JURNAL KEPERAWATAN PPNI JAWA BARAT
Volume 3 No 1 Juni 2025

DETERMINANTS OF MENTAL HEALTH LITERACY AMONG ADOLESCENTS: A CROSS-SECTIONAL STUDY

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ABSTRACT

Background: According to the World Health Organization, approximately 450 million people worldwide experience mental health issues, with 14.4% attributed to behavioral contributors and 13.5% categorized as mental health problems (Ministry of Health of the Republic of Indonesia, 2018). Adolescents from lower socioeconomic backgrounds are more likely to engage in unhealthy behaviors and demonstrate lower levels of health literacy. This study aims to identify the factors associated with mental health literacy in adolescents, with particular focus on peer pressure and economic inequality. **Methods**: This quantitative descriptive study employed a cross-sectional design. A total of 539 adolescents aged 10–19 years participated in the study through online questionnaires distributed via smartphones. Instruments used included the Mental Health Literacy–Young Adult Questionnaire, the International Wealth Index (IWI), and the Peer Pressure Scale. Respondents were selected using a convenience sampling technique. Data were analyzed using Pearson correlation, Spearman test, independent t-test, and linear regression. **Results**: The majority of respondents (60.1%) were male and enrolled in junior or senior high school. Bivariate analysis indicated significant associations between mental health literacy and peer pressure, economic disparity, age, gender, and education level ($p < 0.05$). However, multivariate analysis revealed that only economic disparity and gender remained significantly associated with mental health literacy, while peer pressure, age, and education level did not show linear relationships. **Conclusion**: Economic inequality and gender are significant factors influencing mental health literacy in adolescents. These findings highlight the need for targeted interventions to reduce socioeconomic disparities and promote gender-sensitive mental health education.

Keywords : Mental health literacy, Adolescents, Economic disparity, Peer pressure, Gender differences

INTRODUCTION

Adolescence is a critical developmental stage characterized by significant psychological, emotional, and social transitions that shape lifelong behaviors and coping patterns. Mental health

during this period is influenced by the development of habits such as maintaining healthy sleep patterns, engaging in regular physical activity, utilizing adaptive coping mechanisms, and practicing emotional regulation. Adolescents who cultivate these positive habits tend to demonstrate better psychological resilience and a lower risk of developing mental health problems. In contrast, unhealthy behaviors are more commonly observed in adolescent groups from lower socioeconomic backgrounds, where structural disadvantages may impede access to supportive environments (Jørgensen & Larsen, 2019).

Mental health is a fundamental component of overall well-being. Globally, the burden of mental health problems remains persistently high, with prevalence estimates ranging between 10–14% (WHO, 2022). The Global Burden of Disease Study highlights that many mental disorders manifest during adolescence and often persist into adulthood. In Indonesia, national data reveal an alarming increase in mental health cases among the population from 197,000 cases in 2019 to 277,000 in 2020 (Kemenkes RI) . Data on mental problems in Indonesia as many as 197 thousand people in 2019 and an increase of 277 thousand people in 2020 (Kemenkes RI). So mental health among adolescents should be seen as a priority and as a determining factor originating from certain cultural and geographic backgrounds (Dalla Vecchia et al., 2019).

One essential framework for addressing adolescent mental health is Mental Health Literacy (MHL). MHL was first defined by Jorm et al. (1997) as "knowledge and beliefs about mental disorders which aid their recognition, management, or prevention." Later expanded by O'Connor et al. (2014), MHL includes the ability to recognize specific disorders, knowledge of risk factors and causes, knowledge of self-help and professional interventions, and attitudes that facilitate recognition and help-seeking behavior. Enhancing MHL enables adolescents to better understand their mental health, recognize early warning signs, and seek timely support.

In the Indonesian context, peer pressure and economic disparity are especially salient influences on adolescent mental health. Peer influence strongly dictates behavior in collectivist societies like Indonesia, where belonging and conformity are highly valued. Adolescents often face pressure to engage in behaviors that may be detrimental to their well-being, particularly when lacking MHL and coping skills. Economic disparity, likewise, exacerbates exposure to mental health risk factors, such as academic stress, family instability, and limited access to psychosocial resources. These challenges are amplified in socioeconomically marginalized communities, where mental health

services are often inaccessible or stigmatized.

