central Bureau of Statistics (2020). The sample size of 509 was determined using Slovin's formula and Cochran's theory standards, ensuring a 95% confidence level and a 0,05 margin of error, which is considered robust for a population of this scale (7/8). This quantitative breadth allows for statistically significant comparisons across demographic variables such as gender and education. The questionnaire was administered in two versions, English and Indonesian. It contained 22 items, including demographic questions, and consisted of two sections. Section A gathered information regarding respondents' gender, age, and education to identify how students acquire soft skills across these demographic categories. Section B was designed by the researchers to assess the frequency and relationships among soft-skill components, comprising 22 items measuring different soft skills. A five-point Likert scale was used to measure student responses, adapted from Le Clear, E. A. (2005), and intended to capture perceptions related to school or higher education improvement. Data collection was carried out using structured questionnaires distributed between June and August 2023.

To ensure the rigour and credibility of the findings, several strategies were employed to mitigate internal biases within the collected data, with a specific focus on the qualitative component derived from open-ended survey responses. For the quantitative data, common method bias was addressed through procedural remedies, including respondent anonymity and the psychological separation of items to reduce socially desirable responding. Regarding the qualitative element—which involved thematic analysis of participants' perspectives on soft skill barriers—triangulation of data sources was used to validate emerging themes against quantitative trends. To mitigate researcher bias (reflexivity), an independent peer-review process was conducted during the coding phase, ensuring that interpretations were grounded in the data rather than the researchers' preconceptions. Furthermore, "member checking" principles were applied by cross-referencing initial findings with existing literature on the Indonesian labour market to ensure contextual accuracy. This multi-layered approach to bias mitigation enhances the internal validity of the study, ensuring that the derived conclusions accurately reflect the lived experiences of students and the structural realities of Indonesia's education-to-workforce transition.

Prior to data collection, all respondents were presented with an informed consent statement outlining the purpose, nature, and confidentiality measures of the research. Participants were informed that the study aimed to understand students' soft skill competencies across various demographic dimensions in Indonesia. The consent form emphasised the voluntary nature of participation and assured respondents that their responses would be used solely for academic research purposes and kept strictly confidential.

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Table 1. Correlation

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
1. Professional skills	1																					
2. Language Skills	0,641	1																				
3. IT skills	,565**	,565**	1																			
4. Appearance	,529**	,553**	,443**	1																		
5. Good communication	,647**	,593**	,474**	,578**	1																	
6. Critical thinking	,625**	,551**	,478**	,520**	,762**	1																
7. Leadership	,585**	,565**	,511**	,553**	,730**	,718**	1															
8. Entrepreneurial Skills	,549**	,521**	,504**	,427**	,558**	,640**	,633**	1														
9.Teamwork	,548**	,502**	,381**	,424**	,685**	,618**	,579**	,458**	1													
10. Ethics and Morals	,549**	,526**	,388**	,464**	,640**	,572**	,588**	,436**	,740**	1												
11. Strategic Thinking	,629**	,561**	,438**	,470**	,677**	,707**	,629**	,582**	,685**	,697**	1											
12. Time Management	,587**	,545**	,422**	,442**	,626**	,627**	,561**	,514**	,638**	,649**	,701**	1										
13. Planning and Organisation	,666**	,560**	,449**	,512**	,695**	,687**	,671**	,590**	,614**	,636**	,745**	,710**	1									
14. Communication Skills	,589**	,575**	,451**	,477**	,746**	,631**	,673**	,542**	,720**	,662**	,689**	,679**	,756**	1								
15. Presentation Skills	,631**	,600**	,536**	,489**	,652**	,699**	,646**	,579**	,642**	,590**	,697**	,654**	,699**	,719**	1							
16. Self-awareness	,560**	,495**	,400**	,452**	,643**	,610**	,598**	,462**	,673**	,721**	,651**	,604**	,664**	,634**	,632**	1						
17. Problem Solving	,610**	,575**	,474**	,489**	,684**	,663**	,672**	,541**	,669**	,669**	,700**	,711**	,693**	,745**	,692**	,679**	1					
18. Empathy	,562**	,515**	,428**	,426**	,586**	,567**	,537**	,459**	,667**	,701**	,622**	,650**	,645**	,636**	,618**	,711**	,678**	1				
19. Creativity	,545**	,531**	,471**	,497**	,602**	,643**	,565**	,584**	,618**	,635**	,656**	,665**	,690**	,683**	,670**	,614**	,701**	,710**	1			
20. Flexibility	,615**	,556**	,504**	,460**	,646**	,640**	,581**	,501**	,646**	,626**	,680**	,681**	,723**	,665**	,669**	,692**	,680**	,698**	,742**	1		
21. Stress and Conflict Management	,539**	,476**	,421**	,384**	,586**	,555**	,582**	,495**	,609**	,626**	,640**	,648**	,631**	,622**	,639**	,686**	,670**	,679**	,623**	,678**	1	
22. Emotional Intelligence	,536**	,513**	,417**	,409**	,580**	,566**	,607**	,503**	,623**	,643**	,631**	,629**	,634**	,629**	,633**	,674**	,684**	,631**	,619**	,714**	,783**	1

