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SELF-EFFICACY, SLEEP DURATION, AND ADOLESCENT MENTAL HEALTH: A STUDY OF JUNIOR HIGH SCHOOL STUDENTS IN YOGYAKARTA

Efikasi Diri, Durasi Tidur, dan Kesehatan Mental Remaja: Studi Siswa SMP di Yogyakarta

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ABSTRAK

Kesehatan mental remaja di Yogyakarta semakin mengkhawatirkan seiring meningkatnya tekanan akademik, tuntutan sosial, dan perubahan pola hidup yang berpotensi memengaruhi kesejahteraan psikologis melalui faktor seperti efikasi diri dan durasi tidur. Penelitian ini bertujuan menganalisis dampak program promosi kesehatan mental terhadap kesehatan mental remaja, dengan menyoroti peran mediasi efikasi diri dan durasi tidur pada siswa SMP di Yogyakarta. Pendekatan kuantitatif digunakan dengan pengumpulan data melalui kuesioner Google Form yang mengukur partisipasi siswa dalam program promosi kesehatan mental, tingkat efikasi diri, durasi tidur, serta kondisi kesehatan mental. Pengambilan data dilakukan pada Desember 2024 terhadap 200 siswa dari 49 SMP yang dipilih secara purposive dan proporsional, berusia 12–17 tahun dan pernah mengikuti program kesehatan mental di sekolah. Analisis data menggunakan SEM-PLS untuk menguji hubungan antarvariabel serta memastikan validitas dan reliabilitas model. Hasil penelitian menunjukkan efikasi diri berpengaruh positif dan signifikan terhadap kesehatan mental remaja (t-statistik 5,546; p-value 0,000), sehingga hipotesis terkait efikasi diri diterima. Sebaliknya, durasi tidur tidak berpengaruh signifikan terhadap kesehatan mental (p-value 0,530), sehingga hipotesis ini ditolak. Temuan ini menegaskan bahwa program promosi kesehatan mental di sekolah perlu berfokus pada penguatan efikasi diri melalui pelatihan manajemen stres dan regulasi emosional. Meskipun tidak berpengaruh langsung, durasi tidur tetap penting bagi kesejahteraan umum remaja dan perlu tetap menjadi bagian dari kebijakan pendukung.

***Kata kunci**: durasi tidur, efikasi diri, kesehatan mental, remaja*

ABSTRACT

The mental health of adolescents in Yogyakarta is increasingly worrying as academic pressures, social demands, and lifestyle changes have the potential to impact psychological well-being through factors such as self-efficacy and sleep duration. This study aims to analyze the impact of mental health promotion programs on adolescent mental health by highlighting the mediating role of self-efficacy and sleep duration in junior high school students in Yogyakarta. A quantitative approach was used by collecting data through a Google Form questionnaire that measured students' participation in mental health promotion programs, self-efficacy levels, sleep duration, and mental health conditions. Data collection was conducted in December 2024 on 200 students from 49 junior high schools who were selected purposively and proportionally, aged 12–17 years, and had participated in mental health programs at school. Data analysis using SEM-PLS to test the relationship between variables and ensure the validity and reliability of the model. The results of the study showed that self-efficacy had a positive and significant effect on adolescent mental health (t-statistic 5.546; p-value 0.000), so the hypothesis related to self-efficacy was accepted. Conversely, sleep duration does not have a significant effect on mental health (p-value 0.530), so this

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hypothesis is rejected. These findings emphasize that mental health promotion programs in schools need to focus on strengthening self-efficacy through training in stress management and emotional regulation. While not directly related, sleep duration remains important for adolescents' overall well-being and should remain part of supportive policies.

