

Predicting Student Outcomes in Special Education: The Role of Teacher Well-Being Dimensions through Multiple Regression Analysis

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ABSTRACT:

Teacher well-being has been identified as a critical yet empirically underexamined determinant of instructional quality in special education, particularly within Asian contexts. Grounded in Allardt's Sociological Welfare Theory (1989) and Bloom's Taxonomy (Bloom et al., 1956), this quantitative survey study examined the level of teacher well-being, its relationship with, and predictive influence on the outcomes of students with special educational needs (SEN) among 437 primary school special education teachers in Peninsular Malaysia, selected through multistage sampling. Descriptive findings indicated that overall teacher well-being was at a very high level ($M = 4.23$, $SD = 0.44$), with self-achievement ($M = 4.27$) and health ($M = 4.25$) rated very high, while school environmental conditions were rated high ($M = 4.18$). Pearson correlation analysis revealed a strong, positive, and statistically significant relationship between teacher well-being and SEN student outcomes ($r = .692$, $p < .01$), reflecting a large effect size. Multiple regression analysis further demonstrated that all three dimensions of teacher well-being significantly predicted SEN student outcomes, with school environmental conditions emerging as the strongest predictor ($\beta = .341$, $p < .001$), followed by self-achievement ($\beta = .257$, $p < .001$) and health ($\beta = .196$, $p < .001$). The model collectively accounted for 48.1% of the variance in SEN student outcomes ($R^2 = .481$, adjusted $R^2 = .477$), indicating substantial predictive power. These findings suggest that structural and environmental factors exert greater influence on SEN student outcomes than individual-level well-being attributes, underscoring the need for targeted investment in school infrastructure, teacher professional development, and institutional well-being support mechanisms within Malaysian special education settings.

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Keywords: Special education teacher well-being, students with special educational needs (SEN), student outcomes, multiple regression analysis, school environment).

1. INTRODUCTION

Students with special educational needs (SEN) continue to face persistent disparities in academic

achievement, behavioural development, social integration, and emotional well-being, particularly in contexts where instructional support and systemic

resources are constrained (Contreras et al., 2020; Khasawneh, 2024). These disparities carry significant implications for educational equity, inclusive policy, and long-term societal participation. Within Malaysia, SEN students are predominantly served through the Special Education Integration Programme (SEIP), a nationally mandated framework that places considerable responsibility on classroom teachers to address diverse learning needs. Despite the scale of this programme, understanding of the factors that drive SEN student outcomes within this context remains incomplete.

Existing research has predominantly examined structural and environmental determinants of SEN student outcomes, including access to instructional resources (Muweesi & Nankoma, 2025), environmental facilities (Khasawneh, 2024), and inclusive practices (Contreras et al., 2020). While these factors are undeniably important, they represent external conditions that do not fully account for the role of the teacher as an agent of instructional quality. Notably, teacher-related psychological variables particularly well-being have received comparatively limited attention in this body of literature. This imbalance represents a critical gap, as the quality of instructional delivery in special education is directly mediated by the individual who delivers it.

Teacher well-being has been recognised as a meaningful predictor of instructional quality and student learning outcomes in general education settings. Research indicates that teachers with higher levels of professional self-efficacy demonstrate greater instructional engagement, while chronic stress and burnout are associated with reduced teaching effectiveness and higher attrition rates (Love et al., 2020; Garwood et al., 2026). In special education specifically, teachers face distinctive occupational demands including individualised instruction, behavioural management, and multi-agency collaboration that place elevated pressure on personal and professional resources. Despite these unique demands, empirical studies that examine the multidimensional structure of well-being among special education teachers and its direct predictive

relationship with SEN student outcomes remain scarce.

To address this gap, the present study is grounded in Erik Allardt's Sociological Welfare Theory (1989), which provides a theoretically structured framework for conceptualising well-being across three interrelated dimensions: having, being, and loving. In the context of special education teaching, having is operationalised as school environmental conditions, reflecting access to material and physical resources that support instruction; being is operationalised as self-achievement, representing professional fulfilment, competence, and personal growth; and loving is operationalised as health, encompassing physical and emotional well-being that sustains teacher performance. It is acknowledged that Allardt's original conception of loving refers primarily to social relationships; however, in the present study, health is adopted as the closest operationally measurable proxy within the educational work context, consistent with adaptations in prior applied welfare research. This framework enables a systematic examination of how distinct dimensions of well-being differentially contribute to SEN student outcomes.