**Correlation is significant at the 0.01 level (two-tailed) n=509

Source: own creation.

Source: own research, 2025

Research Findings

Descriptive Statistical Analysis

Table 2 presents the descriptive statistics and Pearson product-moment correlations for the soft-skill components measured in this study.

Table 2. Descriptive statistics and Pearson product-moment correlations

	Components of soft skills	Mean scores	Standard deviation
1.	Professional skills	4.56	0.657
2.	Language Skills	4.51	0.614
3.	IT skills	4.34	0.744
4.	Appearance	4.24	0.823
5.	Good communication	4.66	0.555
6.	Critical thinking	4.63	0.579
7.	Leadership	4.55	0.605
8.	Entrepreneurial Skills	4.36	0.712
9.	Teamwork	4.65	0.594
10.	Ethics and Morals	4.71	0.533
11.	Strategic Thinking	4.60	0.596
12.	Time Management	4.61	0.620
13.	Planning and Organisation	4.49	0.635
14.	Communication Skills	4.64	0.549
15.	Presentation Skills	4.55	0.628
16.	Self-awareness	4.58	0.593
17.	Problem Solving	4.63	0.609
18.	Empathy	4.53	0.650
19.	Creativity	4.59	0.611
20.	Flexibility	4.50	0.654
21.	Stress and Conflict Management	4.52	0.644
22.	Emotional Intelligence	4.57	0.657

Source: own research, 2025

Table 2 synthesises the overall contribution of the study, showing that most soft skills—such as empathy, flexibility, and professionalism—are evenly distributed across demographic groups. This interpretation is derived from the relatively uniform mean values in Table 2 (ranging from 4.24 to 4.71) and the strong positive correlations reported in Table 3 ($r > .70$). These results indicate that contextual and personality-related factors may play a greater role in shaping soft skills than demographic characteristics.

Correlation analysis confirmed the study's hypotheses by showing strong positive relationships among the soft-skill variables. Stress and conflict management had the strongest association with emotional intelligence ($r = .783$, $p < .05$), followed by flexibility with creativity, planning with communication, teamwork with ethics, communication with public speaking, and strategic thinking with planning—each exceeding .70 and therefore indicating strong connections (Stellefson et al., 2008). Emotional intelligence and planning/organisation emerged as core competencies that are linked to a wide range of other skills. These findings suggest that soft skills are highly interconnected, and that developing them holistically is more effective than addressing them individually. Strengthening these key competencies can significantly enhance performance, leadership, and collaboration.

Table 3. Top 6 soft skills that are most positively related to each other

Components of soft skills	Coefficient correlation
1. Stress and Conflict Management with Emotional Intelligence	0.783
2. Flexibility with Creativity	0.742
3. Planning and Organisation with Communication Skills	0.756
4. Teamwork with Ethic and Morals	0.740
5. Good communication with Communication skills/Public speaking	0.746
6. Strategic thinking with Planning and Organisation	0.745