Keywords: adolescents, mental health, self-efficacy**,** sleep duration

INTRODUCTION

Adolescent mental health is a growing global concern, including in Indonesia [1], as adolescence represents a critical developmental period marked by rapid physical, emotional, and social changes that significantly influence psychological well-being [2]. In Yogyakarta, known as a student city, adolescents are particularly vulnerable due to academic pressure and the separation from family support systems, which can increase emotional distress and psychological strain [3]. These conditions highlight the urgency of strengthening school-based mental health promotion programs that address protective psychological factors relevant to adolescents' daily lives [4].

One key psychological factor influencing adolescent mental health is self-efficacy, defined as an individual's belief in their ability to manage challenges and achieve goals [5]. Adolescents with high self-efficacy tend to cope more effectively with stress, anxiety, and emotional difficulties, enabling them to adapt to academic demands, social expectations, and developmental transitions more resiliently [6]. Strong self-efficacy supports emotional regulation and persistence in the face of difficulties, which are essential for maintaining psychological stability during adolescence [7].

Empirical studies demonstrate that self-efficacy shapes how adolescents think, feel, and act when confronting challenges, thereby reducing vulnerability to anxiety and stress [8]. Mental health itself extends beyond the absence of mental disorders and encompasses emotional, psychological, and social well-being, including life satisfaction, effective coping, and healthy interpersonal relationships [9]. Adolescents with good mental health are not only able to manage negative emotions but also demonstrate positive self-perception, personal growth, and constructive social interactions [10].

National and regional data confirm the seriousness of adolescent mental health issues in Indonesia. The 2022 Indonesian National Adolescent Mental Health Survey reported that 5.5% of adolescents aged 10–17 experienced mental disorders, with anxiety and depression as the most prevalent conditions [11]. In Yogyakarta, mental health concerns remain prominent, as evidenced by 3,239 recorded cases of mental disorders in 2024, reflecting a prevalence rate of 0.78% and reinforcing earlier findings from Riskesdas that identified Yogyakarta as a region with relatively high mental health burdens [12], [13].

Beyond self-efficacy, sleep duration has emerged as another critical factor influencing adolescent mental health. Adequate sleep supports emotional regulation, cognitive functioning, and stress recovery, while sleep deprivation is associated with increased anxiety and depressive symptoms [13]. Although prior studies have independently linked self-efficacy and sleep duration to mental health outcomes, limited research integrates both factors within a comprehensive school-based mental health promotion model. Addressing this gap is particularly relevant in Yogyakarta, where academic competition, lifestyle pressures, and mental health stigma may exacerbate psychological risks among adolescents [14]. Therefore, this study seeks to examine how self-efficacy and sleep duration jointly contribute to adolescent mental health, offering evidence-based insights to strengthen mental health promotion programs in schools [15].

METHODS

This study employed a quantitative approach with a descriptive–experimental design to examine the effects of school-based mental health promotion programs on adolescent

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mental health in Yogyakarta, with general self-efficacy and sleep duration serving as mediating variables. This design enables the assessment of causal relationships between program participation and mental health outcomes through relevant psychological and behavioral mechanisms. The study population comprised all junior high school students in Yogyakarta, totaling 20,166 students across 49 schools. A sample of approximately 200 students was selected using proportional purposive sampling based on predefined inclusion criteria: students aged 12–17 years who had participated in school mental health promotion programs and provided informed consent. Students with severe mental health disorders requiring specialized clinical treatment or those unable to provide consent were excluded to ensure ethical and methodological rigor.

Data were collected using an online questionnaire administered via Google Forms with a five-point Likert scale. The instrument measured four main constructs: participation in mental health promotion programs, general self-efficacy assessed using the General Self-Efficacy Scale, sleep duration and quality measured through a sleep pattern questionnaire, and mental health status assessed using the Depression, Anxiety, and Stress Scale (DASS-21). Convergent validity was evaluated using the Average Variance Extracted (AVE ≥ 0.50), while discriminant validity was tested through the Fornell–Larcker criterion and the Heterotrait–Monotrait (HTMT) ratio to ensure conceptual distinctiveness among constructs [16]. Instrument reliability was assessed using Cronbach's Alpha and Composite Reliability, with threshold values of ≥ 0.70 indicating acceptable internal consistency. All constructs met the required validity and reliability criteria, confirming the adequacy of the measurement model for structural analysis.

