

Managing Student Well-Being in Disability-Inclusive Higher Education: Psychological Distress, Life Satisfaction, and Positive Emotions in Malaysia

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HOW TO CITE:

Sabri Sulaiman (2026), Managing Student Well-Being in Disability-Inclusive Higher Education: Psychological Distress, Life Satisfaction, and Positive Emotions in Malaysia

International Journal of Special Education, 41(21s), 1165-1170

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ABSTRACT: Disability-inclusive higher education requires accessible learning and coordinated approaches to student well-being. This simulation-based cross-sectional study examined psychological distress, life satisfaction, and positive emotions using 200 synthetic student profiles derived from a questionnaire designed for students with disabilities in Malaysian higher education. Composite scores, Cronbach's alpha, Pearson correlations, and HC3-robust multiple regression were used. Distress was moderate ($M = 2.77$, $SD = 0.58$), whereas life satisfaction ($M = 3.42$, $SD = 0.53$) and positive emotions ($M = 3.37$, $SD = 0.56$) were above the scale midpoint. Reliability was good ($\alpha = .85-.88$). Distress correlated negatively with life satisfaction ($r = -.577$) and positive emotions ($r = -.535$), while life satisfaction correlated positively with positive emotions ($r = .388$; all $p < .001$). Institutional and peer-lecturer support predicted lower distress, whereas financial and ICT barriers predicted higher distress. Accessibility predicted life satisfaction, and digital confidence, openness to change, digital skills, and social support predicted positive emotions. The model supports integrating disability services with counselling, financial assistance, and digital accessibility. Because the records are synthetic, the estimates are methodological demonstrations rather than empirical evidence.

Keywords: inclusive education, student well-being, mental health, digital inclusion, Malaysia

1. Introduction

Inclusive higher education requires more than widening admission. Students with disabilities must be able to access teaching, digital platforms, campus services, social relationships, and reasonable accommodation on an equitable basis. Article 24 of the Convention on the Rights of Persons with Disabilities establishes equal access to tertiary education, while contemporary

disability policy locates unequal outcomes partly in modifiable institutional conditions (United Nations, 2006; World Health Organization, 2022). Malaysian policy similarly recognises institutional responsibility for accessible facilities and support systems (Ministry of Higher Education Malaysia, 2019). Nevertheless, students may still experience inaccessible materials, delayed accommodations, stigma,

fragmented services, financial pressure, and uncertainty about employment (Jani et al., 2022; Yusof et al., 2020).

Well-being is therefore an educational and organisational outcome. Psychological distress can reduce engagement and persistence, yet low distress does not necessarily indicate positive functioning. Life satisfaction reflects a cognitive evaluation of life quality, whereas positive emotions capture affective experiences such as calmness, energy, enjoyment, and optimism (Diener et al., 1985; Watson et al., 1988). A dual-continuum perspective treats distress and positive well-being as related but distinct, allowing universities to identify both risks and strengths (Keyes, 2002). This is especially relevant for disabled students, whose well-being may reflect an interaction between personal resources and the accessibility, responsiveness, and social climate of the institution.

Research identifies stress, anxiety, isolation, unequal access to support, and reduced quality of life among university students with disabilities (Al-Shaer et al., 2024; Solis Garcia et al., 2024). In Malaysia, formal inclusion does not always translate into full participation, and interpersonal acceptance, accessible technology, and staff responsiveness remain important (Che Rosli et al., 2025; Mohammad Roose et al., 2025; Saini et al., 2024). However, psychological distress, life satisfaction, and positive emotions are rarely examined together alongside institutional, social, financial, and digital conditions.

This study demonstrates a concise analytical framework using synthetic records rather than participant data. It addresses four objectives: (1) describe the three well-being outcomes; (2) assess scale reliability; (3) test correlations among the outcomes; and (4) examine whether institutional support, accessibility, peer-lecturer support, financial constraints, digital skills, and ICT barriers predict well-being. The expected pattern was that support and accessibility would be favourable predictors, whereas financial, technological, and psychological barriers would be unfavourable predictors.

2. Methodology

Design, Sample, and Ethics

A simulation-based cross-sectional design was used. The dataset contained 200 complete synthetic profiles constructed from a questionnaire on inclusive digital education and well-being among students with disabilities in Malaysian higher education. Identifiers were unique, no duplicate profiles were detected, all analysed Likert responses were within the intended 1–5 range, and supplied composite scores matched independently recomputed item means. The profiles represented women (55.0%) and men (45.0%); 71.0% were aged 18–24 years, 17.5% were 25–29 years, and 11.5% were 30 years or older. Physical disability was the largest category (23.5%), followed by cognitive or learning-related disability (17.0%), multiple disabilities (14.5%), hearing disability (13.5%), visual disability (11.5%), mental or psychosocial disability (10.5%), speech disability (7.0%), and other categories (2.5%). Most profiles were at bachelor's level (66.0%).

