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The assessment of mental health literacy and mental health factors among college students

Azip Hasbi Asidik[1]*, R.A. Yayi Suryo Prabandari[1], Diana Setiyawati[2]

Abstract

Purpose: To assess mental health literacy, mental health conditions, and mental health factors among college students to support the implementation of Health Promoting University. **Methods:** This research utilized Explanatory Sequential Mixed Methods using data collected from 431 college students and interviewed eight college students. The instrument used a self-report online questionnaire and a semi-structured interview guide. Data analysis used logistic regression and thematic analysis. **Results:** Almost half of the college students (48.96%) had low mental health literacy. In the amount of 61.95% of students had mental health problems. Factors that significantly had relationships with mental health were a child maltreatment history (AOR:2.46; 95%CI:1.62-3.73; p-value<0.001) and poor friends interaction (AOR:1.64; 95%CI:1.02-2.63; p-value=0.039) after adjusting for sex, mental health literacy, physical activity, allowance, habitation, and academic interaction. Mental health literacy in college students qualitatively does not recognize the specific types of mental health problems and mental health services. Qualitatively, mental health factors that were most mentioned were child maltreatment history, poor friend interaction, and environment. **Conclusion:** Almost half of the college students have low mental health literacy and do not recognize the types of mental health problems and mental health services. Mental health problems were common among college students. Campuses need to improve mental health literacy and an environment that supports mental health.

Keywords: college student; mental health; mental health literacy

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[1]Department of Health Behavior, Environmental, and Social Medicine, Faculty of Medicine, Public Health, and Nursing, Universitas Gadjah Mada, Yogyakarta, Indonesia

[2]Faculty of Psychology, Universitas Gadjah Mada, Yogyakarta, Indonesia

*Correspondence:
azip.hasbi.asidik@mail.ugm.ac.id

INTRODUCTION

According to the World Health Organization and the Republic of Indonesia Law No. 36 of 2009 on Health, health is not just physical health and freedom from disease but also mental health, so mental health needs attention for a healthy state [1,2]. Mental health issues are projected in public, economic, and social welfare development [3]. Mental disorders are common among students, and most of them usually go untreated [4].

The proportion of depression treatment coverage (population aged ≥ 15 years) in Indonesia is 9.0%, in DIY 8.9%, and in the age group 15-24 years, it is 5.25%. From that proportion, most students with mental health issues do not receive treatment [5]. As many as 45.1% of students have a low level of mental health literacy [6]. However, students with high mental health literacy do not know where to find adequate resources for identifying mental health issues [7]. Low mental health literacy has become an urgent public health issue because it affects students' decision-making related to mental health, especially the low rate of seeking help for mental health symptoms. Thus, there is a need to improve mental health literacy [8,9].

The determinants of mental health are individual characteristics and behaviors, socio-economic factors, and environmental factors [10]. Individuals can be related to a person's behavior or lifestyle, and lifestyle can potentially affect physical and mental health [11].

Physical activity is one lifestyle for managing various mental health issues [12-16].

Socioeconomic factors indicate that individuals with economic problems have a higher risk of mental health issues [17]. There is a relationship between mental health and poverty, and poverty may be both a cause and a consequence of poor mental health [18]. Parental income levels affect mental health, such as emotional and mental disorders in children and parenting issues [19,20]. Differences in mental health were found between individuals with a history of parenting issues (such as abuse and violence) and those without a history of parenting issues, and all forms of cruel treatment in parenting are indicated to increase the likelihood of having poor mental health [21]. Environmental factors that change behavior patterns and affect the mental health of children and adolescents include the physical environment, the home environment, the socio-economic environment, and the digital environment [22].

There is a health promotion framework at the university level called the Health Promoting University (HPU) for the well-being of students and university staff, which includes health literacy and mental health [23]. The mental health of students needs to be researched to support the program. The purpose of this research is to understand the state of mental health, mental health literacy, and mental health factors among students so that it can be used to assist in the implementation of the HPU program in the areas of health literacy and mental health at the Faculty of Public Health, Ahmad Dahlan University, which has declared itself a healthy campus running the HPU program.

METHODS

The research was conducted using an explanatory sequential mixed methods design. It was conducted at the Faculty of Public Health, Ahmad Dahlan University Yogyakarta, after ethical approval was issued in July – August 2021. Data was collected using online questionnaires and online interviews using Google Meet.