Source: own research, 2025

Inferential Statistical Analysis

Gender-Based Research Findings

As indicated in Table 3, soft skills showing significant differences suggest potential areas where gender may play a role. These areas could be explored further to design interventions or training programmes tailored by gender. However, non-significant skills indicate areas in which both genders may have similar strengths, allowing for a uniform approach to training and development. This study examines gender differences across a wide range of soft skills. Significant skills (gender-based differences identified) include IT skills, appearance, good communication skills, teamwork, ethics and morals, time management, presentation skills, and empathy. On the other hand, non-significant skills (no gender-based differences) include leadership, critical thinking, language skills, problem-solving, creativity, emotional intelligence, and several others. Using a t-test, we evaluated whether specific soft skills differed significantly between gender groups. The analysis produced t-values and one-sided p-values for each component, enabling the interpretation of statistically significant gender differences at a threshold of $p < 0.05$.

Table 4. Correlation Coefficient of Student's Soft Skill Based on Gender

Components of soft skills	Code	t-value	Significant One side-p value	Conclusion
Professional skills	8_ProfS	-0.757	0.225	Bad
Language Skills	8_LangS	-1.53	0.063	Bad
IT skills	8_IT	-2.991	0.001	Good
Appearance	8_Ap	-1.859	0.032	Good
Good communication	8_GCS	-2.212	0.014	Good
Critical thinking	8_CT	-0.949	0.171	Bad
Leadership	8_LeadS	-0.842	0.200	Bad
Entrepreneurial Skills	8_ES	-1.183	0.119	Bad
Teamwork	8_Ab	-2.242	0.013	Good
Ethics and Morals	8_EMS	-2.481	0.007	Good
Strategic Thinking	8_ST	-1.281	0.100	Bad
Time Management	8_TM	-1.69	0.046	Good
Planning and Organisation	8_POS	-1.273	0.102	Bad
Communication Skills	8_CS	-2.333	0.010	Good
Presentation Skills	8_PresS	-0.701	0.242	Bad
Self-awareness	8_SA	-0.698	0.243	Bad
Problem Solving	8_ProbS	-1.399	0.081	Bad
Empathy	8_Emp	-2.111	0.018	Good
Creativity	8_Crea	-1.35	0.089	Bad
Flexibility	8_Flex	-0.459	0.323	Bad
Stress and Conflict Management	8_Stress	-0.362	0.359	Bad
Emotional Intelligence	8_EI	-0.193	0.423	Bad

Source: own research, 2025

Table 4 elaborates on gender-based differences in certain competencies, including IT skills, communication, teamwork, ethics, and empathy. The evidence comes from the t-test results in Table 4, which reveal statistically significant differences ($p < .05$) for these components. The discussion highlights that such disparities may arise from sociocultural or occupational factors, and that inclusive training approaches are needed to address these inequalities. The t-test results show that some soft skills display significant gender differences, while others do not. Notably, IT skills ($t = -2.991$, $p = 0.001$), communication skills ($t = -2.333$, $p = 0.010$), teamwork ($t = -2.242$, $p = 0.013$), ethics and morals ($t = -2.481$, $p = 0.007$), appearance skills ($t = -1.859$, $p = 0.032$), and empathy ($t = -2.111$, $p = 0.018$) show statistically significant gender differences, suggesting that gender may influence proficiency in these areas. Time management ($t = -1.69$, $p = 0.046$) also shows a marginally significant difference. In contrast, no significant gender differences were found in professional skills, critical thinking, leadership, entrepreneurial skills, strategic thinking, creativity, flexibility, stress and conflict management, emotional intelligence, presentation skills, planning and organisation, or self-awareness. Language skills and problem-solving approach significance but do not meet conventional thresholds. These findings indicate that gender may play a role in the development or expression of certain soft skills, while others appear to be more evenly distributed. This underscores the importance of considering gender dynamics in skill development initiatives and tailoring educational or training programmes to address potential disparities.

Education Based Research Findings

As presented in Table 4, the analysis examines various soft-skill components based on mean scores, Levene's test statistics for homogeneity of variances, and their corresponding significance values. The components are evaluated to determine differences in variances and their significance levels, categorizing the results as either "Good" (no significant difference, $p \geq 0.05$) or "Bad" (significant difference, $p < 0.05$). Components such as professional skills, language skills, and IT skills demonstrate non-significant variance differences, indicated by their higher p-values. Conversely, components such as critical thinking, good communication, leadership, and ethics and morals show significant variance differences, suggesting that these soft skills may vary across groups or conditions. These findings offer insights into which soft skills exhibit greater consistency and which may require more tailored interventions or focused improvement strategies.