Despite the increasing attention to adolescent mental health globally, few studies in Southeast Asia have examined the association between MHL and specific psychosocial and economic factors using validated instruments. This study addresses this gap by investigating how peer pressure and economic inequality relate to mental health literacy among Indonesian adolescents. By employing standardized measurement tools within a culturally relevant framework, this research offers novel insights into how targeted interventions may be designed to improve adolescent mental health outcomes in low- and middle-income settings.

METHODS

Study Design

This study utilized a descriptive quantitative cross-sectional design to explore the level of mental health literacy (MHL) and its associations with peer pressure and economic disparity among adolescents. The study was conducted over a four-month period, from March to June 2022, and was targeted at junior and senior high school students living in Bandung City and its surrounding areas in West Java, Indonesia.

Sample and Sampling Technique

Participants were recruited through convenience sampling, based on accessibility and willingness to participate. The inclusion criteria consisted of adolescents aged 10–19 years, currently enrolled in junior or senior high school, capable of understanding Bahasa Indonesia, and able to independently complete an online survey using a smartphone or digital device. Exclusion criteria included illiteracy, lack of internet access, and refusal to provide informed consent. A total of 615 adolescents met the inclusion criteria and completed the online survey in its entirety.

Instruments

Data were collected using three standardized instruments, each of which had undergone a forward–backward translation process to ensure semantic and cultural equivalence in Bahasa Indonesia. The first instrument, the Mental Health Literacy – Young Adult Questionnaire, assessed adolescents' knowledge, beliefs, and attitudes toward mental health. It employed a 5-point Likert scale and had been previously validated in adolescent populations. The second instrument was the Peer Pressure Scale, which measured the influence of peers on adolescent behavior and decision-making, using a 4-point Likert scale. The third instrument was the International Wealth Index (IWI), a globally recognized measure of household economic status based on asset ownership and access to services. Internal consistency for each instrument was recalculated within the study

sample using Cronbach's alpha, with all instruments demonstrating acceptable reliability.

Data Collection Procedure

Data collection was conducted online using the Google Forms platform. The survey link was distributed via school networks and social media channels to reach eligible participants. Each participant was first presented with an information sheet detailing the purpose and procedures of the study. Informed consent was obtained electronically before proceeding with the questionnaire. For participants aged under 18 years, parental consent was embedded within the online form and required active confirmation before access to the survey was granted. To ensure data integrity, the online form included logic controls to prevent missing values, and response time per page was recorded to flag rapid or inattentive completion. During data cleaning, responses exhibiting straight-lining behavior (e.g., identical answers across all items) or unusually short completion times were screened and excluded. All datasets were anonymized and verified for completeness by the research team.

Data Analysis

Descriptive statistics, including frequencies, means, and standard deviations, were used to summarize participant characteristics and scores on each instrument. Bivariate relationships between mental health literacy, peer pressure, and economic disparity were examined using Pearson correlation and chi-square tests, depending on the level of measurement and distribution of the variables. All statistical analyses were performed using SPSS version 26.0, with a predetermined significance level set at $p < 0.05$.

Ethical Consideration

Ethical approval for this study was obtained from the relevant Institutional Review Board, in accordance with ethical guidelines for research involving minors. Prior to participation, all respondents were provided with detailed information about the study's objectives, voluntary nature, confidentiality assurances, and the right to withdraw at any time without consequence. For minors, parental consent was required and digitally documented. The survey platform was programmed to record IP addresses and time stamps to verify the authenticity of consent and ensure data security. All data were handled in compliance with ethical standards, and participant anonymity was strictly maintained throughout the study.