Although emerging research has highlighted the potential of technological innovations including artificial intelligence in supporting SEN student achievement (Alsolami, 2025), the effectiveness of such tools is contingent upon teacher readiness and institutional support, both of which are fundamentally shaped by teacher well-being. This reinforces the view that teacher well-being functions as a critical mediating mechanism between structural resources and student outcomes, rather than as a peripheral variable. However, empirical studies employing multivariate analytical models to examine the combined and differential predictive influence of well-being dimensions on SEN student outcomes remain limited, particularly within the Malaysian context.

Accordingly, this study pursues three specific objectives: (1) to examine the level of well-being among special education teachers in primary schools in Peninsular Malaysia; (2) to determine the

relationship between the dimensions of teacher well-being, namely school environmental conditions, self-achievement, and health, and the outcomes of students with special educational needs; and (3) to determine the extent to which these dimensions of teacher well-being predict the outcomes of students with special educational needs.

Conceptual Framework

Figure 1 presents the conceptual framework guiding this study, illustrating the hypothesised predictive relationships between teacher well-being dimensions and SEN student outcomes.

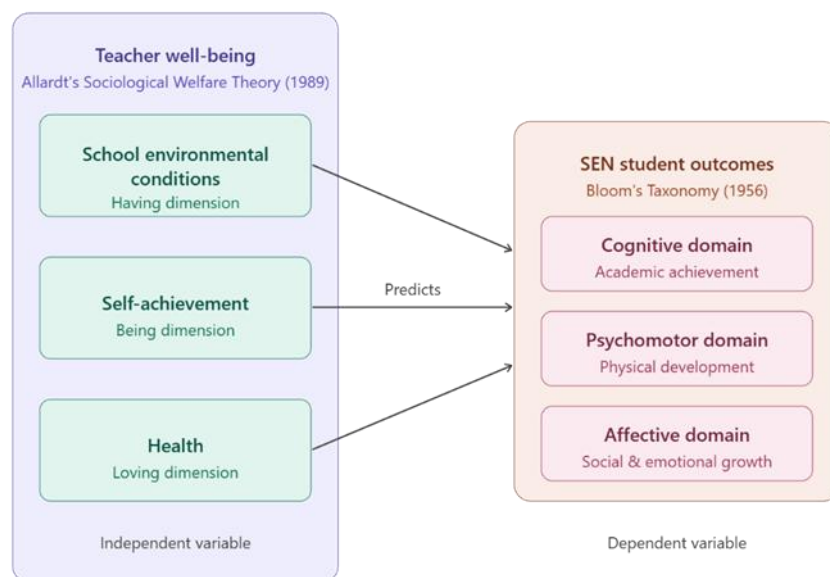


Figure 1. Conceptual framework of the study

The conceptual framework guiding this study is presented in Figure 1. The framework was developed by integrating two established theoretical foundations: Allardt's Sociological Welfare Theory (Allardt, 1989) and Bloom's Taxonomy (Bloom et al., 1956), which together provide a structured basis for examining the relationship and predictive influence of teacher well-being on the outcomes of students with special educational needs (SEN).

On the left side of the framework, teacher well-being is positioned as the independent variable, operationalised through three interrelated dimensions derived from Allardt's Sociological Welfare Theory (Allardt, 1989). The first dimension, school environmental conditions, corresponds to the having domain, which reflects access to material resources, physical infrastructure, and the quality of the school environment that directly supports instructional delivery. The second dimension, self-achievement, corresponds to the being domain, representing teachers' sense of professional fulfilment, competence, personal growth, and

perceived effectiveness in their instructional roles. The third dimension, health, corresponds to the loving domain, encompassing teachers' physical and emotional well-being, which sustains their capacity to perform and engage meaningfully within the demanding context of special education. It is acknowledged that Allardt's original conception of the loving domain refers primarily to social relationships and belonging; however, in the present study, health is adopted as the most operationally appropriate proxy within the educational work context, consistent with adaptations in prior applied welfare research.

On the right side of the framework, SEN student outcomes are positioned as the dependent variable, conceptualised across three domains grounded in Bloom's Taxonomy (Bloom et al., 1956): the cognitive domain, encompassing academic knowledge and intellectual achievement; the psychomotor domain, reflecting physical skill development and motor coordination; and the affective domain, addressing students' social

integration, behavioural regulation, and emotional well-being. This multidimensional conceptualisation of student outcomes is consistent with the holistic developmental goals inherent in special education practice and aligned with the Malaysian Special Education Integration Programme curriculum standards.

