DETERMINANT FACTORS OF QUALITY OF LIFE AT SCHOOL IN EARLY ADOLESCENTS: A MULTIVARIATE ANALYSIS

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ABSTRACT

School is a primary environment for early adolescents, shaping and influencing various aspects of their quality of life. Therefore, understanding the determinant factors affecting the quality of life at school for early adolescents is essential to creating a supportive and empowering educational environment. The aim of this study was to identify the determinant factors of quality of life at school for early adolescents. This study employs a cross-sectional design. The population of this study includes early adolescents in the Jakarta, Bogor, Depok, Tangerang, and Bekasi areas. The sampling technique used is consecutive sampling, with a total of 558 respondents. This study uses multivariate analysis through multiple logistic regression. The results indicate that gender is not a significant predictor of quality of life at school for early adolescents (Exp(B) = 0.59, CI = 0.24-1.41); school status is also not significant (Exp(B) = 0.91, CI = 0.13-6.37); physical activity has a significantly negative impact on quality of life at school (Exp(B) = 0.21, CI = 0.07-0.64); number of absences from school is not significant (Exp(B) = 1.69, CI = 0.28-10.32); peer relationships have a significantly positive impact (Exp(B) = 7.98, CI = 1.34-47.50); academic stress is not significant (Exp(B) = 1.33, CI = 0.10-17.43); bullying incidents have a very high significantly positive impact (Exp(B) = 67.04, CI = 34.07-131.93); time spent on social media has a significantly positive impact (Exp(B) = 9.05, CI = 4.57-17.90); family support has a significantly strong negative impact (Exp(B) = 0.03, CI = 0.00-0.25); physical school environment is not significant (Exp(B) = 0.35, CI = 0.06-1.98). The factor most related to quality of life at school for early adolescents is bullying incidents. This can serve as a basis for appropriate interventions focused on significant factors to help create a more supportive and empowering educational environment for adolescents.

Keywords: early adolescence; quality of life; school

INTRODUCTION

Educational experiences during early adolescence have a significant impact on personal development and the quality of life of students. Early adolescents, aged between 11 and 15, experience a crucial transitional phase in their lives that can shape their thinking patterns, behaviors, and future well-being (Cavioni, Grazzani, Ornaghi, Agliati, & Pepe, 2021; Kassis et al., 2022). School, as the primary environment for early adolescents, becomes a crucial environment that shapes and influences various aspects of their quality of life. Therefore, understanding the determinant factors affecting the quality of life at school for early adolescents is essential to creating a supportive and empowering educational environment (Kassis et al., 2022; Magiera & Pac, 2022).

Poor quality of life at school for early adolescents can have serious impacts on various aspects of their development and well-being. Some impacts of poor quality of life at school for early adolescents include low motivation to learn, emotional well-being disturbances, increased absenteeism, and decreased academic performance (Cavioni et al., 2021). Poor quality of life at school can hinder students' ability to focus and learn effectively, leading to decreased academic performance and difficulty achieving their full potential. Other impacts include unhealthy or

harmful behaviors, lack of social skills development, and risk of dropping out. Poor quality of life can result in a lack of independence and involvement in school life. Students may feel they have no role or responsibility, reducing their sense of ownership of the learning process. Mental health issues such as anxiety and depression can affect students' ability to function well both physically and emotionally. An unsupportive school environment can be a barrier to developing students' talents and interests. As a result, young people in their early stages may not get the opportunity to explore their potential and hone skills that are important for their future careers (Magiera & Pac, 2022; Meade & Dowswell, 2016).

Previous research shows that the quality of life of adolescents at school is closely related to their social relationships, especially with peers. Positive relationships can enhance emotional and psychological well-being. Determinant factors of adolescents' quality of life at school include social support from parents and teachers. Adolescents who feel this support tend to have a more positive perception of their school environment. Other research indicates that adolescents active in extracurricular activities such as sports, arts, or student organizations have a better quality of life. This can help them feel engaged and have a strong identity at school (Gil-Lacruz, Gil-Lacruz, & Gracia-Pérez, 2020; Kassis et al., 2022; Meade & Dowswell, 2016).

Learning success and academic performance also play a crucial role. Adolescents who succeed academically may have higher life satisfaction at school. Several studies indicate that stress levels and the way adolescents deal with psychosocial challenges can affect their quality of life. Effective coping skills can help adolescents deal with academic stress. Adolescents' perception of their school environment also influences their quality of life. Factors such as safety, support from school staff, and adequate facilities can shape positive perceptions. Adolescents who feel involved in school decision-making, such as through student forums or participatory projects, may experience an enhanced quality of life as they feel valued and influential (Gil-Lacruz et al., 2020; Guedes et al., 2023; Mansin & Cheah, 2020).