Data analysis was conducted using Structural Equation Modeling–Partial Least Squares (SEM-PLS), selected for its suitability in analyzing complex relationships among latent variables and mediation effects [17]. Path analysis was employed to examine both direct and indirect effects of mental health promotion programs on adolescent mental health through self-efficacy and sleep duration as mediators [18] Despite limitations related to the study's cross-sectional design, reliance on self-reported data, and focus on junior high school students in Yogyakarta, the findings are expected to provide empirical evidence to inform the development of more effective school-based mental health promotion policies and intervention programs. The ethics of this research is numbered 468/A.4-III/PPs-UMY/III/2024.

Table 1. Research Variables and Indicators

Variables	Indicators
Mental Health Promotion Programs (MHPP)	MHPP 1. Type of mental health promotion programs implemented in schools or communities
	MHPP 2. Level of student participation in mental health programs
	MHPP 3. Provision of psychosocial support services at school
	MHPP 4. Frequency of activities supporting emotional and social well-being
General Self-Efficacy (GSE)	GSE 1. Score on the General Self-Efficacy Scale measuring confidence in overcoming mental and emotional challenges
	GSE 2. Self-perception of ability to handle academic and social challenges
	GSE 3. Level of confidence in managing emotional issues, such as anxiety or social conflicts
Sleep Duration (SD)	SD 1. Average sleep duration per night
	SD 2. Sleep quality based on students' perception
	SD 3. Sleep habits
Mental Health (MH)	MH 1. Score on the DASS-21 (Depression, Anxiety, Stress Scale) to measure symptoms of anxiety, depression, and stress

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Variables	Indicators
	MH 2. Emotional well-being (happiness, life satisfaction, and positive self-perception)
	MH 3. Measurement of stress and anxiety levels using other relevant instruments
	MH 4. Ability to manage emotions in social and academic situations

In this study, we propose the following hypotheses: 1) Mental Health Promotion Programs directly improve General Self-Efficacy (GSE) and Sleep Duration (SD) in adolescents; 2) General Self-Efficacy (GSE) has a positive effect on Mental Health (MH) in adolescents; 3) Sleep Duration (SD) has a positive effect on Mental Health (MH) in adolescents; 4) Mental Health Promotion Programs improve Mental Health (MH) through General Self-Efficacy (GSE) as a mediator; 5) Mental Health Promotion Programs improve Mental Health (MH) through Sleep Duration (SD) as a mediator.