The directional arrows in Figure 1 represent two levels of hypothesised relationships. First, correlational relationships are proposed between each dimension of teacher well-being and SEN student outcomes, examined using Pearson correlation analysis to establish the direction and strength of association prior to predictive modelling. Second, predictive relationships are hypothesised, whereby each dimension of teacher well-being is proposed to exert a significant influence on SEN student outcomes, examined simultaneously within a single analytical model using multiple regression analysis. This sequential analytical approach enables an assessment of the differential contribution of each well-being dimension while controlling for the influence of the others. This integrative approach addresses the fragmentation evident in prior research, which has predominantly examined teacher-related variables in isolation, and provides a more comprehensive empirical basis for understanding how teacher well-being operates within special education contexts.

Based on the conceptual framework presented in Figure 1, the following hypotheses were formulated to guide the analysis:

H1: There is a significant relationship between the dimensions of teacher well-being (school environmental conditions, self-achievement, and health) and the outcomes of students with special educational needs.

H2: The dimensions of teacher well-being (school environmental conditions, self-achievement, and health) significantly predict the outcomes of students with special educational needs

2. METHODOLOGY

Design

This study adopted a quantitative survey design, situated within a post-positivist research paradigm,

to examine the level of well-being among special education teachers and its relationship with and predictive influence on the outcomes of students with special educational needs (SEN). A quantitative approach was selected on the grounds that the study sought to measure latent constructs at scale and to examine directional relationships across a nationally representative sample (Creswell & Creswell, 2018). Survey methodology was particularly appropriate for capturing standardised responses from a large and geographically dispersed population, enabling the application of inferential statistical techniques, specifically Pearson correlation and multiple regression analysis, to test the hypothesised relationships between variables.

Sample

The target population comprised special education teachers from primary schools implementing the Special Education Integration Programme (SEIP) across Peninsular Malaysia, totalling 8,664 teachers. The required minimum sample size was determined using the Krejcie and Morgan (1970) sampling table, which recommended a minimum of 368 respondents for this population size. This was further validated through an a priori power analysis conducted using G*Power (Faul et al., 2007), which indicated that a minimum of 85 participants would be sufficient to detect a medium effect size ($f^2 = 0.15$) at a statistical power of 0.80 with three predictors in the regression model. Given that the Krejcie and Morgan (1970) criterion represented the more conservative and population-referenced threshold, it was adopted as the primary basis for sample size determination. To enhance statistical robustness and account for anticipated non-response, a total of 437 questionnaires were retained for final analysis following data screening.

A multistage sampling procedure was employed to ensure proportional geographical representation. In the first stage, stratified random sampling was applied based on geographical zones across Peninsular Malaysia. In the second stage, simple random sampling was used to select one state from each zone. In the third stage, proportional stratified sampling was applied to determine the number of respondents from each selected state. Schools within each state were then randomly

selected, and all special education teachers within the selected schools were invited to participate. This procedure systematically reduced sampling bias and ensured that the final sample was representative of the population across different regions of Peninsular Malaysia. The demographic profile of the sample is presented in Table 1.

Table 1. Respondent Demographics

Respondent Demographics	Frequency	Percentage (%)
Gender		
Male	181	41.4
Female	256	58.6
Age		
Below 30 years	72	16.5
30 - 35 years	71	16.2
36 - 40 years	102	23.3
Above 40 years	192	43.9
Teaching Experience in Special Education Integration Programme		
Less than 1 year	99	33.22
1 - 5 years	79	26.51
More than 5 years	103	34.56

Table 1 presents the demographic profile of 437 respondents involved in the study. In terms of gender, the majority of the respondents were female ($n = 256$, 58.6%), while male respondents accounted for 41.4% ($n = 181$). Regarding age distribution, the largest proportion of respondents were those aged above 40 years ($n = 192$, 43.9%), followed by those aged 36–40 years ($n = 102$, 23.3%), below 30 years ($n = 72$, 16.5%), and 30–35 years ($n = 71$, 16.2%). As for teaching experience in the Special Education Integration Programme, respondents with more than 5 years of experience formed the largest group ($n = 103$, 34.56%), followed by those with less than 1 year of experience ($n = 99$, 33.22%), and those with 1–5 years of experience ($n = 79$, 26.51%).