The subjects of the quantitative research were selected using the stratified random sampling technique based on the year of university entry, with a sample of 431 students from the 2017-2020 cohort. Qualitative research subjects were purposively selected based on the quantitative research results, categorized as experiencing and not experiencing mental health issues. In this study, eight students were obtained as informants, consisting of 4 students experiencing mental health issues and four students not experiencing mental health issues. Respondents complete this questionnaire regarding personal data and characteristics, including name, gender, date of birth, age, year of university entry, place of residence, pocket money, scholarship status, parents' education, and place of origin.

Mental health literacy is assessed using a self-report questionnaire. The researchers compiled the instrument items using indicators such as the Mental Health Literacy Scale—Healthcare Student (MHLS-HS) [24]. The questionnaire was tested for validity and reliability before being used in the research data collection, with a Cronbach's Alpha value of 0.89.

Mental health is assessed using a self-report questionnaire that includes depression, anxiety, and stress. The instrument items adopt the Indonesian version of the Depression, Anxiety, and Stress Scale (DASS) (www.psy.unsw.edu.au/dass/), which has been tested and declared valid and reliable for use [25]. The questionnaire consists of 42 statement items covering depression (14 items) with a Cronbach's Alpha value of 0.91, anxiety (14 items) with a Cronbach's Alpha value of 0.85, and stress (14 items) with a Cronbach's Alpha value of 0.88.

Physical activity was assessed using a self-report questionnaire, the Godin-Shephard Leisure-time Exercise Questionnaire, which has a reliability coefficient of 0.74 [26,27]. The history of parenting issues was measured using a questionnaire adapted from Measuring and Monitoring the National Prevalence of Child Maltreatment: a Practical Handbook published by WHO [28].

Peer interaction was assessed using a self-report questionnaire. The researchers constructed the instrument items based on indicators from the Delaware School Survey's School Climate Scale and the peer support dimension of the Multidimensional Scale of Perceived Social Support [29-31]. The questionnaire has been tested for validity and reliability, with a Cronbach's Alpha value of 0.87.

Academic interaction was assessed using a self-report questionnaire, with the instrument items compiled by the researchers from the Delaware School Survey's School Climate Scale section and a scale to evaluate teachers' responses related to emotions [29,32]. The questionnaire has been tested for validity and reliability beforehand, with a Cronbach's Alpha value of 0.79.

For questions regarding mental health literacy, a brief sketch about depression is followed by questions related to the sketch. Jorm initially used this sketch, and Praharso previously used the Indonesian translation [33,34]. The researchers created the

remaining questions regarding factors related to mental health in a semi-structured manner.

In univariate analysis, the researcher describes the characteristics of respondents based on demographics and describes the research variables. The bivariate analysis stage assesses the relationship between the independent variables being studied and students' mental health. The analysis uses chi-square tests and simple logistic regression for the independent variable of numerical data. The multivariate analysis uses logistic regression analysis to examine the influence of the studied dependent variables on mental health.

The qualitative data analysis stage begins with the interview transcript, which is used to understand the data, organize codes and categories, and identify themes. Member checking ensures the validity of qualitative data.

RESULTS

Characteristics respondents

The respondents in this study consisted of 431 students. Based on the gender characteristics, the respondents comprised 389 female and 42 male students. In Table 1, it can be seen that almost all respondents are female, accounting for 90.26%. The age range of respondents in this study is 18-22 years. Based on the analysis results, the most common age among respondents is 20 at 31.79%, followed by 21 at 26.45%. The average age of the respondents is 20.32, with a standard deviation of 1.14. The respondents in this study consist of students who entered the university from 2017 to 2020, and some of them come from outside Java, amounting to 52.90%. Table 1 shows that the percentage range of respondents for each university year is between 23.20% and 27.61%. The respondents with the highest percentage are the students who entered in 2019, at 27.61%.

Variable description

Mental health literacy in this study refers to recognizing the symptoms of mental disorders, maintaining good mental health, attitudes towards the stigma of mental disorders, efficacy, and attitudes towards seeking help from professionals. The research results in Table 2 show that nearly half of the students have low mental health literacy, at 48.96%.

More than half of the students experience mental health issues at a rate of 61.95%. The mental health issues measured in this study are depression, anxiety, and stress. The research results show that 27.61% of students experience depression, 57.54% of students experience anxiety, and 33.41% of students experience stress.

Physical activity in this study refers to heavy, moderate, and light activities or exercises performed for more than 15 minutes in one week. The research results show that more than half of the students engage in physical activity actively at a rate of 63.57%. The history of parenting issues in the study includes experiences of physical, verbal, and sexual violence and/or neglect. The research results show that 61.95% of students have a history of parenting issues.