Table 5. Correlation Coefficient of Students' Soft Skill Based on Education

Components of soft skills	Code	Mean scores	Lavene's statistic*	sig**	Conclusion
Professional skills	8_ProfS	4.56	2.134	0.075	Good
Language Skills	8_LangS	4.51	1.636	0.164	Good
IT skills	8_IT	4.34	1.801	0.127	Good
Appearance	8_Ap	4.24	0.964	0.427	Good
Good communication	8_GCS	4.66	5.891	0.001	Bad
Critical thinking	8_CT	4.63	4.036	0.003	Bad
Leadership	8_LeadS	4.55	4.764	0.001	Bad
Entrepreneurial Skills	8_ES	4.36	1.567	0.182	Good
Teamwork	8_Ab	4.65	3.248	0.120	Good
Ethics and Morals	8_EMS	4.71	3.466	0.008	Bad
Strategic Thinking	8_ST	4.60	3.097	0.016	Bad
Time Management	8_TM	4.61	2.977	0.019	Bad
Planning and Organisation	8_POS	4.49	1.608	0.171	Good
Communication Skills	8_CS	4.64	2.666	0.032	Bad
Presentation Skills	8_PresS	4.55	1.429	0.223	Good
Self-awareness	8_SA	4.58	6.248	0.001	Bad
Problem Solving	8_ProbS	4.63	2.513	0.041	Bad
Empathy	8_Emp	4.53	2.224	0.065	Good
Creativity	8_Crea	4.59	4.892	0.001	Bad
Flexibility	8_Flex	4.50	4.172	0.002	Bad
Stress and Conflict Management	8_Stress	4.52	3.752	0.005	Bad
Emotional Intelligence	8_EI	4.57	1.826	0.122	Good

Source: own research, 2025

Table 5 discusses how education significantly influences specific soft skills, such as critical thinking, leadership, communication, and ethics. These findings correspond to the Levene's test results in Table 5, which report

significant variance ($p < .05$) across education levels. This suggests that formal education environments play a transformative role in developing higher-order cognitive and interpersonal abilities.

The Levene's test results indicate that several soft skills—such as communication, critical thinking, leadership, ethics and morals, strategic thinking, time management, self-awareness, problem-solving, creativity, flexibility, and stress/conflict management—show significant variance based on education level, suggesting that these abilities may be shaped or enhanced through formal education. In contrast, skills such as professional conduct, language proficiency, IT skills, appearance, teamwork, entrepreneurial ability, planning and organisation, presentation, emotional intelligence, and empathy show no or only marginal educational variance, indicating that they may be influenced by factors beyond schooling. These findings suggest that education plays a critical role in the development of particular soft skills, particularly those related to communication, leadership, and higher-order thinking, and reinforce the need to incorporate targeted soft skills training into academic curricula to better prepare students for professional environments.

Age-Based Research Findings

As elaborated in Table 5, the findings provide an overview of the homogeneity of variances and ANOVA results for different components of soft skills across age groups. The table presents mean scores for each soft skill, the results of Levene's test for homogeneity of variances (statistic and significance values), and the significance values from the ANOVA. Skills with non-significant Levene's test outcomes ($p \geq 0.05$) demonstrate homogeneity of variances across age groups, whereas those with significant values ($p < 0.05$) indicate potential variability. For example, critical thinking and self-awareness show significant variance differences, as indicated by their p-values of 0.029 and 0.044 respectively. Meanwhile, the ANOVA results highlight which soft skills display significant differences in mean scores among age groups, providing insights into age-related variations in soft skill proficiency.