Instruments

The instrument used in this study was self-developed based on established theoretical frameworks and consisted of two sections: teacher

well-being and special educational needs (SEN) student outcomes. The teacher well-being section included 21 items across three constructs school environmental conditions, self-achievement, and health grounded in Allardt's Sociological Welfare Theory (Allardt, 1989) and the School Well-being Model (Konu & Rimpelä, 2002). The student outcomes section comprised 17 items measuring teachers' perceptions of SEN student outcomes across three domains of learning: cognitive, psychomotor, and affective, based on Bloom's Taxonomy (Bloom et al., 1956) and the Malaysian Special Education Integration Programme curriculum standards. All items were rated on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

Content validity was established through expert review by a panel of specialists in special education and educational measurement. Construct validity was assessed using the Rasch Measurement Model (Bond & Fox, 2015), which evaluated item fit statistics, person-item reliability indices, and the unidimensionality of each construct. Items that did not meet acceptable fit statistics (mean square outfit and infit values between 0.60 and 1.40) were reviewed and refined accordingly. Reliability was subsequently determined using Cronbach's alpha, and all constructs demonstrated acceptable internal consistency, with values exceeding the minimum recommended threshold of 0.70 (Hair et al., 2010).

Procedure

Data collection was conducted following ethical approval from the Ministry of Education Malaysia and relevant institutional authorities. The questionnaire was administered online via Google Forms, and the survey link was disseminated to participants through official school administrative channels. Prior to participation, respondents were informed of the study's purpose, voluntary nature, and their right to withdraw at any time without consequence. Informed consent was obtained from all participants prior to data collection. Confidentiality and anonymity were assured throughout the process. Completed responses were systematically screened for completeness and validity, and incomplete or invalid responses were excluded prior to analysis. These procedural

measures were also intended to minimise potential common method variance (CMV) associated with self-reported survey data.

Data Analysis

Data were analysed using IBM SPSS Statistics version 29. Descriptive statistics, including mean (M) and standard deviation (SD), were computed to determine the level of teacher well-being among respondents. Pearson correlation analysis was subsequently conducted to examine the direction and strength of the relationship between teacher well-being dimensions and SEN student outcomes. Multiple regression analysis was then performed to examine the predictive influence of teacher well-being dimensions namely school environmental conditions, self-achievement, and health on SEN student outcomes.

Prior to conducting the analyses, several statistical assumptions were systematically assessed to ensure the validity of the results. Normality of the data distribution was examined using the Kolmogorov-Smirnov and Shapiro-Wilk tests, supplemented by visual inspection of histograms and normal probability plots (P-P plots). Linearity and homoscedasticity were evaluated through scatterplots of standardised residuals against predicted values. Multicollinearity was assessed using tolerance values and the variance inflation factor (VIF), with acceptable thresholds set at tolerance > 0.10 and VIF < 10 (Hair et al., 2010). No significant violations of regression assumptions were detected.

Statistical significance was set at $p < .05$ for all analyses. Correlation coefficients (r) were interpreted according to Cohen's (1988) guidelines, whereby $r = .10$ indicates a small effect, $r = .30$ a moderate effect, and $r = .50$ a large effect. The predictive relationships were interpreted based on standardised regression coefficients (β), significance values (p), and model fit indicators, including the coefficient of determination (R^2) and adjusted R^2 , which indicate the proportion of variance in SEN student outcomes explained collectively by the teacher well-being dimensions.

Given that both independent and dependent variables were collected using self-

reported questionnaires from the same respondents, the possibility of common method variance (CMV) was assessed. Procedural remedies were implemented during data collection, including assurance of anonymity, voluntary participation, and confidentiality of responses, to minimise evaluation apprehension and response bias (Podsakoff et al., 2016). In addition, Harman's single-factor test was conducted using unrotated exploratory factor analysis. The first factor accounted for 21.276% of the total variance, which was below the recommended threshold of 50% (Chang et al., 2010), indicating that CMV was not a serious concern in this study.

3. RESULTS

This section presents the findings of the study in accordance with the three research objectives. Descriptive statistics were first computed to determine the level of well-being among special education teachers. Pearson correlation analysis was subsequently conducted to examine the relationship between teacher well-being dimensions and SEN student outcomes. Finally, multiple regression analysis was performed to determine the extent to which the dimensions of teacher well-being predict SEN student outcomes.