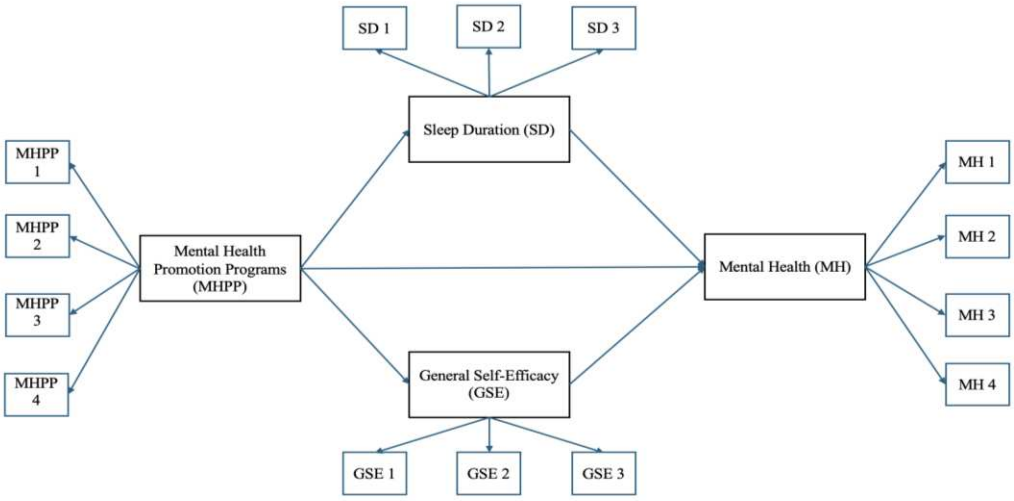

Figure 1. Research Structural Model

RESULT

This study examines the impact of mental health promotion programs on adolescents' emotional well-being in Yogyakarta, focusing on the mediating roles of self-efficacy and sleep duration. Using a quantitative experimental design, the study involved 200 randomly selected junior high school students from 49 schools who had participated in mental health promotion programs.

Table 2. Demographic Respondents

Category	Frequency	Percentage
Gender		
Male	102	51.00%
Female	98	49.00%
Age		
11-13 years	79	39.50%
14-17 years	121	60.50%
School type		
Private	99	49.50%
Public	101	50.50%
Sleep Duration		
≤ 6 hours/day	59	29.50%
> 6 hours/day	141	70.50%

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The demographic characteristics of the 200 respondents in this study, who are junior high school students in Yogyakarta, are shown in Table 2. The sample comprises 51.00% male students (102 students) and 49.00% female students (98). Regarding age, 39.50% of the respondents are between 11 and 13 (79 students), while 60.50% are between 14 and 17 (121 students). Regarding the type of school, 49.50% of the respondents attend private schools (99 students), and 50.50% attend public schools (101 students). For sleep duration, 70.50% (141 students) reported sleeping more than 6 hours per day, while 29.50% (59 students) reported sleeping 6 hours or less each day. This demographic information provides a comprehensive overview of the characteristics of the respondents, which will help analyze the impact of mental health promotion programs as well as the factors influencing mental health, such as self-efficacy and sleep duration, in this group.

Measurement Model

Table 3. Outer loadings, Cronbach's Alpha (α), Composite Reliability, and AVE

Variables	Indicators	Outer Loadings	Composite Reliability	Cronbach's Alpha (α)	AVE
Mental Health Promotion Programs (MHPP)	MHPP 1	0.929	0.948	0.948	0.865
	MHPP2	0.933			
	MHPP3	0.924			
	MHPP 4	0.934			
General Self-Efficacy (GSE)	GSE 1	0.944	0.945	0.945	0.901
	GSE 2	0.955			
	GSE 3	0.949			
Sleep Duration (SD)	SD 1	0.953	1.024	0.885	0.797
	SD2	0.937			
	SD 3	0.777			
Mental Health (MH)	MH 1	0.012	0.950	0.754	0.682
	MH 2	0.956			
	MH 3	0.956			
	MH 4	0.948			

Table 3 summarizes the measurement quality of the key constructs in this study: Mental Health Promotion Programs (MHPP), General Self-Efficacy (GSE), Sleep Duration (SD), and Mental Health (MH). Overall, the results indicate strong reliability and validity across most constructs. MHPP and GSE exhibit very high outer loadings (≥ 0.9), demonstrating excellent convergent validity, supported by high Composite Reliability and Cronbach's Alpha values (> 0.9), which confirm strong internal consistency (Hair et al., 2017). For Sleep Duration, most indicators show satisfactory outer loadings, although SD3 has a relatively lower value (0.777). Despite this, the construct maintains adequate reliability and validity, as evidenced by Composite Reliability values above 0.7 and AVE exceeding 0.5, indicating that SD remains a consistent and valid construct [19].

Regarding Mental Health, most indicators display strong outer loadings, except for MH1, which shows a very low loading (0.012), suggesting a weak contribution to the construct. Although this indicator warrants further evaluation, the Mental Health construct overall demonstrates good measurement quality, reflected in a high Composite Reliability (0.950) and sufficient AVE (0.682) [19]. In summary, the measurement model demonstrates excellent reliability and validity, with minor concerns related to specific indicators. These findings highlight the importance of rigorous indicator selection to ensure accurate and robust measurement in quantitative research models [20].