In this study, pocket money refers to the monthly pocket money or allowance students receive. The results of the categorization of pocket money revealed that more than half of the students have high pocket money, amounting to 57.77%. The research results show that most % of students live at home with their family or relatives, 66.59%.

This study's friend interactions include relationships, communication, and treatment among friends. The research results show that 49.42% of the students interact poorly with their friends. Academic interaction in this study includes the relationship between students, lecturers, and staff, as lecturers' responses to emotional issues and regulations. The research results show that 51.04% of the students have poor academic interactions.

Bivariate test

In Table 1, the demographic characteristic with a significant relationship with students' mental health issues is gender (OR=2.13; 95%CI: 1.07–4.28; p-value=0.19). The OR value of 2.13 indicates that the risk for females to experience mental health issues is 2.13 times higher compared to males. In the bivariate test in Table 3, the factors significantly associated with mental health are physical activity (OR=:1.59; 95%CI: 1.05–2.41; p-value=0.027), history of parenting issues (OR=2.56; 95%CI: 1.05-2.41; p-value<0.001), allowance (OR=0.62; 95%CI: 0.42-0.92; p-value=0.18), peer interaction (OR=1.82; 95%CI: 1.23-2.69; p-value=0.003), and academic interaction (OR=1.87; 95%CI: 1.25-2.77; p-value=0.002). Meanwhile, the factors of mental health literacy (OR=0.93; 95%CI: 0.63-1.37; p-value=0.734) and place of residence (OR=1.24; 95%CI: 0.81-1.88; p-value=0.313) do not have a significant relationship with mental health.

Table 1. Frequency distribution based on demographic characteristics and their relationship with students' mental health (n=431)

Variable	n	%	OR	95% CI	p-value
Gender					
Female	389	90.26	2,13	1.07 – 4.28	0.019*
Male	42	9.74	1.00 (ref.)		
Mean of age (SD) = 20,32 (1,14)			0.87	0.73 – 1.04	0.122
Age (years)					
18	25	5.80			
19	78	18.10			
20	137	31.79			
21	114	26.45			
22	77	17.87			
Origin					
Outside Java	228	52.90	1,03	0.69 – 1.52	0.881
Java	203	47.10	1.00 (ref.)		
Year entering university			1.064	0.89 – 1.27	0.491
2017	102	23.67			
2018	110	25.52			
2019	119	27.61			
2020	100	23.20			

Multivariate analysis

The results of the multivariate analysis in Table 3 indicate that several factors significantly associated with students' mental health are having a history of parenting issues (AOR: 2.46, 95% CI: 1.62-3.73, p-value: <0.001) and poor peer interactions (AOR: 1.64, 95% CI: 1.02-2.63, p-value: 0.039) after adjustment for variables such as gender, mental health literacy, physical activity, pocket money, living arrangements, and academic interactions. The variable of parenting style issues has an adjusted OR value of 2.46, meaning that students with a history of parenting style issues have a 2.46 (with a risk range of 1.62 to 3.73) times greater risk of experiencing mental health problems compared to students without a history of parenting style issues.

The friend interaction variable has an adjusted OR value of 1.64, meaning that students with poor friend interactions are 1.64 times (with a risk range of 1.02 to 2.63) more likely to experience mental health problems than students with good friend interactions. Having a history of poor parenting and friend interactions is a risk factor for mental health problems. The coefficient of determination (R2) value obtained is 0.0775, meaning this model can explain the relationship between the history of parenting problems and peer interactions on students' mental health issues by 7.75%, with the remaining explained by other variables.

Interview results

Characteristics of the informant

Table 4 explains the characteristics of the informants. The informants in this study consisted of 8 students, four male students, and four female students. The age range of the informants is 19 – 21 years. The informants comprised students who entered 2017-2020, with one student from each year. Based on the status of mental health issues, it is known that four students are experiencing mental health problems, and four students are not experiencing mental health problems.