No human participants generated the present records; therefore, the simulation itself required no consent or additional ethical approval. The underlying questionnaire and intended field protocol received approval from the University of Malaya Research Ethics Committee (UM.TNC(P&I)/UMREC_5020). Any empirical administration must follow that protocol, including accessible consent, confidentiality, secure data management, and reasonable accommodation. Synthetic observations must remain clearly separated from verified participant data.

Measures and Data Analysis

All multi-item measures used five-point response scales. Psychological distress comprised ten items on stress, worry, low confidence, depressed mood, isolation, helplessness, emotion regulation, low motivation, and pressure from social barriers. Life satisfaction comprised ten items on global satisfaction, meaning, attainment, relationships, stability, self-management, acceptance, and future improvement. Positive

emotions comprised ten items on cheerfulness, calmness, energy, motivation, enjoyment, enthusiasm, low stress, and optimism. Higher scores indicated more of the named construct. Five-item predictor scales assessed digital skills, accessibility, institutional support, digital confidence, openness to technological change, peer–lecturer support, financial constraints, and ICT supply, affordability, and capability barriers.

Means, standard deviations, and Cronbach's alpha were calculated. Pearson correlations assessed relationships among the three well-being outcomes. Three ordinary least-squares regression models used theoretically selected predictors and HC3 heteroskedasticity-robust standard errors. Unstandardised coefficients, standardised beta coefficients, adjusted R^2 , and p values were examined at $\alpha = .05$. The maximum

variance-inflation factor was 1.69, indicating no serious multicollinearity. Statistical significance describes the generated structure of the synthetic records and is not evidence of effects in Malaysian students.

3. Results

Descriptive Statistics, Reliability, and Correlations

Psychological distress was moderate, whereas life satisfaction and positive emotions were above the midpoint. Reliability was acceptable to good for the three outcomes and the principal predictors. Distress was negatively associated with both positive outcomes, while life satisfaction and positive emotions were positively associated (Table 1). The confidence intervals did not include zero.

Table 1. Descriptive statistics, reliability, and correlations ($N = 200$)

Construct	M	SD	α	Key correlation
Psychological distress	2.77	0.58	.880	With life satisfaction: $r = -.577^{***}$
Life satisfaction	3.42	0.53	.850	With positive emotions: $r = .388^{***}$
Positive emotions	3.37	0.56	.872	With distress: $r = -.535^{***}$
Accessibility	3.20	0.54	.715	—
Institutional support	3.22	0.55	.715	—
Peer–lecturer support	3.44	0.56	.731	—
Financial constraints	2.81	0.62	.786	—
Digital skills / confidence	3.58 / 3.50	0.56 / 0.59	.738 / .759	—
ICT supply / demand / capability barriers	2.61 / 2.75 / 2.40	0.56 / 0.61 / 0.68	.746 / .787 / .826	—

Note. Scores range from 1 to 5. $^{***}p < .001$. All records are synthetic.

Regression Models

The distress model explained 40.8% of variance (adjusted $R^2 = .383$). Institutional and peer–lecturer support predicted lower distress, while financial constraints and all three ICT barriers predicted higher distress. The life-satisfaction model explained 41.2% (adjusted $R^2 = .388$);

accessibility and peer–lecturer support were positive predictors, whereas financial constraints and distress were negative predictors. The positive-emotions model explained 49.2% (adjusted $R^2 = .471$). Digital skills, digital confidence, openness to technological change, and peer–lecturer support were positive predictors, while distress was negative.

Table 2 reports statistically significant predictors only; nonsignificant predictors were retained in the full models.

Table 2. *Significant predictors in HC3-robust multiple regression models*

Outcome and model	Significant predictor	B	β	p
Distress, adj. $R^2 = .383$	Institutional support	-0.238	-.229	< .001
	Peer-lecturer support	-0.184	-.177	.006
	Financial constraints	0.221	.236	.001
	ICT supply barriers	0.221	.216	.004
	ICT demand barriers	0.186	.198	.009
	ICT capability barriers	0.209	.246	< .001
Life satisfaction, adj. $R^2 = .388$	Accessibility	0.164	.168	.011
	Peer-lecturer support	0.120	.127	.014
	Financial constraints	-0.125	-.147	.018
	Psychological distress	-0.417	-.457	< .001
Positive emotions, adj. $R^2 = .471$	Digital skills	0.126	.125	.031
	Digital confidence	0.208	.218	.002
	Openness to change	0.241	.241	< .001
	Peer-lecturer support	0.152	.150	.007
	Psychological distress	-0.353	-.361	< .001

Note. B = unstandardised coefficient; β = standardised coefficient. Nonsignificant predictors remained in the full models. All records are synthetic.