Increased media and technology use can affect adolescents' quality of life. Good control over media use and wise interaction online can contribute to their well-being. Adolescents' mental and emotional health is a primary determinant of their quality of life at school. Mental disorders such as depression or anxiety can affect how adolescents interact and feel in the school environment (Cavioni et al., 2021; Gil-Lacruz et al., 2020). Previous studies generally investigated the quality of life in a broader sense, while this study specifically focuses on the quality of life of healthy early adolescents at school. Based on this, the researcher is interested in exploring and analyzing the determinant factors of quality of life at school for early adolescents.

METHOD
This study employs a cross-sectional design, analyzing causal relationships where data collection is conducted at one time. The research variables include respondent characteristics (age, gender, school status, parents' income); independent variables (number of absences from school, physical activity, peer relationships, academic stress, bullying incidents, time spent on social media, family support, physical school environment); and the dependent variable (quality of life at school for early adolescents, divided into four dimensions: psychosocial dimension, attitude towards school dimension, student-teacher relationship dimension, and school environment dimension).

The population of this study consists of early adolescents in the Jakarta, Bogor, Depok, Tangerang, and Bekasi areas. The sampling technique used consecutive sampling totaling 558 respondents. The survey was conducted online. The instruments used in this study include modified independent variable instruments: number of absences from school, physical activity, peer relationships, academic stress, bullying incidents, time spent on social media, family support, physical school environment (Bosworth, Espelage, & Simon, 1999; Mynard & Joseph, 2000; Hamburger, Basile, & Vivolo, 2011; Eisenberg, 2003). The dependent variable instrument uses the Quality of Life in School in the Indonesian version (Ghotra et al., 2016). Validity and reliability tests have been conducted on 20 adolescent respondents online. Validity test results for all statements were above the R table value of 0.468, declaring all questionnaires valid. Reliability test results showed alpha Cronbach values above 0.7, declaring the questionnaire reliable.

Data analysis in this study was conducted using univariate, bivariate, and multivariate analysis. Univariate analysis used mean, standard deviation, and frequency distribution. Bivariate analysis used the Sperman rank test. Multivariate analysis used multiple logistic regression. This study has passed ethical approval from the Health Research Ethics Committee of Universitas Indonesia Maju with number 8363/Sket/Ka-Dept/RE/UIMA/IV/2024.

RESULTS AND DISCUSSION

This study's results show that the average respondent age is 13.2 years, with a minimum age of 11 years and a maximum age of 15 years.

Table 1.
Describes respondent characteristics by gender, school status, and parents' income (n=558)

Respondent Characteristics	f	%
Gender		
Female	186	33.3
Male	327	66.7
School Status		
Private	173	31.0
Public	385	69.0
Parents' Income		
Above UMR	155	27.8
Below UMR	403	72.2

Table 1 indicates that the majority of respondents are male (66.7%), with most attending public schools (69.0%). Most parents' income is below the UMR (72.2%).

Table 2 describes that the majority of early adolescents in this study frequently have absences, inadequate physical activity, poor peer relationships, experience academic stress, bullying incidents, spend more than 2 hours/day on social media, have poor family support, uncomfortable physical school environment, and poor quality of life at school, with each variable amounting to 69.5%, 57.9%, 71.3%, 71.9%, 70.4%, 69.9%, 71.5%, 71%, and 69.7% respectively.

Table 2.
Describes the independent and dependent variables (n=558)

Variable	f	%
Number of Absences		
Rare	170	30,5
Frequent	388	69,5
Physical Activity		
Adequate	235	42,1
Inadequate	323	57,9
Peer Relationship		
Good	160	28,7
Poor	398	71,3
Academic Stress		
No	157	28,1
Yes	401	71,9
Bullying Incidents		
No	165	29,6
Yes	393	70,4
Time Spent on Social Media		
≤2hours/day	168	30,1
>2hours/day	390	69,9
Family Support		
Good	159	28,5
Poor	399	71,5
Physical School Environment		
Comfortable	162	29,0
Uncomfortable	396	71,0
Quality of Life at School		
Good	169	30,3
Poor	389	69,7

Table 3 illustrates that age and parents' income are not related to the quality of life at school in early adolescents (p-value=0.555 and 0.479, respectively). In contrast, gender, school status, physical activity, school absences, peer relationship, academic stress, bullying incidents, time spent on social media, family support, and school physical environment are all related to the quality of life at school in early adolescents (p-value <0.001 for all factors).