Level of Teacher Well-Being

Table 2. Mean, Standard Deviation, and Level of Teacher Well-Being

Teacher Well-Being Dimensions	Mean	Standard Deviation	Level
School Environmental Conditions	4.18	0.43	High
Self-Achievement	4.27	0.41	Very High
Health	4.25	0.48	Very High
Overall Mean Score	4.23	0.44	Very High

Descriptive analysis indicated that the overall level of well-being among special education teachers was very high ($M = 4.23$, $SD = 0.44$). Among the three dimensions, self-achievement recorded the highest mean ($M = 4.27$, $SD = 0.41$), followed by health (M

= 4.25, SD = 0.48), while school environmental conditions showed the lowest mean ($M = 4.18$, $SD = 0.43$), although it remained at a high level. These findings suggest that teachers demonstrate strong professional confidence and positive perceptions of their well-being, particularly in terms of self-achievement and health. Item-level analysis further revealed that physical accessibility, such as ground-floor classroom location, was highly rated, whereas technological facilities and students' technological competencies were identified as areas of concern. Additionally, while classroom space was perceived as supportive of physical well-being, minor concerns regarding environmental noise were reported. Overall, teacher well-being in special education appears consistently high; however, the findings highlight the need to strengthen technological support and environmental conditions to further enhance teaching effectiveness in SEIP classrooms.

Relationship Between Teacher Well-Being and SEN Student Outcomes

To address the second research objective, Pearson correlation analysis was conducted to examine the relationship between the dimensions of teacher well-being and SEN student outcomes. The following hypothesis was tested:

H1: There is a significant relationship between the dimensions of teacher well-being (school environmental conditions, self-achievement, and health) and the outcomes of students with special educational needs.

The results of the Pearson correlation analysis are presented in Table 3.

Table 3. Pearson Correlation Between Teacher Well-Being and SEN Student Outcomes

		Teacher Well-Being	SEN Student Outcomes
Teacher Well-Being	Pearson Correlation	1	.692**
	Sig. (1-tailed)		.001
	N	412	412

Note. ** Correlation is significant at the 0.01 level (1-tailed).

The Pearson correlation analysis revealed a strong positive and statistically significant relationship between teacher well-being and teacher-perceived SEN student outcomes ($r = .692$, $p < .01$, $N = 412$). This finding indicates that higher levels of teacher well-being are associated with better outcomes among students with special educational needs. According to Cohen's (1988) guidelines, a correlation coefficient of $r = .692$ reflects a large effect size, suggesting that teacher well-being is a substantially associated factor in determining SEN student outcomes. Therefore, H1 is supported.

Predictive Influence of Teacher Well-Being on SEN Student Outcomes

To address the third research objective, multiple regression analysis was conducted to examine the extent to which the dimensions of teacher well-being predict the outcomes of students with special educational needs. The following hypothesis was tested:

H2: The dimensions of teacher well-being (school environmental conditions, self-achievement, and health) significantly predict the outcomes of students with special educational needs.

Prior to interpretation, the assumptions of multiple regression analysis were assessed, including normality, linearity, homoscedasticity, and multicollinearity. No significant violations of the regression assumptions were detected. In addition, given that both independent and dependent variables were collected using self-reported questionnaires from the same respondents, the possibility of common method variance (CMV) was assessed. Procedural remedies were implemented during data collection, including assurance of anonymity, voluntary participation, and confidentiality of responses, to minimise response bias (Podsakoff et al., 2016). Harman's single-factor test was subsequently conducted using unrotated exploratory factor analysis. The first factor accounted for 21.276% of the total variance, which was below the recommended threshold of 50% (Chang et al., 2010), indicating that CMV was not a serious concern in this study. The overall regression model was statistically significant, as presented in Table 4.

Table 4. Model Summary for Multiple Regression Analysis

Model	R	R ²	Adjusted R ²	F	Sig.
3	.693	.481	.477	125.243	< .001

Table 4 indicates that the final regression model explained 48.1% of the variance in teacher-perceived SEN student outcomes ($R^2 = .481$, adjusted $R^2 = .477$). The overall model was statistically significant, suggesting that the dimensions of teacher well-being collectively demonstrated substantial explanatory power in relation to teacher-perceived SEN student outcomes. The results of the multiple regression analysis are presented in Table 5.