The HTMT results in Table 4 demonstrate good discriminant validity among all constructs, namely General Self-Efficacy (GSE), Mental Health (MH), Mental Health Promotion Programs (MHPP), and Sleep Duration (SD). All HTMT values are below the recommended threshold of 0.90, indicating that each construct measures a distinct

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dimension without significant conceptual overlap. The HTMT values between GSE and MH (0.869) and between GSE and MHPP (0.826) indicate relatively strong relationships while still confirming construct distinctiveness, as self-efficacy reflects personal coping beliefs, whereas mental health and mental health promotion programs represent broader psychological outcomes and external interventions [5]. In contrast, very low HTMT values between GSE and SD (0.087), MH and SD (0.118), and MHPP and SD (0.089) indicate minimal overlap, confirming that sleep duration represents a separate physiological–behavioral construct [21]. These findings support discriminant validity theory, confirming that all constructs in the model are conceptually distinct and appropriately capture different dimensions relevant to adolescent mental health research [22].

Table 4. HTMT Ratio

	General Self-Efficacy	Mental Health	Mental Health Promotion Programs
General Self-Efficacy			
Mental Health	0.869		
Mental Health Promotion Programs	0.826	0.857	
Sleep Duration	0.087	0.118	0.089

The Fornell–Larcker results in Table 5 confirm strong discriminant validity across all constructs, as the Average Variance Extracted (AVE) values exceed the inter-construct correlations. General Self-Efficacy (GSE) shows a high AVE (0.949) that is greater than its correlations with Mental Health (MH) and Mental Health Promotion Programs (MHPP), indicating that these constructs measure distinct dimensions. Similarly, the AVE of Sleep Duration (0.892) exceeds its low correlations with GSE and MH, confirming that sleep-related behavior represents a separate construct from psychological variables. These findings demonstrate that each construct in the model possesses adequate discriminant validity, ensuring conceptual separation and measurement accuracy. The R-square results further indicate that Mental Health Promotion Programs explain a substantial proportion of variance in General Self-Efficacy (R^2 = 0.613), while Mental Health Promotion Programs and Self-Efficacy jointly explain most of the variance in Mental Health (R^2 = 0.754). In contrast, the very low R^2 value for Sleep Duration (0.008) indicates that mental health promotion programs have minimal influence on students' sleep behaviour.

Table 5. Fornell and Larcker Criteria

	General Self-Efficacy	Mental Health	Mental Health Promotion Programs	Sleep Duration
General Self-Efficacy	0.949			
Mental Health	0.824	0.953		
Mental Health Promotion Programs	0.783	0.814	0.930	
Sleep Duration	0.093	0.116	0.088	0.892

Structural Model

The second stage of data analysis is the examination of the structural model. In this stage, the relationships between the proposed variables are tested and validated using the PLS-SEM bootstrapping method, as shown in Figure 2. The hypotheses proposed in this study are tested based on the results of coefficients, p-values, t-statistics, and standard errors. To analyze the relationships between the variables in this study, a 95% corrected bootstrap method is used. This testing method is considered more accurate in assessing the strength and significance of the relationships between the variables involved in the structural model, providing a clearer and more valid depiction of the influences between variables in the context of this study. By using corrected

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bootstrapping, this process reduces bias in the estimation and enhances the reliability of the analysis results.