Table 1. Instrument used in this study

Instrument	Domains	Number of Items	Scoring	Cronbach's Alpha (this study)
Mental Health Literacy - Young Adults (MHL-YA)	Knowledge, recognition, help-seeking, stigma	22	1 (Strongly Disagree) to 5 (Strongly Agree)	α = 0.88
Perceived Peer Pressure Scale	Peer conformity, influence	10	1 (Never) to 5 (Always)	α = 0.84
International Wealth Index (IWI)	Household assets, facilities, housing	12	Composite index	α = 0.81

RESULT

Table 2: Demographic Characteristics of Respondents

Variable	N	%
Age in years Mean±SD : 15.7 ±1.93 Min-Ma x : 1 2 -21		
Early Teenagers (10-14 Years)	222	41.2
Middle Teen (14-17 Years Old)	203	37.7
Late Adolescence (17-21 Years)	114	21.1
Gender		
Man	324	60.1
Woman	215	39.9
Education		
Junior High School	313	57.9
Senior High School	226	41.8

Characteristics of 539 respondents, early adolescents aged 12-14 years (41.2%), middle adolescents aged 14-17 years 37.7% and late adolescents 17-21 years (21.1%) with an average age of 15.7 years (SD=1.93) . More than half (60.1%) of the respondents are male, with a junior high school education level of 57.9% and a high school level of 41.8%

Table 3. Domain Peer Pressure Scale

Domain	Mean±SD	Min-Max
Peer pressure scale	103.4± 12.55	69 - 136
Factor-I: Yielding to peer pressure / Surrender to *peer pressure*	37.9±5	24 - 54
Factor-II: Resistance to Peer *pressure*	44.87±6.85	23 - 65
Factor-III: Peers Peer *Encouragement*	20.5±4.09	9 - 30

Table 3 As many as 539 respondents, the average peer pressure score is 103.4 (SD = 12.55, the score range is 69-136). The peer pressure scale questionnaire has 3 factors in its measurement, the average score for the peer pressure factor is 37.9 (SD = 5, the score range is 24-54).) the factor of resistance to peer pressure with the highest average dominating 44.87 (SD = 6.85 score range 23-65) peer encouragement factor had the lowest average of 20.5 (SD = 4.09 score range 9-30)

Table 4 Overview of Gender Differences in Dimensions of Mental Health Literacy

Dimension	Gender N=539	mean	Min-Max	Std. Deviation	t
Mental health literacy Global Score	Man	105.28	92-136	11.67	-5.97***
	Woman	111.49	82-136	12.06	
MHL Mental Health Knowledge	Man	41.24	35-51	4.21	-2.35*
	Woman	42.13	33-51	4.43	
MHL Beliefs/stereotypes	Man	28.44	22-39	4.21	-6.495***
	Woman	30.81	19-39	4.02	
MHL First aid skills and behavior seeking help	Man	21.00	15-30	3.87	-8,193***
	Woman	23.62	15-30	3.20	
MHL Self-help strategies	Man	14.58	9-20	2.06	-1,724
	Woman	14.92	9-20	2.57	

Table 4 Show socio-demographic variables (Gender and proximity to mental health literacy are associated with gender differences in MHLq scores , Males show higher scores than females on global MHLq scores and across all dimensions, except for the self-help strategy dimension , t = - 1.724 no significant difference 0.085>0.05 was found

Table 5 Overview of the IWI Questionnaire, Average, Standard Deviation, Frequency and Coefficient of the IWI Formula

Variable	mean	SD	N=539	*IWI Weight*
Consumer Durables	**5.14**	**2.06**	**Yes**	**Not**
Tv	.98	.43	537	2
Refrigerator	.65	.62	361	17 8
Phone	.93	.25	502	37
Car	.68	.74	382	15 7
Bicycle	.03	.60	35	50 6
Cheap stuff < Rp.731,000	.91	.96	534	5
Expensive items >4,388.000	.96	.60	537	2
House Characteristics			**N=539**	***IWI Weight***
Floor Material	**2.09**	**.921**		
Low	-.03	.68	8	-7.558471
Currently	.76	.82	437	1.227531
Tall	.11	.77	91	6.107428
Toilet facilities	**2.32**	**.47**		
Low	.005	.074	3	-7.439841
Currently	.67	.46	363	-1.090393
Tall	.32	.46	173	8.140637
Rooms's	**2.05**	**1.03**		