Table 4 displays the results of multiple logistic regression analysis conducted to evaluate the determinants of quality of life at school in early adolescents. The variables examined include gender, school status, physical activity, school absences, peer relationships, academic stress, bullying incidents, time spent on social media, family support, and school physical environment. The multiple logistic regression results are detailed in columns B (regression coefficient), Exp(B) (exponential of the regression coefficient), and 95% confidence interval (95% CI). From the analysis, it can be concluded that gender is not significant in predicting the quality of life at school in early adolescents (Exp(B) = 0.59, CI = 0.24-1.41); school status is also not significant (Exp(B) = 0.91, CI = 0.13-6.37); physical activity has a significant negative impact on quality of life at school (Exp(B) = 0.21, CI = 0.07-0.64); school absences are not significant (Exp(B) = 1.69, CI = 0.28-10.32); peer relationships have a significant positive impact (Exp(B) = 7.98, CI = 1.34-47.50); academic stress is not significant (Exp(B) = 1.33, CI = 0.10-17.43); bullying incidents have a very high significant positive impact (Exp(B) = 67.04, CI = 34.07-131.93); time spent on social media has a significant positive impact (Exp(B) = 9.05, CI = 4.57-17.90); family support has a significant strong negative impact (Exp(B) = 0.03, CI = 0.00-0.25); and school physical environment is not

significant (Exp(B) = 0.35, CI = 0.06-1.98). These conclusions are based on the exponential of the regression coefficients (Exp(B)), where values greater than 1 indicate a positive impact, while values less than 1 indicate a negative impact on the quality of life at school in early adolescents. Additionally, the 95% confidence intervals are used to assess the statistical significance of each factor.

Table 3.
Determinants of Quality of Life at School in Early Adolescents (n=558)

Variable	Min-Max	Mean	SD	p-value
Usia	11-15	13.2	1.07	0.555

Variable	Quality of Life at School			
	Good	Poor	Total	p-value
Gender				
Female	85	101	186	<0.001
Male	84	288	372	
School Status				
Private	125	48	173	<0.001
Public	44	341	385	
Parents' Income				
Above UMR	43	112	155	0.479
Below UMR	126	277	403	
Physical Activity				
Adequate	138	97	235	<0.001
Inadequate	31	292	323	
Number of Absences				
Rare	125	45	170	<0.001
Frequent	44	344	388	
Peer Relationship				
Good	124	36	160	<0.001
Poor	45	353	398	
Academic Stress				
No	123	34	157	<0.001
Yes	46	355	401	
Bullying Incidents				
No	146	19	165	<0.001
Yes	23	370	393	
Time Spent on Social Media				
≤2hours/day	126	42	168	<0.001
>2hours/day	43	347	390	
Family Support				
Good	122	37	159	<0.001
Poor	47	352	399	
Physical School Environment				
Comfortable	111	51	162	<0.001
Uncomfortable	58	338	396	

Table 4.
Multiple Logistic Regression of Determinants of Quality of Life at School in Early Adolescents
(n=558)

Variable	B	Exp(B)	95 % CI
Gender	-0.55	0.59	0.24-1.41
School Status	-0.25	0.91	0.13-6.37
Physical Activity	-1.54	0.21	0.07-0.64
School Absences	0.397	1.69	0.28-10.32
Peer Relationship	-1.68	7.98	1.34-47.50
Academic Stress	0.25	1.33	0.10-17.43
Bullying Incidents	4.21	67.04	34.07-131.93
Time Spent on Social Media	2.20	9.05	4.57-17.90
Family Support	-3.47	0.03	0.00-0.25
School Physical Environment	-1.05	0.35	0.06-1.98

This study illustrates the correlation between age, parents' income, and quality of life at school for early adolescents. Statistical analysis results show no significant relationship between adolescent age and quality of life at school (p = 0.555). Similarly, no significant relationship was found between parents' income and quality of life at school for early adolescents (p = 0.479). These results suggest that age and parents' income may not be the main factors influencing adolescents' school experiences. Factors influencing quality of life at school may include social, psychological, and environmental aspects. However, in this study's context, adolescent age and parents' income do not seem to play a significant role in determining the quality of life in the school environment. This indicates that there is individual variability and other factors that more strongly influence adolescents' perceptions of their school experiences (Alexander, 2023; Fabio, 2023; Funmilola, 2023).