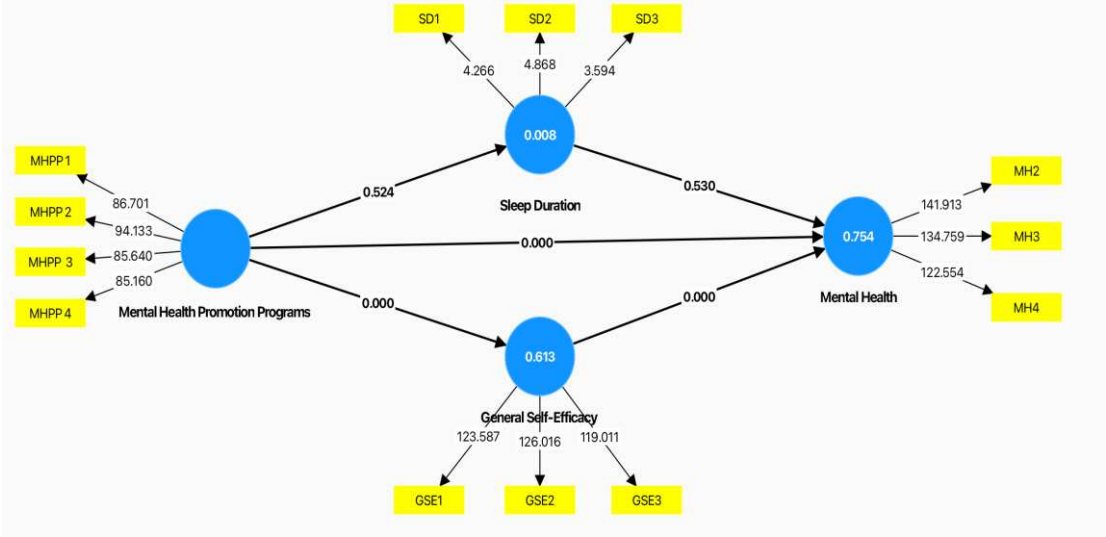

Figure 2. Results of the Structural Model Testing

Figure 2 shows the bootstrap results of the PLS-SEM structural model, revealing several significant relationships among the study variables. Mental Health Promotion Programs (MHPP) have a negligible effect on sleep duration (path coefficient = 0.008), indicating that these programs do not meaningfully influence students' sleep behavior. In contrast, MHPP shows a strong positive effect on General Self-Efficacy (GSE) (0.613), highlighting their effectiveness in strengthening students' confidence in managing emotional and social challenges. General Self-Efficacy, in turn, has a strong positive effect on mental health (0.754), indicating that higher self-efficacy is associated with better mental health outcomes. Sleep duration also contributes to mental health, although with a weaker effect (0.530). The results indicate that self-efficacy serves as the primary mediator linking mental health promotion programs to improved mental health, while sleep duration plays a secondary role.

Table 6. Direct effects

Paths	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values	Results
Mental Health Promotion Programs -> General Self-Efficacy	0.783	0.785	0.034	22.962	0.000	Accepted
Mental Health Promotion Programs -> Mental Health	0.437	0.445	0.086	5.080	0.000	Accepted
Mental Health Promotion Programs -> Sleep Duration	0.088	0.074	0.138	0.638	0.524	Rejected
General Self-Efficacy -> Mental Health	0.478	0.470	0.086	5.546	0.000	Accepted
Sleep Duration -> Mental Health	0.033	0.040	0.053	0.628	0.530	Rejected

Table 6 summarizes the direct effect test results of the structural model. Mental Health Promotion Programs (MHPP) have a strong and significant direct effect on General Self-

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Efficacy (GSE) (O = 0.783; t = 22.962; p < 0.001), supporting the hypothesis that mental health promotion programs effectively enhance students' self-efficacy. MHPP also shows a significant positive direct effect on Mental Health (MH) (O = 0.437; t = 5.080; p < 0.001), indicating that these programs directly contribute to improved mental health outcomes. In contrast, the direct effect of MHPP on Sleep Duration (SD) is not significant (O = 0.088; t = 0.638; p = 0.524), leading to the rejection of this hypothesis. General Self-Efficacy demonstrates a significant positive effect on mental health (O = 0.478; t = 5.546; p < 0.001), confirming its critical role in improving students' mental health. However, Sleep Duration does not show a significant direct effect on Mental Health (O = 0.033; t = 0.628; p = 0.530). The findings indicate that mental health promotion programs primarily improve adolescent mental health through strengthening self-efficacy, while sleep duration does not play a significant direct role in this model.