Table 2. Variable description

Variable	n	%
Mental health literacy		
Low	211	48.96
High	220	51.04
Mental health		
Experience	267	61.95
Normal	164	38.05
Depression		
Yes	119	27.61
No	312	72.39
Anxiety		
Yes	248	57.54
No	183	42.46
Stress		
Yes	144	33.41
No	287	66.59
Physical activity		
Inactive	157	36.43
Active	274	63.57
History of parenting issues		
Experience	267	61.95
No	164	38.05
Pocket money		
Low	182	42.23
High	249	57.77
Residence		
Dormitory	144	33.41
Home	287	66.59
Friend interaction		
Less	213	49.42
Good	218	50.58
Academic interaction		
Less	220	51.04
Good	211	48.96

Mental health literacy

Qualitatively, students can already recognize mental health issues in someone based on their responses to the depression sketch during the interview. When the informants were asked about what they knew regarding the types and characteristics of mental health issues, the interview results showed that the students did not yet know the specific types and characteristics of mental health issues. Even informants who have been diagnosed with mental health issues initially did not recognize the characteristics of the mental health problems they were experiencing, as in the following quote:

> *"If it comes to the characteristics of all this (mental health issues), I don't really know, I don't really know..." (Ms. Ti – Informant 7)*

> *"If it were me, I initially didn't realize." First, I was in and out of the hospital because I was experiencing symptoms of illness. But when I got to the hospital, the doctor said it was nothing. Confusing, right.." (Nn. A – Informant 6)*

Table 3. Analysis of mental health factors among students

Variabel	Bivariate				Multivariate			
	OR	*p value*	95% CI		OR	*p value*	95% CI	
			Lower	*Upper*			*Lower*	*Upper*
Gender								
Female	2.13	0.019*	1.07	4.28	1.78	0.101	0.89	3.56
Male	1.00 (ref.)				1.00 (ref.)			
Mental health literacy								
Low	0.93	0.734	0.63	1.37	0.78	0.270	0.57	1.21
High	1.00 (ref.)				1.00 (ref.)			
Physical activity								
Inactive	1.59	0.027*	1.05	2.41	1.33	0.197	0.86	2.06
Active	1.00 (ref.)				1.00 (ref.)			
History of parenting issues								
Yes	2.56	<0.001*	1.71	3.83	2.46	<0.001*	1.62	3.73
No	1.00 (ref.)				1.00 (ref.)			
Pocket money								
Low	0.62	0.018*	0.42	0.92	0.65	0.065	0.42	1.03
High	1.00 (ref.)				1.00 (ref.)			
Residence								
Dormitory	1.24	0.313	0.81	1.88	0.97	0.889	0.60	1.56
Home	1.00 (ref.)				1.00 (ref.)			
Friends interaction								
Less	1.82	0.003*	1.23	2.69	1.64	0.039*	1.02	2.63
Good	1.00 (ref.)				1.00 (ref.)			
Academic interaction								
Less	1.87	0.002*	1.25	2.77	1.47	0.105	0.92	2.33
Good	1.00 (ref.)				1.00 (ref.)			
Prob > chi2 = 0,000								
Pseudo R2 = 0,0775								

Table 4. Characteristics of respondent

Number	Initial	Gender	Age	Year entering university	Residence	Mental health issues
1	Tn. I	Male	21	2019	Home	None
2	Tn. B	Male	20	2020	Home	Anxiety
3	Nn. R	Female	21	2018	Dorm	None
4	Tn. Z	Male	19	2020	Home	None
5	Nn. T	Female	21	2017	Home	None
6	Nn. A	Female	20	2019	Home	Despression, Anxiety, Stress
7	Nn. Ti	Female	21	2018	Dorm	Despression, Anxiety, Stress
8	Tn. R	Male	20	2017	Dorm	Despression, Anxiety

Students engage in management activities such as pursuing hobbies, diverting attention, managing tasks, and managing emotions. They do this as a form of management to avoid becoming more stressed due to their poor mental state.

"For example, if I feel bored and hit a wall with what I'm workably stop. So my response is more like being active, I have to, I recognize that I can't anymore, I can't." So, I stop for a while. So, my response is to try not to create those factors that make it more pressing. (Ms. T – Informant 5)

Students have a disagreeable attitude towards the negative stigma of mental health issues. They conveyed that someone experiencing mental health issues should still be accepted in the community, receive support, and believe that mental health problems can be addressed and healed, as stated in the following interview quote:

"Strongly disagree." Because people with mental disorders can be cured, maybe there is something that causes them to have a mental disorder. Yes, don't ostracize them; it just adds to their mental burden. (Nn. R – Informant 3)

Regarding the efficacy of seeking professional help, students have never sought information related to mental health assistance. The reason they do not seek information about professional help is that they feel they have not yet experienced or encountered mental health issues. In terms of attitude, students are already aware of the need to seek professional help for mental health issues. Still, before they seek help from professionals or mental health services, they prefer to turn to close relatives (parents, family, friends) first to help resolve their problems. The interview results also show that students are not yet aware of the locations of psychologists, counseling services, or mental health services they can visit when experiencing mental health issues, as indicated in the following interview excerpt:

"Place, huh?" As for the place, I don't know. (Mr. B – Informant 2)

"Where is the psychologist, anyway?" Context: "What is it, where is the psychologist? .. Like, where is it, maybe on the web or something.."