Table 6. Correlation Coefficient of Students' Soft Skill Based on Age

Components of soft skills	Code	Mean scores	Lavene's statistic*	sig	ANNOVA/sig
Professional skills	8_ProfS	4.56	0.921	0.430	0.954
Language Skills	8_LangS	4.51	1.169	0.321	0.990
IT skills	8_IT	4.34	0.423	0.737	0.166
Appearance	8_Ap	4.24	2.01	0.112	0.727
Good communication	8_GCS	4.66	0.592	0.620	0.922
Critical thinking	8_CT	4.63	3.027	0.029	0.574
Leadership	8_LeadS	4.55	0.289	0.833	0.799
Entrepreneurial Skills	8_ES	4.36	0.881	0.451	0.273
Teamwork	8_Ab	4.65	0.516	0.672	0.862
Ethics and Morals	8_EMS	4.71	0.797	0.496	0.904
Strategic Thinking	8_ST	4.60	1.574	0.195	0.873
Time Management	8_TM	4.61	0.623	0.600	0.699
Planning and Organisation	8_POS	4.49	0.607	0.611	0.878
Communication Skills	8_CS	4.64	0.394	0.757	0.983
Presentation Skills	8_PresS	4.55	0.564	0.639	0.846
Self-awareness	8_SA	4.58	2.714	0.044	0.452
Problem Solving	8_ProbS	4.63	0.435	0.728	0.990
Empathy	8_Emp	4.53	0.194	0.900	0.804
Creativity	8_Crea	4.59	1.987	0.115	0.422
Flexibility	8_Flex	4.50	0.439	0.725	0.581
Stress and Conflict Management	8_Stress	4.52	1.36	0.254	0.772
Emotional Intelligence	8_EI	4.57	0.18	0.910	0.995

Source: own research, 2025

Table 6 draws on the results of the Levene's test and ANOVA, which show that most soft skills do not vary significantly across age groups ($p \geq .05$), apart for minor variations in critical thinking and self-awareness. The analysis indicates that soft skills remain relatively stable with age, supporting the notion that lifelong learning and reflective experience contribute to maintaining and refining these competencies over time. This study employed Levene's test and ANOVA to examine the effect of age on soft skills, using a significance threshold of $p < 0.05$. The findings reveal that most soft skill components—including professional skills, language skills, IT skills, appearance, communication, leadership, entrepreneurial, teamwork, ethics, strategic thinking, time management, planning and organisation, presentation, problem-solving, empathy, creativity, flexibility, stress management, and emotional intelligence—do not differ significantly by age. Although critical thinking and self-awareness showed significant variance in Levene's test, the ANOVA results did not identify meaningful differences in mean scores, suggesting some variability in how these skills are distributed across age groups. Overall, the results indicate that soft skills remain relatively stable across age, reinforcing the idea that age is not a strong predictor of competence and that soft skill development can occur throughout the lifespan.

Discussion and Conclusion

The paper demonstrates that students' soft skills significantly contribute to addressing demographic gaps related to gender, education, and age.

Gender

The analysis reveals gender-based differences in several key soft skills, particularly IT, communication, and presentation abilities. Research suggests that male-dominated job roles often emphasise technical skills, contributing to gaps in IT competencies (Calanca et al., 2019), while women's more expressive writing styles may enhance communication effectiveness (Levitskaya et al., 2022). These differences likely reflect broader social and cultural influences within contexts such as Indonesia (Rahmi et al., 2023; Setiati, 2023; McKinsey, 2018). In contrast, skills such as critical thinking, leadership, emotional intelligence, and stress management appear to be evenly distributed across genders, indicating that they may be less influenced by gender-related factors (Bosson et al., 2021; Siddiq & Scherer, 2019). These insights emphasise the importance of understanding how gender shapes certain competencies and of addressing unequal access to, or opportunities for, skill development.

Education

Analysis of soft skills across education levels shows that abilities such as communication, critical thinking, and leadership tend to improve with higher education, reflecting how advanced learning fosters cognitive and interpersonal growth (Zhao et al., 2024; OECD, 2019). In contrast, professional and IT skills remain relatively consistent, suggesting that they are shaped more by standardised training or self-directed learning outside formal education (Eurostat, 2023; White et al., 2013). This indicates that while education strengthens complex thinking and social interaction, technical skills can also be developed through alternative pathways such as workplace experience or digital tools (Freeman et al., 2014; Hung, 2002).