Table 5. Multiple Regression Analysis of Teacher Well-Being Dimensions Predicting SEN Student Outcomes

Variables	<i>B</i>	<i>SE</i>	β	<i>t</i>	<i>p</i>
Constant	1.954	—	—	16.285	< .001
School Environmental Conditions	0.245	—	.341	6.421	< .001
Self-Achievement	0.182	—	.257	4.940	< .001
Health	0.119	—	.196	4.256	< .001

Note. *B* = unstandardized coefficient; β = standardized coefficient; *t* = t-value; *p* = significance level. $R^2 = .481$; Adjusted $R^2 = .477$; *SE* = .196.

The multiple regression analysis revealed that all three dimensions of teacher well-being significantly predicted teacher-perceived SEN student outcomes, thereby supporting H2. The predictive relationships were interpreted primarily based on standardised regression coefficients (β), which indicate the relative strength of each predictor within the regression model. The final model (Model 3) explained 48.1% of the variance in teacher-perceived SEN student outcomes ($R^2 = .481$, adjusted $R^2 = .477$), indicating satisfactory explanatory power. School environmental conditions emerged as the strongest predictor ($\beta = .341$, $t = 6.421$, $p < .001$), followed by self-achievement ($\beta = .257$, $t = 4.940$, $p < .001$) and health ($\beta = .196$, $t = 4.256$, $p < .001$).

4. DISCUSSION

This study examined the level of well-being among special education teachers, the relationship between teacher well-being dimensions and SEN student outcomes, and the predictive influence of these dimensions on student outcomes within the Malaysian SEIP context. The findings are discussed in accordance with the three research objectives.

Level of Teacher Well-Being

The descriptive analysis revealed that the overall level of teacher well-being among special education teachers in Peninsular Malaysia was very high ($M = 4.23$, $SD = 0.44$). Among the three dimensions, self-achievement recorded the highest mean ($M = 4.27$, $SD = 0.41$), followed by health ($M = 4.25$, $SD = 0.48$) and school environmental conditions ($M = 4.18$, $SD = 0.43$). These findings suggest that special education teachers maintain strong professional confidence and positive perceptions of their occupational well-being, particularly in relation to personal fulfilment and physical health. This is consistent with prior research indicating that teachers who perceive themselves as professionally competent tend to report higher overall well-being (Love et al., 2020). The comparatively lower mean for school environmental conditions, however, suggests that physical and technological resources within SEIP classrooms remain an area requiring further attention. Concerns regarding technological facilities and environmental noise align with findings by Khasawneh (2024), who emphasised the critical role of environmental conditions in shaping the quality of SEN learning experiences.

Relationship Between Teacher Well-Being and SEN Student Outcomes

The Pearson correlation analysis demonstrated a strong, positive, and statistically significant relationship between teacher well-being and teacher-perceived SEN student outcomes ($r = .692$, $p < .01$), supporting H1. According to Cohen's (1988) guidelines, this coefficient reflects a large effect size, indicating that teacher well-being is substantially associated with the quality of outcomes experienced by SEN students. This finding is consistent with the broader literature suggesting that teachers who experience higher well-being are

better positioned to deliver quality instruction, manage diverse learning needs, and sustain meaningful engagement with students (Love et al., 2020). Within the special education context, where teachers navigate complex occupational demands including individualised instruction and behavioural management, the maintenance of well-being is particularly consequential for student development across cognitive, psychomotor, and affective domains. This finding further reinforces the theoretical proposition of Allardt (1989) that well-being is a multidimensional construct with tangible consequences for the social and developmental contexts in which individuals operate.

Predictive Influence of Teacher Well-Being on SEN Student Outcomes

The multiple regression analysis confirmed that all three dimensions of teacher well-being significantly predicted teacher-perceived SEN student outcomes, with the final model explaining 48.1% of the variance in teacher-perceived SEN student outcomes ($R^2 = .481$, adjusted $R^2 = .477$, $F(3, 408) = 125.243$, $p < .001$), thereby supporting H2. School environmental conditions emerged as the strongest predictor ($\beta = .341$, $p < .001$), followed by self-achievement ($\beta = .257$, $p < .001$) and health ($\beta = .196$, $p < .001$). The comparatively stronger standardised effect size for school environmental conditions, relative to self-achievement and health, suggests that structural and environmental resources may play a more immediate and observable role in shaping teacher-perceived SEN student outcomes within special education settings.