1	-.05	.78	9	-3.699681
2	.75	.92	445	0.38405
>3	.083	.86	81	3.445009
Public utilities			**N=539**	***IWI Weight***
electricity	1	0.00	5 39	8.056664
Water				
Low	-.05	.55	6	-6.306477
Currently	.75	.75	364	-2.302023
Tall	.08	.73	167	7.952443
Constant				
IWI Minimum Total	**42.30**			**0**
IWI Maximum Total	**98.15**			**100**
Total Mean ± SD	**73. 38± 12.38**			

The characteristics are in Table 5 The international wealth index has a weighted value for each variable, as many as 539 respondents have an average value of 73.38% from a range of 0-100% (SD = 12.38). The questionnaire consists of consumer durables of goods with long use with 7 characteristics such as tv, refrigerator, telephone, car, bicycle, cheap goods, expensive goods with an average score of 5.14 (SD = 2.06) there are house characteristics with 3 criteria such as quality floor/ceramic materials, toilet facilities, and number of rooms with characteristics starting from the lowest, medium, and highest with an average of 6.46 (SD=1.92) ease of public access with 2 criteria such as access to electricity and water quality with an average of 3.26 (SD =0.84) it can be concluded that 539 respondents have the highest IWI asset ownership with a percentage of 98.15%. The lowest percentage is 42.3%, this shows that asset ownership based on the wealth index has low ownership or does not own all IWI assets, so it means that ownership of goods to economic disparities is high. So the relationship between asset ownership in 539 respondents with the average economic disparity shows that it is close to the maximum value with an average percentage value of 73.38%.

Table 6 Bivariate Analysis

Variable	***Mental health literacy(Continuous)***		
	p-value	**R**	***T***
Peer pressure (Continuous)	0.032**	0.092	
International Wealth Index (Continous)	0.000*	0.160	
Age *(continuous)*	0.001**	0.148	
Gender (*Nominal)*	0.000*		3.18
Education Level *(Ordinal)*	0.02**		-5.97
p-value<0.01;**<0.05*			

Table 6 Using bivariate analysis on the peer pressure variable (peer pressure scale) has a significant relationship with a p-value of 0.00 <0.05 with a correlation

coefficient of 0.092 on mental health literacy. the results of the study based on the international wealth index, there was a significant relationship with p-value 0.000 <0.05 having a correlation coefficient of 0.162 on mental health literacy. A significant relationship is that age has an effect on mental health literacy with p-value 0.01 <0.05, gender has a significant relationship p-value 0.00 <0.05, there is a positive difference in the value of t t count> t table 3.18> 1.96, based on education level shows there is a relationship which is significant on mental health literacy 0.02 <0.05 there is a negative difference in the value of t count < t table -5.97 < 1.96

Table 7 Multivariate Analysis

Coefficients [a]					
		Unstandardized Coefficients			
Model		B	Std. Error	t	Sig.
1	(Constant)	103.7	7.078	14,653	.000
	IWI	.142	.048	3.498	.001
	PPS	-.053	.041	-1,300	.194
	Education	-1.113	1.610	-.691	.490
	Gender	5.251	1.065	4.929	.000
	Age	-.356	.413	-.861	.389
Dependent Variable: Mental Health					
R2 = $^{0.095}$ * 100 = 9.5%					

Table 7 The analysis using linear regression on factors related to *Mental Health Literacy* shows the results of the analysis using linear regression on factors related to mental health literacy that the linear regression model is able to explain 9.5% by variations of the independent variable International Wealth Index has an effect significant with a probability of 0.01<0.05, Peer pressure Scale has no significant effect with a probability of 0.194>0.05, Education has no significant effect with a probability of 0.490>0.05, Gender has a significant effect with a probability of 0.000<0.05 and Age has no significant effect with a probability of 0.389>0.05. of 90.5% can be explained by other factors outside the model. Mental health literacy constant of 103.7 states that if the independent variable is considered constant then the average value of Mental health literacy is 103.7%. IWI coefficient of 0.142 states that each addition of the wealth index of 100% will increase 14.2% of mental health literacy. The gender coefficient of 52.51%, both male and female, contributes to influencing mental health literacy. Peer pressure coefficient is -0.053 if peer pressure increases, it contributes -5.3% to mental health literacy. The education coefficient has an effect of -1.113 indicating that a high or low level of education cannot influence and contribute -11.13% to mental health literacy. The age coefficient of -0.356 indicates that age does not affect, and contributes -3.56% to mental health literacy.