This study reveals significant correlations between several factors and quality of life at school for early adolescents. Statistical analysis results show that gender, school status, physical activity, and number of absences from school have significant relationships with quality of life in the school environment for early adolescents (p < 0.001 for all factors). This study indicates that these factors have meaningful impacts on adolescents' perceptions of their school experiences. First, gender was found to have a significant relationship with quality of life at school. Gender differences can influence how adolescents interact with the school environment, their perceptions of education, and how they face academic and social challenges. Second, school status also proves to be an influential factor on quality of life at school for early adolescents. This factor may include the type of school (e.g., public versus private), school size, or the educational curriculum offered, all of which can affect adolescents' learning experiences. Furthermore, physical activity and number of absences from school also have significant correlations with quality of life in the school environment for early adolescents. Adequate physical activity and high attendance levels at school can positively impact adolescents' well-being and their perceptions of their learning experiences (Alexander, 2023; Funmilola, 2023; Jose, 2023; Xin, 2023).

This study confirms that several psychosocial factors have significant correlations with quality of life at school for early adolescents. This study indicates that peer relationships, academic stress, and bullying incidents play crucial roles in shaping adolescents' school experiences during this developmental stage (p < 0.001 for all factors). First, peer relationships significantly influence quality of life at school. Social interactions with peers can affect social support levels, school engagement, and emotional well-being, all contributing to positive perceptions of school

experiences (Lestari & Safitri, 2023). Second, academic stress, which includes workload, pressure to achieve, and anxiety related to assessments, was also found to have a significant relationship with quality of life at school for early adolescents. High levels of academic stress can affect learning motivation, mental well-being, and overall perceptions of the school environment. Moreover, bullying incidents were also found to be a significant factor affecting quality of life at school for early adolescents (Lestari & Koto, 2020). A safe and supportive school environment is essential for adolescents' well-being. Bullying incidents can cause stress, depression, and damage self-esteem, all of which can affect adolescents' perceptions of their quality of life at school (Alexander, 2023; Allison, 2023; Funmilola, 2023; I-Hua, 2023, Lestari, 2023).

This study illustrates the important roles of factors such as time spent on social media, family support, and the physical school environment in determining quality of life at school for early adolescents. This study shows that these factors have significant relationships with adolescents' school experiences (p < 0.001 for all factors), underscoring the complexity of the influences of social and physical environments on adolescents' well-being. First, social media usage patterns significantly correlate with quality of life at school for early adolescents. Time spent on social media can affect social interactions, learning concentration, and adolescents' emotional well-being. In this context, it is crucial to understand the positive and negative impacts of social media usage on adolescents' school experiences. Second, family social support was also found to have a significant relationship with quality of life at school for early adolescents. Emotional support, practical support, and the quality of relationships between adolescents and their families can affect well-being levels and perceptions of the school environment. Furthermore, the physical school environment also has a significant impact on quality of life at school for early adolescents. A comfortable, safe, and supportive school environment can enhance adolescents' sense of ownership, engagement, and well-being (Du, 2023; Grace et al., 2023; Young et al., 2023).

These findings are consistent with literature describing the complexity of factors influencing quality of life at school. Although factors such as age and parents' income are often considered significant, this study's results show that, in the context of early adolescents, other factors may be more important. These factors likely include social interactions with peers, family social support, academic burdens, perceptions of the school environment, and social media usage. This study illustrates the importance of creating a safe, inclusive, and supportive school environment for adolescents. Anti-bullying programs, counseling services, and approaches that strengthen positive social relationships can be effective strategies for improving quality of life at school for early adolescents. This study emphasizes the importance of integrating holistic approaches in understanding factors influencing adolescents' school experiences. Efforts to improve quality of life at school must consider not only social aspects but also the physical school environment and external influences such as social media.

CONCLUSION

This study provides strong evidence that quality of life at school for early adolescents is influenced by various complex and interconnected factors. Appropriate and focused interventions on significant factors can help create a more supportive and empowering educational environment for adolescents. Therefore, education stakeholders should consider these study results in planning and implementing educational programs to enhance adolescents' well-being at school. A deep understanding of the factors influencing quality of life at school is crucial for creating an

environment that supports positive adolescent development. Thus, continuous and collaborative efforts among all education stakeholders are needed to achieve this goal. Further research and evidence-based intervention implementation will be key to ensuring that every adolescent has the opportunity to reach their full potential in a safe and supportive school environment.

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