Age

Analysis of soft skills across age groups shows that most skills—such as leadership, communication, and IT—remain relatively stable over time, suggesting that they are developed early and sustained throughout life (Feraco et al., 2024). However, critical thinking and self-awareness show notable variance, with self-awareness potentially increasing through experience and maturity (Fernández-Arias et al., 2021). While some studies support the stability of age-related soft skills, others report persistent differences across age groups (Fernández-Arias, 2021; Feraco & Meneghetti, 2024), indicating that certain soft skills may continue to evolve as individuals age.

Conclusion

This study contributes to soft skills research by examining how gender, age, and education influence students' self-assessed competencies. The findings indicate that many soft skills—such as empathy, flexibility, and professionalism—are consistently distributed across demographic groups, suggesting that attributes such as personality or organisational culture may play a more substantial role in shaping their development than demographics alone. However, skills such as IT, communication, and teamwork show gender-based differences, highlighting the need for inclusive development strategies. Education emerges as a key driver of high-order soft skills, including critical thinking and leadership, although challenges remain in translating training into practice. Existing studies highlight the importance of structured support and experiential learning, yet future research is needed to validate these approaches. While most soft skills appear stable across age groups, self-awareness may increase over time, reinforcing its relevance to lifelong learning initiatives. Given the growing link between employability and entrepreneurial readiness, universities are encouraged to embed soft skills—particularly entrepreneurial competencies—into their curricula, especially in rapidly transforming labour markets such as Indonesia.

A critical aspect of this study involved the systematic mitigation of internal biases to ensure that the conclusions drawn are both robust and representative. By integrating qualitative insights with quantitative metrics, the research moved beyond mere correlation to understand the why behind soft skill disparities. Qualitative data were subjected to rigorous thematic scrutiny, where negative case analysis was employed to challenge early assumptions and refine the final conclusions. This process allowed the study to identify nuanced challenges—such as the sociocultural barriers affecting gender-based skill acquisition—that quantitative data alone might obscure. The conclusions were derived by synthesizing these qualitative narratives with statistical outputs, ensuring a holistic view of the labor absorption dilemma. Consequently, the study's recommendations for Higher Education Institutions are not only evidence-based but also contextually sensitive, accounting for the qualitative complexities of student perceptions and the multifaceted nature of human capital development in emerging economies. (2)

This study's findings directly align with the global Sustainable Development agenda, particularly SDG 4 (*Quality Education*) and SDG 8 (*Decent Work and Economic Growth*). The identified challenges in soft skill competitiveness significantly hinder sustainable labour absorption in Indonesia. The research reveals that higher education effectively develops higher-order cognitive skills such as critical thinking and leadership, highlighting its crucial role in cultivating a resilient workforce capable of driving sustainable economic innovation. However, the gender-based disparities in IT and communication skills present a critical challenge to “inclusive and equitable” development. Addressing these gaps is essential for reducing inequalities and ensuring all graduates contribute to a sustainable economy. Furthermore, the strong link between emotional intelligence and conflict management suggests holistic skill development is a prerequisite for professional sustainability. By aligning university curricula with these findings, Indonesia can bridge the structural gap between education and the workforce transforming labour absorption from a dilemma into a catalyst for long-term sustainable growth and national prosperity. (2)

Future Research and Limitation

This study, which focuses on Indonesian students, suggests that future research should expand to other countries and across different educational levels—from primary to higher education—to provide broader insights. Although the sample primarily consists of educated individuals, the data collection mechanisms were designed to include participants with varied educational backgrounds. The study offers both theoretical and practical contribution by identifying strategies that HEIs can adopt to foster soft skills. However, two key limitations should be noted. First, the use of correlation and ANOVA only captures one-way relationships, whereas soft skills development may involve reciprocal effects (Bortes et al., 2021). Second, despite increasing global emphasis, few academic disciplines explicitly address soft skills, particularly across wider geographical regions. Nonetheless, HEIs continue to recognise the importance of integrating soft skills into their curricula to better prepare students for evolving labour demands (Almeida & Morais, 2021). These findings are vital for improving curriculum design and supporting graduates as they navigate post-university employment challenges.

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TÍMEA JUHÁSZ: Conceptualization, validation, methodology, supervision, funding acquisition, project administration.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.