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Extracurricular engagement, peer relationships, and subjective well-being among coastal-area high school students

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Abstract

Background: The importance of Student Subjective Well-Being (SSWB) is highly critical in supporting students' mental health and academic success. Engagement in extracurricular activities and peer relationships are strongly presumed to be significant factors influencing the level of students' SSWB, particularly for those living in coastal areas.

Purpose: To determine the effects of extracurricular engagement and peer relationships on student subjective well-being among high school students in coastal areas.

Method: This quantitative study employed a descriptive-correlational design. The participants were 148 students from a senior high school located in the coastal area of Pesawaran Regency, Lampung Province, Indonesia. Participants were recruited using quota sampling. Data were collected using Likert-scale questionnaires and analyzed using multiple linear regression.

Results: Based on the statistical analysis, multiple linear regression showed that extracurricular engagement and peer relationships were significantly associated with student subjective well-being. Peer relationships showed a stronger association and a greater effective contribution than extracurricular engagement.

Conclusion: Schools should promote supportive social environments and positive peer interactions to improve students' subjective well-being, particularly in coastal communities.

Keywords: Coastal Students; Extracurricular Engagement; Peer Relationships; Student Subjective Well-Being.

INTRODUCTION

Attention to adolescent mental health has increased significantly over the past two decades, particularly in relation to stress, anxiety, and social and academic pressures. UNICEF Indonesia (2021) and the Ministry of Health of the Republic of Indonesia (2023) have reported that adolescents experience various emotional and mental health problems. A 2022 survey reported that 5.5% of adolescents aged 10–17 experienced mental health disorders, including depression (1.0%), anxiety (3.7%), post-traumatic stress disorder (PTSD) (0.9%), and attention-deficit/hyperactivity disorder (ADHD) (0.5%). In addition, Basic Health Research reported that 6.2% of

individuals aged 15–24 experienced depression. These findings highlight the importance of understanding factors related to adolescents' psychological well-being, particularly within the school context.

Student subjective well-being (SSWB) is an important aspect of students' psychological functioning because it reflects their perceptions of the quality of their school life, including school connectedness, academic success, enjoyment of learning, and academic purpose (Arslan & Coşkun, 2020). Lower levels of SSWB have been associated with poorer student engagement, attendance, and

academic achievement (Allen, Furlong, Vella-Brodrick, & Suldo, 2022). The concept of SSWB is rooted in the broader theory of subjective well-being proposed by Diener, Oishi, and Tay (2018). Previous research has also indicated that SSWB is associated with learning motivation, academic achievement, and social-emotional adjustment (Widlund, 2021). Therefore, SSWB represents an important outcome for understanding students' experiences and adjustment within the school environment.

In addition to individual factors, the environmental context may also influence students' SSWB. This consideration is particularly relevant for students living in coastal areas, where environmental challenges such as tidal flooding, sea-level rise, and coastal erosion may affect psychological well-being (Kabir, Newnham, Dewan, Islam, & Hamamura, 2024). Previous studies have demonstrated a relationship between environmental conditions and subjective well-being, suggesting that the physical environment may contribute to individuals' perceptions of their quality of life and well-being (Huang, Wu, Tamim, Jin, Ma, & Xu, 2025). Thus, students' subjective well-being may be shaped not only by personal characteristics but also by the broader environmental conditions in which they live and attend school.

Overall, SSWB may be influenced by a combination of individual, social, school-related, and activity-related factors. Participation in extracurricular activities can provide opportunities for social interaction, personal development, and skill development and may contribute to positive student experiences. In addition, peer relationships play an important role in adolescents' psychological functioning, as the quality of peer interactions is associated with emotional well-being (Aydoğdu & Kelpšienė, 2021) and students' subjective well-being (Shek, Leung, Dou, & Zhu, 2022). These findings suggest that understanding SSWB requires consideration of multiple dimensions of students' experiences, including their personal characteristics, relationships with others, school environment, activities, and surrounding environmental conditions.