DISCUSSION

Pearson correlation analysis showed a statistically significant relationship between perceived peer pressure and mental health literacy, suggesting that increased peer pressure is weakly associated with higher MHL scores. The dominant domain was resistance to peer pressure (Factor II), which implies adolescents with better skills in resisting negative peer influence tend to have higher MHL. However, in the multivariate regression model, peer pressure was not a significant predictor, indicating that when other variables are controlled, its unique contribution to MHL was not substantial. These findings suggest that although peer pressure appears relevant in simple correlation analysis, its effect may be moderated by other factors such as socioeconomic status, age, or gender. Prior research supports that peer pressure affects adolescents' behavioral responses to mental health challenges and that defensive patterns are more likely under high peer pressure conditions (Bhattacharyya et al., n.d.).

Economic disparity, measured via the International Wealth Index (IWI), was significantly and positively associated with mental health literacy in both bivariate and multivariate analysis. These findings indicate that adolescents from households with higher asset ownership tend to have better MHL. An increase of 100% in IWI was associated with a 14.2% improvement in MHL scores. This aligns with Irawati and Laksmi (2021), who highlighted the role of a strong economic environment in promoting access to health information, support systems, and mental health services. Adolescents from wealthier backgrounds may benefit from higher exposure to health-promoting environments, school resources, and digital media, contributing to improved literacy levels.

Gender showed a significant association with MHL ($p < 0.001$), and regression analysis indicated that being female predicted significantly higher MHL scores. This suggests that female adolescents may have greater awareness and sensitivity to mental health issues, which is consistent with previous findings showing that females often report better help-seeking behaviors and emotional recognition skills (Irawati & Laksmi, 2021). Age was significantly correlated with MHL in bivariate analysis, but not in multivariate regression. Similarly, education level had a significant bivariate relationship but no independent predictive value in multivariate analysis. These findings imply that while age and education may influence MHL at a surface level, their effects diminish when adjusted for economic status and gender.

The findings underscore the importance of targeting mental health literacy programs toward adolescents, especially those exposed to negative peer environments or experiencing economic

vulnerability. Interventions should integrate peer-based models that enhance resistance skills and promote healthy social norms. Furthermore, economic status must be considered when designing mental health campaigns, ensuring equitable access to mental health education across socioeconomic strata. School-based programs could leverage digital media and culturally relevant modules to improve engagement and accessibility. These insights are particularly relevant for Indonesia, where disparities in education and healthcare access persist between regions and income levels. Policymakers should consider incorporating MHL modules into the national school health curriculum and expanding adolescent mental health services through community-based and school-based interventions.

Limitations

This study is subject to several limitations. The cross-sectional design limits causal inference, meaning the temporal relationship between predictors and MHL cannot be established. The use of convenience sampling and focus on adolescents from the Bandung area may restrict the generalizability of findings to other regions or demographics in Indonesia. Furthermore, all measures relied on self-reported data, introducing potential for social desirability bias or inaccurate recall. While reliability for the translated instruments was reported, construct validity and test-retest reliability were not formally established in this sample. Another limitation is the potential for response bias in online surveys, including straight-lining or inattentive responses, despite basic screening measures. Future research should consider longitudinal or experimental designs, include rural and underserved populations, and employ mixed-methods approaches to deepen understanding.

CONCLUSIONS

This study reveals that economic status, gender, and peer dynamics are important factors associated with mental health literacy among Indonesian adolescents. While peer pressure has a weak direct effect, economic well-being and gender emerged as more influential predictors. These findings highlight the multifactorial nature of MHL and support the development of context-specific, equity-driven mental health literacy interventions in Indonesia. Improving MHL among adolescents requires not only educational reform but also socioeconomic empowerment and peer-based support models. Future studies should expand the scope to diverse regions, incorporate qualitative data, and evaluate the longitudinal impact of targeted MHL programs.

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