Table 7. Indirect effects

Paths	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values	Results
Mental Health Promotion Programs -> General Self-Efficacy -> Mental Health	0.374	0.368	0.065	5.734	0.000	Accepted
Mental Health Promotion Programs -> Sleep Duration -> Mental Health	0.003	0.002	0.010	0.304	0.761	Rejected

Table 7 presents the indirect effect test results of the study model. The indirect effect of Mental Health Promotion Programs (MHPP) on Mental Health (MH) through General Self-Efficacy (GSE) is significant (O = 0.374; t = 5.734; p < 0.001), confirming that self-efficacy acts as a meaningful mediator. In contrast, the indirect effect of MHPP on MH through Sleep Duration (SD) is not significant (O = 0.003; t = 0.304; p = 0.761), indicating that sleep duration does not function as a mediator. These findings demonstrate that General Self-Efficacy is the key mediating mechanism linking mental health promotion programs to improved mental health, while Sleep Duration plays no significant mediating role in this model.

DISCUSSION

This The Direct Effect of Mental Health Promotion Programs on Mental Health

The findings show that Mental Health Promotion Programs (MHPP) have a significant direct effect on Mental Health (MH) (β = 0.437; t = 5.080; p < 0.001), confirming that these programs effectively improve adolescents' psychological well-being. This result is consistent with previous studies demonstrating that school-based mental health promotion programs enhance mental health awareness, reduce stress and anxiety, and equip adolescents with practical coping skills [23]. Prior research also highlights self-efficacy as a key protective factor, with higher self-efficacy associated with better mental health outcomes among adolescents [24]. In contrast, although sleep quality has been linked to mental health in other studies [25], its role was not prominent in this context. Additionally, external factors such as parental social support and socio-economic conditions influence mental health outcomes, with stronger protective effects observed among adolescents with adequate social and economic support [26]. These findings suggest that mental health promotion programs should integrate strategies that strengthen self-efficacy and social support while considering socio-economic backgrounds to maximize their effectiveness.

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The Direct Effect of Mental Health Promotion Programs on General Self-Efficacy

The study also shows that Mental Health Promotion Programs directly affect General Self-Efficacy (GSE), with a coefficient of 0.783 and a t-statistic of 22.962, which is far greater than 1.96. The p-value of 0.000 indicates that this effect is highly significant. This suggests that participation in mental health promotion programs has a positive impact on mental health and enhances adolescents' confidence in facing life's challenges, which aligns with Bandura, (1997) theory of self-efficacy [5]. This theory posits that self-efficacy refers to an individual's belief in their ability to manage tasks and challenges. Through skills training and self-awareness development, mental health promotion programs can boost adolescents' self-efficacy in managing emotional and social issues [27]. This further implies that when adolescents feel more confident in their ability to handle problems, they will be more adept at navigating emotional and social life challenges.

The Direct Effect of Mental Health Promotion Programs on Sleep Duration

In contrast to its effects on mental health and self-efficacy, Mental Health Promotion Programs show no significant direct effect on Sleep Duration ($\beta = 0.088$; $t = 0.638$; $p = 0.524$). This finding suggests that school-based mental health programs primarily emphasize stress and anxiety management rather than promoting healthy sleep behaviors. Consequently, while these programs strengthen psychological coping mechanisms, they have limited influence on adolescents' sleep duration, which is more strongly shaped by daily habits, stress levels, and lifestyle factors. Nevertheless, sleep remains closely linked to adolescent mental health through a reciprocal relationship, as sleep disturbances can exacerbate anxiety and depression, and psychological distress can further disrupt sleep patterns [28].