4. Discussion

The generated results support a multidimensional view of student well-being. Distress was strongly and negatively related to life satisfaction and positive emotions, yet the constructs were not interchangeable. This pattern is consistent with the dual-continuum model and research linking stress, anxiety, and depression with lower quality of life among students with disabilities (Al-Shaer et al., 2024; Keyes, 2002). For university management, measuring only distress may overlook students' sense of meaning, enjoyment, and optimism, while measuring only resilience may conceal institutional barriers that require correction.

Institutional and peer-lecturer support predicted lower distress, and peer-lecturer support was

favourable across all three outcome models. These patterns place relationships and coordination at the centre of disability-inclusive practice. Students may need academic accommodation, counselling, financial assistance, accessible technology, and career support at the same time. When units operate separately, students become responsible for coordinating the institution's response. Clear referral pathways, service standards, staff development, accessible communication, and co-designed peer support can reduce this burden (Soo et al., 2023; Yusof et al., 2020).

Financial constraints and ICT barriers predicted greater distress, while accessibility predicted life satisfaction. Digital participation depends not only on owning a device but also on affordable

connectivity, accessible software, assistive technology, and timely technical support. Malaysian studies emphasise that Universal Design for Learning and assistive applications must match students' functional and communication needs (Saini et al., 2024; Zaharudin et al., 2024). Accordingly, device loans, subsidised data, accessible software licences, alternative formats, and rapid troubleshooting should be treated as well-being interventions rather than purely technical services.

Digital confidence, skills, openness to change, and peer-lecturer support predicted positive emotions. This suggests that positive engagement may grow when students can use technology competently and receive reliable guidance. However, universities should not frame resilience as an obligation to adapt to inaccessible systems. Training should be hands-on, repeatable, available in multiple formats, and paired with accessible platforms and responsive instructors. Institutional action should reduce avoidable barriers while strengthening students' confidence and autonomy.

The findings have practical implications for leadership. First, universities should adopt a whole-institution model linking disability services, faculties, counselling, information technology, student affairs, finance, and career services. Second, monitoring should combine well-being and digital-inclusion indicators without using surveys for diagnosis or surveillance. Third, counselling should be accessible in booking, communication, physical and online formats, and staff should distinguish distress requiring clinical support from distress generated by administrative barriers. Fourth,

students with disabilities should participate in service design and evaluation because hidden barriers may be missed by non-disabled decision-makers.

The principal limitation is decisive: all observations are synthetic. Coefficients may reflect assumptions embedded in data generation and cannot estimate prevalence, compare institutions, or establish causal relationships. The measures are study-specific; reliability does not establish factorial or criterion validity. A future multi-institutional study should use verified participant data, documented recruitment and response rates, accessible instrument validation, confirmatory factor analysis, and qualitative interviews or participatory workshops. Longitudinal or multilevel designs would provide stronger evidence on whether institutional changes improve well-being over time.

5. Conclusion

In this synthetic analytical model, psychological distress was negatively related to life satisfaction and positive emotions. Institutional and peer-lecturer support were associated with lower distress; financial and ICT barriers with higher distress; accessibility with life satisfaction; and digital skills, confidence, openness to change, and social support with positive emotions. The framework shows how disability-inclusive higher education can integrate mental well-being, digital accessibility, financial assistance, and coordinated student support. The numerical estimates are methodological demonstrations only and must be replaced or confirmed with ethically collected participant data before being presented as evidence about Malaysian students.

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7. Acknowledgements

The authors acknowledge financial support from Universiti Malaya through the Early Career Research Grant (BKP060-2024-ECRG).

8. Author Declaration

Originality and submission. The manuscript is original, has not been published previously, and is not under consideration by another journal, as affirmed by all authors.

Conflict of interest. The authors declare that they have no financial, professional, or personal relationships that could have influenced this manuscript.

Ethical considerations. This analysis uses wholly synthetic data and reports no human-participant findings. The underlying questionnaire and field protocol were approved by the University of Malaya Research Ethics Committee (UM.TNC(P&I)/UMREC_5020). Any empirical administration must ensure accessible consent, confidentiality, secure data management, and reasonable accommodation.