This finding is consistent with prior studies highlighting the importance of physical learning environments, accessibility, instructional resources, and assistive technologies in supporting effective special education practices (Khasawneh, 2024; Muweesi & Nankoma, 2025). Within SEN classrooms, where students often require differentiated instruction, sensory regulation, and adaptive learning supports, environmental limitations may constrain instructional implementation more substantially than individual-level teacher factors alone. This may explain why school environmental conditions emerged as the strongest predictor in the present study.

Furthermore, the finding may reflect the contextual realities of Malaysian SEIP classrooms, where limitations in technological infrastructure and environmental support continue to present practical challenges for instructional delivery and student engagement.

The significant predictive relationship associated with self-achievement further suggests that teachers' sense of professional fulfilment and competence may play an important role in supporting student development, consistent with the self-efficacy literature (Love et al., 2020). Teachers who perceive themselves as professionally competent may be more likely to invest sustained effort in individualised instruction and responsive teaching practices. The predictive relationship associated with health, while comparatively smaller in magnitude, similarly indicates that teachers' physical and emotional well-being remains an important factor associated with teacher-perceived SEN student outcomes, particularly given the demanding instructional and interpersonal requirements of special education contexts.

The findings also suggest that the dimensions of teacher well-being should not be interpreted as entirely independent constructs, but rather as interrelated components operating within the broader special education context. Consistent with Allardt's Sociological Welfare Theory (1989), supportive school environmental conditions may indirectly reinforce teachers' sense of self-achievement and contribute to healthier physical and emotional functioning. Conversely, limitations in environmental resources, technological support, and classroom conditions may adversely affect both professional fulfilment and overall well-being. This interconnectedness highlights the multidimensional and context-dependent nature of teacher well-being within Malaysian SEIP classrooms, where structural constraints and instructional demands frequently interact. The findings therefore extend the application of Allardt's framework by demonstrating that teacher well-being dimensions may function collectively rather than in isolation when associated with teacher-perceived SEN student outcomes.

Taken together, these findings highlight the multidimensional nature of teacher well-being and its collective significance in relation to teacher-perceived SEN student outcomes. The results extend prior research by providing empirical evidence that teacher well-being operates not merely as a personal or occupational variable, but as an important factor associated with student developmental experiences within the Malaysian SEIP context. These findings carry important implications for educational policy, particularly in relation to the design of teacher support systems, professional development programmes, and targeted resource allocation strategies within special education settings.

5. CONCLUSION

This study investigated the level of well-being among special education teachers in primary schools across Peninsular Malaysia, the relationship between teacher well-being dimensions and SEN student outcomes, and the predictive influence of these dimensions on student outcomes within the SEIP context. Grounded in Allardt's Sociological Welfare Theory (1989) and Bloom's Taxonomy (Bloom et al., 1956), the findings provide empirical support for the central proposition that teacher well-being is a substantive and multidimensional factor associated with teacher-perceived SEN student outcomes.

The descriptive findings indicated that special education teachers demonstrated a very high overall level of well-being ($M = 4.23$), with self-achievement and health emerging as the strongest dimensions. However, school environmental conditions, while rated at a high level, revealed areas of concern particularly regarding technological resources and environmental noise, suggesting that structural improvements within SEIP classrooms remain necessary. The Pearson correlation analysis confirmed a strong, positive, and statistically significant relationship between teacher well-being and SEN student outcomes ($r = .692$, $p < .01$), supporting H1 and establishing the associative foundation for subsequent predictive modelling. The multiple regression analysis further demonstrated that all three dimensions of teacher well-being school environmental conditions, self-

achievement, and health collectively and significantly predicted teacher-perceived SEN student outcomes, explaining 48.1% of the variance ($R^2 = .481$, adjusted $R^2 = .477$), thereby supporting H2. School environmental conditions emerged as the strongest predictor ($\beta = .341$), followed by self-achievement ($\beta = .257$) and health ($\beta = .196$), underscoring the differential yet complementary contributions of each well-being dimension to student development.

These findings collectively advance the understanding of teacher well-being beyond a personal occupational variable, repositioning it as a systemic and measurable factor that is significantly associated with the educational experiences and developmental outcomes of students with special educational needs. The study addresses a significant empirical gap in the Malaysian special education literature and contributes to the growing body of evidence that teacher-related psychological and environmental variables warrant greater attention in both research and policy discourse concerning SEN education.