The Direct Effect of General Self-Efficacy on Mental Health

One of the most significant findings of this study is the direct effect of General Self-Efficacy on Mental Health. With a coefficient of 0.478 and a t-statistic of 5.546, this effect is highly significant, suggesting that an increase in self-efficacy positively impacts adolescents' mental health. Bandura, (1997) theory, which states that self-efficacy is critical in regulating emotional and psychological responses, supports these findings [5]. Adolescents with high self-efficacy tend to manage stress and life challenges better, which in turn can reduce the risk of mental health issues such as anxiety and depression [29]. This implies that enhancing adolescents' confidence in coping with emotional or psychological difficulties can significantly contribute to maintaining or improving their psychological well-being.

The Direct Effect of Sleep Duration on Mental Health

Based on the results of this study with middle school students in Yogyakarta, it was found that sleep duration did not have a direct significant effect on mental health. With a coefficient of 0.033, a t-statistic of 0.628, less than 1.96, and a p-value of 0.530, the relationship between sleep duration and mental health was not statistically significant. The fact can explain that although sufficient sleep is essential for mental health, other factors such as stress levels, anxiety, and eating habits also play a significant role in determining an individual's mental health. Moreover, sleep quality is more influential than sleep duration alone, as noted in previous research [21]. While sufficient sleep is important, other psychological factors such as self-efficacy and stress management significantly improve adolescents' mental health than sleep duration.

Indirect Effects

The indirect effect analysis shows that Mental Health Promotion Programs significantly influence Mental Health through General Self-Efficacy ($\beta = 0.374$; $t = 5.734$), indicating that enhanced self-efficacy serves as a key mechanism through which these programs improve adolescents' mental well-being. This finding supports theoretical perspectives suggesting that stronger self-efficacy increases individuals' capacity to

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manage stress and life challenges, thereby promoting psychological well-being [30]. In contrast, the indirect effect through Sleep Duration is not significant (β = 0.003; t = 0.304; p = 0.761), indicating that sleep duration does not function as a mediator in this relationship. These results suggest that mental health promotion programs are more effective when they prioritize psychological empowerment—particularly self-efficacy—rather than focusing solely on physical factors such as sleep duration.

Practical Implications

School-based mental health promotion programs should prioritize strengthening adolescents' self-efficacy, given its consistent and significant impact on mental health. Structured training in stress management, emotional regulation, problem-solving, and adaptive coping is essential to enhance adolescents' psychological well-being and resilience [31]. Although sleep duration showed no direct effect, mental health programs should still address sleep through an emphasis on sleep hygiene, regular routines, and sleep quality rather than sleep quantity alone, as these factors are more closely linked to anxiety and depression [32]. This study is limited by its focus on Yogyakarta, reliance on self-reported data, and the exclusion of contextual factors and sleep quality measures. Future research should adopt longitudinal and multi-source approaches that incorporate contextual moderators to better inform adolescent mental health promotion strategies.

CONCLUSION

This study shows that mental health promotion programs improve adolescents' mental health mainly by strengthening general self-efficacy, confirming self-belief as the key mechanism underlying program effectiveness. In contrast, sleep duration has no significant direct or mediating effect, indicating that psychological factors—particularly self-efficacy—play a more dominant role than sleep behavior among junior high school students in Yogyakarta. The findings are limited by the study's focus on one region, reliance on self-reported data, and the exclusion of contextual factors such as socio-economic conditions and family support. Nevertheless, the study offers valuable insights into how school-based mental health promotion programs influence adolescent well-being. School programs should prioritize self-efficacy–focused interventions through stress management, emotional regulation, and confidence-building training, supported by experiential and cognitive-behavioral approaches. Policy efforts should strengthen school-based mental health systems through accessible psychological services, tele-mental health, and cross-sector collaboration to support adolescent mental well-being in Yogyakarta.

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