Text to translate: .. Like in what, maybe on the web or something.. In the what, in counseling, in what. "Don't know yet, don't know yet" (Mr. R – Informant 8).

Mental health factors

Physical activity

Based on the interview results, it was found that students with mental health issues rarely engage in physical activities. Meanwhile, students who do not experience mental health issues reported regularly exercising, making time for exercise, and having a routine exercise regimen. Physically, they feel healthier, while mentally, it refreshes the brain, makes them feel calmer, and their activities become more productive after exercising. Some informants engage in physical activities to reduce their feelings of anger, based on the following interview excerpt:

"Sometimes I feel like getting angry, but I exercise instead, just lightly." So it has an effect, it reduces our anger or stress, and after exercising, we feel relieved... we have more energy and enthusiasm, so it naturally improves our mood and increases productivity. (Ms. T – Informant 5)

History of parenting issues

Students conveyed that the role of parental upbringing significantly affects their mental health. Some students experience parenting issues such as physical, verbal, and emotional violence and neglect. The parenting issues experienced by students, such as being hit, parents using harsh words when speaking, parents insulting, and lacking appreciation, are felt by students to worsen their mental state. This is based on the following interview excerpt:

"Feeling pressured, sis, because my dad is a strict person, sis." And when he's emotional, his words are harsh and very influential. Because I cry almost every day because of that. Just a little scolding sometimes makes me think about it for days... My dad used to insult or belittle me a lot when he was emotional, too. (Ms. A – Informant 6)

"Umm, how should I put it? That's all counted (parenting issues)." But the worst of it is physical violence and emotional too. Because my past trauma involved physical violence and also emotional, so no matter what happens now, for example, if it involves arguments and whatnot, like seeing someone cry, it makes me think about it again. (Mr. R – Informant 8)

"Well, how should I put it? It's just lacking, lacking, yeah, just lacking appreciation." It is encouraging, but the results I get seem to be less appreciated. (Mr. B – Informant 2)

Meanwhile, what the students conveyed that can support mental health is having parents who provide authority, support, and closeness with parents, and a simple thing that students feel they need is receiving appreciation in their upbringing, as stated in the following interview excerpt:

> *"For me, parenting style leans more towards having the authority to choose what we want. That's how my parents raised me... It influences me more in a way that I don't have to follow what my parents want strictly." So, issues like depression and such rarely happen. (Nn. T – Informant 5)*

> *"Maybe the parenting style I need from my parents is one that can give a little appreciation." Like giving compliments, like 'wow you're great,' like giving them verbally... (Mr. R – Informant 8)*

Pocket money

Based on what the informants conveyed, they have different ways of managing their pocket money to meet their desires and needs. If the amount of money is insufficient, they must save or postpone their desires until sufficient. The amount of pocket money each received was considered both sufficient and insufficient. Students feel hesitant to ask for additional money. When asked directly about the impact of pocket money on mental health, they said it didn't have much influence, as in the following interview excerpt:

> *"It doesn't have a big impact." So, sometimes, I also have my solutions. If it gets less, I have my solution. So it doesn't have a big impact. (Ms. T – Informant 5)*

> *"I have felt like the money wasn't enough sometimes, and even though I could ask for more, it feels uncomfortable." So, if the money is running low, I tend to save it, rarely... for me, it doesn't affect (mental health). (Ms. Ti – Informant 7)*

Residence

Living conditions are believed to have both positive and negative effects on mental health. Social relationships and the condition of the environment around their residence have an impact on their mental state, such as conflicts and treatment from those around them. Some students live in a house with their parents or family, and some live in boarding or rented houses. They conveyed that the presence of parents at home affects their mental state. Some students feel that being far from their parents makes them worry about their parents. On the other hand, living at home brings pressures, such as a lack of freedom and parental pressure. Some students feel a sense of freedom when not living at home and feel comfortable with the good facilities of the boarding house. Some informants express that living at home causes a sense of trauma due to the negative experiences from the upbringing they have undergone, as in the following interview excerpt:

> *"I don't know why, but when I'm outside, outside the house or at this boarding house, basically when I'm outside the house, it feels comfortable, calm, like I'm just enjoying myself..." Well, when I go back home, the house feels like it creates trauma again; it's so different. (Mr. R – Informant 8)*