RESEARCH METHOD

This study employed a quantitative explanatory design with a cross-sectional correlational approach at Senior High School 1 Padang Cermin, Pesawaran Regency, Lampung, Indonesia. The study involved

students in grades X–XII who actively participated in at least one extracurricular activity. The dependent variable was Student Subjective Well-Being (SSWB), while extracurricular activity engagement and peer relationships were the independent variables. From a total school population of approximately 932 students, 148 participants were recruited using non-probability quota sampling. Inclusion criteria were being an active student in grades X–XII, participating in at least one extracurricular activity, being willing to participate, and completing the questionnaire. Data collection was conducted during the actual study period. Data were collected using self-administered questionnaires containing demographic characteristics, SSWB, extracurricular activity engagement, and peer relationship measures. SSWB was assessed using the 16-item Student Subjective Well-Being Questionnaire (SSWQ) developed by Renshaw et al. (2015), covering school connectedness, academic efficacy, joy of learning, and educational purpose. The Indonesian version demonstrated corrected item-total correlations of 0.312–0.768 and Cronbach's alpha of 0.907. Extracurricular activity engagement was measured using a 30-item scale adapted from Peng (2023), covering opportunities for skill development, growth and self-reflection, and recognition and achievement, with a four-point Likert scale and original Cronbach's alpha of 0.88. Peer relationships were measured using a 29-item scale adapted from Aydoğdu (2021), covering intimacy, popularity, trust, and insight, using a three-point Likert scale and original Cronbach's alpha of 0.93.

The extracurricular engagement and peer relationship instruments were translated into Indonesian, culturally and linguistically adapted, reviewed by experts in educational psychology and psychological measurement, and pilot-tested among students with similar characteristics. Item discrimination was assessed using Corrected Item-Total Correlation, with coefficients below 0.30 considered for revision or elimination, while Cronbach's alpha ≥ 0.70 was considered acceptable. Data were analysed using IBM SPSS Statistics version 26. Descriptive statistics included frequencies, percentages, means, and standard deviations. Multiple linear regression was performed to examine the effects of extracurricular activity engagement and peer relationships on SSWB. Regression assumptions included residual normality,

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linearity, multicollinearity, homoscedasticity, and independence of residuals. Partial and simultaneous effects were assessed using the t-test and F-test, respectively, with statistical significance set at $p < 0.05$. The coefficient of determination (R^2) was

reported to indicate the proportion of SSWB variance explained by the independent variables. Ethical approval was obtained from the Health Research Ethics Committee (HREC) of Malahayati University (No. 5288/EC/KEP-UNMAL/IV/2026).

RESEARCH RESULTS

Table 1. Distribution of Respondents (N = 148)

Variable	Results
Age (n/%) (Mean$\pm$SD) (Range) (Year)	(16.0 $\pm$ 0.7) (15–18)
15	38/25.7
16	75/50.7
17	33/22.3
18	2/1.4
Gender (n/%)	
Male	51/34.5
Female	97/65.5
Grade (n/%)	
X	81/54.7
XI	67/45.3
Extracurricular Participation (n/%)	
Single activities	109/73.6
Multiple activities	39/26.4
Student Subjective Well-being (n/%)	
High	18/12.2
Moderate	110/74.3
Low	20/13.5
Engagement In Extracurricular Activities (n/%)	
High	26/17.6
Moderate	101/68.2
Low	21/14.2
Peer Relationship (n/%)	
High	31/20.9
Moderate	88/59.5
Low	29/19.6

Table 1 presents the characteristics of the 148 respondents. The mean age of the participants was 16.0 $\pm$ 0.7 years (range: 15–18 years), with the majority aged 16 years (50.7%), followed by 15 years (25.7%), 17 years (22.3%), and 18 years (1.4%). Most respondents were female (65.5%), while 34.5% were male. Regarding grade level, 54.7% were in Grade X and 45.3% were in Grade XI. Most students participated in a single extracurricular activity (73.6%), whereas 26.4% participated in multiple extracurricular activities. In terms of student subjective

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well-being, the majority of respondents had a moderate level (74.3%), followed by low (13.5%) and high (12.2%) levels. Similarly, most respondents demonstrated a moderate level of engagement in extracurricular activities (68.2%), while 17.6% had high engagement and 14.2% had low engagement. Regarding peer relationships, 59.5% of respondents reported a moderate level, whereas 20.9% had high and 19.6% had low peer relationship levels.

Tabel 2. Table 2. Multiple Linear Regression Analysis of Factors Associated with Student Subjective Well-Being

Predictor Variable	B	t-value	p-value	Effective Contribution (EC)
Extracurricular Engagement (X1)	0.215	2.719	.007	6.0%
Peer Relationship (X2)	0.274	3.476	.001	9.0%
Constant	-	6.301	.000	-

Note. $R = .388$, $R^2 = .150$, $F = 12.816$, $p < .001$. Total Effective Contribution = 15.0%.