Notwithstanding its contributions, this study acknowledges several limitations. First, the cross-sectional survey design precludes causal inferences, and therefore the findings should be interpreted as predictive and associative rather than causal relationships. Although procedural and statistical remedies were implemented to minimise common method variance (CMV), including anonymity procedures and Harman's single-factor test, the study relied on self-reported data collected from the same respondents for both predictor and outcome variables. Consequently, the possibility of response bias and inflated associations cannot be entirely excluded. Furthermore, while the study focused on Peninsular Malaysia, the generalisability of the findings to East Malaysia and other national contexts may be limited. Future research should consider longitudinal designs, objective measures of student outcomes, multi-source data collection approaches, and cross-national comparative frameworks to extend and validate the present findings. Future studies are also encouraged to incorporate objective indicators of student outcomes, such as standardised academic

assessments, school performance records, and observational data, to complement teacher-perceived evaluations and strengthen measurement validity.

Implications

Theoretical Implications

This study makes a meaningful theoretical contribution by extending the application of Allardt's Sociological Welfare Theory (1989) beyond its original sociological context into the domain of special education. The operationalisation of the having, being, and loving dimensions as school environmental conditions, self-achievement, and health respectively demonstrates the theoretical flexibility and cross-contextual applicability of Allardt's framework in understanding occupational well-being among educators. Furthermore, the integration of Bloom's Taxonomy (Bloom et al., 1956) as a conceptual lens for measuring SEN student outcomes across cognitive, psychomotor, and affective domains provides a theoretically coherent and empirically testable model of teacher-student relationships in special education. The study thus contributes a validated conceptual framework that future researchers can adopt and extend in examining well-being and student outcomes across diverse educational contexts.

Methodological Implications

This study contributes methodologically by demonstrating the applicability of the Rasch Measurement Model in validating instruments designed for special education research, ensuring construct validity through rigorous item-fit analysis and unidimensionality assessment. The sequential analytical approach, progressing from descriptive statistics to Pearson correlation and subsequently to multiple regression, provides a replicable methodological template for examining predictive relationships in educational survey research. Researchers in related fields are encouraged to adopt this sequential framework to strengthen the internal validity of inferential claims and to ensure that regression models are appropriately justified by prior correlational evidence.

Practical Implications

The findings carry several critical practical implications for educational administrators, policymakers, and school leaders within the Malaysian special education system. First, given that school environmental conditions emerged as the strongest predictor of SEN student outcomes, there is an urgent need for the Ministry of Education Malaysia to prioritise systematic investment in the physical and technological infrastructure of SEIP classrooms. This includes upgrading technological facilities, reducing environmental noise, and ensuring that classroom resources are adequate and accessible to support individualised instruction for SEN students. Addressing these structural deficiencies is not merely a matter of teacher comfort but a direct investment in student developmental outcomes.

Second, the significant predictive contribution of self-achievement underscores the importance of structured and sustained professional development opportunities for special education teachers. School administrators and policymakers should design professional learning communities, mentoring programmes, and career advancement pathways that foster teachers' sense of professional competence, personal growth, and instructional effectiveness. Teachers who perceive themselves as professionally fulfilled and competent are more likely to deliver high-quality, responsive instruction that positively impacts SEN student outcomes across cognitive, psychomotor, and affective domains.

Third, the predictive influence of health on SEN student outcomes highlights the urgent need for institutional mechanisms that safeguard teachers' physical and emotional well-being. This includes the implementation of workload management policies, access to occupational health support, psychological counselling services, and wellness programmes specifically tailored to the unique demands of special education teaching. Neglecting teacher health as a policy priority risks undermining instructional quality and, consequently, the developmental trajectories of some of the most vulnerable student populations within the Malaysian education system.

Policy Implications

At the policy level, the findings of this study provide an empirical basis for advocating a well-being-centred approach to special education governance in Malaysia. Current policy frameworks under the SEIP predominantly address structural and curricular dimensions of special education delivery, with comparatively limited attention to the psychological and occupational well-being of teachers. The present findings demonstrate that teacher well-being is not a peripheral concern but an

important factor associated with teacher-perceived SEN student outcomes, accounting for nearly half of the explained variance in student development. Policymakers are therefore urged to incorporate teacher well-being indicators into national education quality frameworks, school performance evaluations, and teacher appraisal systems. The institutionalisation of well-being monitoring mechanisms within SEIP schools would enable early identification of at-risk teachers and facilitate timely intervention, ultimately protecting both teacher welfare and student outcomes.

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