Table 2 displays the results of the multiple linear regression analysis testing the effects of extracurricular engagement (X₁) and peer relationship (X₂) on Student Subjective Well-Being (Y). Simultaneously, both predictors significantly influenced SSWB ($F = 12.816$, $p < .001$) with an R^2 value of .150. This indicates that the two independent variables account for 15% of the variance in SSWB, while the remaining 85% is influenced by other factors. Partially, peer relationship exerted a stronger effect and higher effective contribution ($B = .274$, $EC = 9.0\%$) compared to extracurricular engagement ($B = .215$, $EC = 6.0\%$).

DISCUSSION

The main findings of this study demonstrate that both engagement in extracurricular activities and peer relationships have a positive and significant impact, both simultaneously and partially, on the Student Subjective Well-Being (SSWB) of high school students in coastal regions. Substantially, the regression model's capacity to explain 15% of the variance in SSWB confirms that the school social environment acts as a potent external determinant of adolescents' emotional well-being. Conversely, the remaining 85% of unexplained variance reinforces (Diener, Heintzelman, Kushlev, Tay, Wirtz, Lutes, & Oishi, 2017). Classic theory, which posits that subjective well-being is heavily governed by innate internal factors, such as emotional stability. An individual's self-esteem and the macro-physical quality of the learning environment interact dynamically in shaping students' well-being at school (Wardoyo, Awalya, & Mulawarman, 2021). These

dynamics underscore that interventions aimed at improving the emotional well-being of coastal students require a holistic approach one that integrates individual mental health management with the cultivation of a conducive school social climate (Umar & Nisa, 2020).

Despite yielding a smaller effective contribution of 6%, students' active engagement in extracurricular activities proved to have a tangible positive impact on enhancing SSWB. Structured non-academic activities serve as an essential space for fulfilling adolescents' psychological needs for self-actualization and personal achievement (Mursandi, Putri, & Sandayanti, 2022). This sustained active participation builds positive emotional attachments that ultimately foster psychological well-being (Clarke, McLellan, & Harold, 2025). A critical evaluation of the descriptive data reveals that the majority of coastal students fall into the "Moderate" engagement category (68.2%) and are predominantly involved in only a single activity. This indicates potential constraints regarding physical access or program variation in coastal schools, which prevents students from fully exploring their interests compared to their urban counterparts (Villemare-Krajden & Barker, 2024).

The primary scientific contribution and core novelty of this research lie in the clear dominance of the peer relationship variable, which yielded a higher effective contribution of 9%. Critically, this finding reveals a substantial shift or point of divergence from well-being trends typically observed in modern urban student populations. In urban societies, adolescents' subjective well-being is frequently correlated with academic achievements or the quantity of

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sophisticated school facilities. In contrast, for high school students in coastal regions who are characterized by the sociological traits of a communal-collective society the quality of interpersonal peer relationships emerges as a far more fundamental pillar (Wangi, Putri, & Arisandi, 2025).

Supportive peer relationships, rooted in mutual trust and deep emotional closeness, function as an exceptionally effective psychological buffer that reduces emotional distress among coastal adolescents (Juliyanti, 2025). Given the remarkably high intensity of peer interactions during adolescence (Oranga & Matere, 2025). Meaningful friendships oriented toward genuine mutual care rather than the pursuit of social status or superficial popularity serve as the foundation for optimizing students' subjective well-being within the school environment. These insights offer a fresh contribution to adolescent mental health literature, highlighting that well-being interventions in coastal schools cannot merely replicate urban models. Instead, the strategic focus must shift from expanding physical facilities or program quantities toward engineering an inclusive school culture that nurtures healthy, supportive, and substantive social interactions (Österholm, Widlund, & Korhonen, 2026).

CONCLUSION

Extracurricular engagement and peer relationships were significantly associated with subjective well-being among high school students in the coastal area studied. Peer relationships showed a greater contribution to subjective well-being than extracurricular engagement. Schools should therefore strengthen positive peer interactions and provide supportive extracurricular environments. Further studies should examine additional individual, family, school, and environmental factors using longitudinal or experimental designs.

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