Friend interaction

Some informants feel uncomfortable with new friends and feel less comfortable when gathering with friends. That situation leads to poor interactions with friends. The presence of conflicts with friends is felt to worsen their mental health. Communication becomes a determining factor in the quality of interactions with friends. Poor communication, such as teasing, makes them uncomfortable when communicating with friends. Treatment such as bullying and negative stigma felt by the informants becomes a factor that worsens their mental health, as in the following interview excerpt:

> *"So my body is small, they used to say things like 'what can you even show off, your body is as flat as a board' and stuff like that, even though I think that's already too much. But they acted like it was just a joke... I felt really hurt... at that time I was sad and when I got home, I couldn't stop thinking about it, to the point where I had trouble sleeping." Like, 'Am I really that bad?' (Ms. Ti – Informant 7)*

> *"Yeah, there's this friend of mine... he even said I'm crazy." But it's not. It's like anxiety and panic disorders, but he thinks it's madness. (Ms. A – Informant 6)*

On the other hand, some informants have good interactions, such as feeling close to friends, comfortable friendships, and gathering with friends. The informants conveyed that open communication among friends, being good listeners, and not being judgmental are believed to impact students' mental well-being positively. When there is a problem, they discuss it well, with mutual understanding and supportive friends, as conveyed in the following interview excerpt:

> *"so for example, if there's any problem, it will definitely be discussed together, so we are open with each other, making it comfortable" (Mr. I – Informant 1)*

"They are more about supporting what I choose and work on." They encourage me. (Nn. Ti – Informant 7)

Academic interaction

The academic interaction conveyed by the informant indicates that some students feel less close to the lecturers, resulting in poor interaction. Poor communication with the lecturer makes students uncomfortable, such as receiving delayed responses when needed, which is perceived as causing mental pressure. Academic interactions that are perceived to worsen students' mental state include a heavy workload, lack of material explanations, academic advisors who do not provide guidance and do not understand students' situations, which puts mental pressure on students, as illustrated in the following interview excerpt:

"Because last semester's final exams were so many, oh my God." Then, I ended up feeling down. Then I went to the psychiatrist again because the burden was too much. Then in this course, we were given assignments, and in this course, we were given assignments too. There's a lot, including the practicals. Oh, it's such a burden. Not just me, other friends feel it too. Because I told another friend, and they said it affected their mental state. (Ms. A – Informant 6)

Another aspect of academic interactions that is perceived to worsen students' mental state is the adaptation period faced by new students, which is considered to impose mental pressure on them because they are not yet accustomed to the climate and learning methods of university education, which are different from their previous educational levels. New students expressed that the online learning method was perceived to decrease their interest in learning and was less effective, as illustrated by the following quote:

"Not enough, not solid enough, haven't met (the lecturer) yet, so I often take my studies lightly, you know, because it's online." Sometimes, while lying down, to be honest, I even fall asleep. It's not very effective if it's online, either. (Mr. B – Informant 2)

The informant conveyed that the closeness between students and professors, facilitated by academic advisors, provides comfort that can support students' mental health. Friendly academic staff make students comfortable to communicate. Student involvement in educational activities has a positive mental impact on students because it allows them to keep themselves busy and not dwell on the problems they are facing. Lecturers who provide understanding, as perceived by students, can support and positively influence their mental health, such as being open to exchanging opinions, helping with problems faced by students, and appreciating the tasks completed by students. As stated in the following interview excerpt:

"They can be invited to exchange opinions." If everything has been good so far, coincidentally, if there are any academic issues, they are immediately resolved by the lecturer. During the learning process, the good thing is that if there are assignments, they are praised. (Nn. Ti – Informant 7).

DISCUSSIONS

About 61.95% of students are categorized as experiencing mental health issues, a figure that is higher than the prevalence of emotional and mental disorders in Indonesia for those over 15 years old, which is 9.8%, and in other countries such as Malaysia (29.20%), a neighboring country to Indonesia, and the developed country the United States (13.2%) [35-36]. The mental health issues observed are higher than previous data, which may be due to the pandemic situation and online learning; several studies have shown an increase in the prevalence of depression, anxiety, and stress during the pandemic [37-39].

About 27.61% of students are categorized as depressed, a figure that is higher than the prevalence of depression in the 15-24 age group in Indonesia, which is 6.2% [5]. However, this figure is lower than the depression rate among students found in previous research, which was 43.91%. The anxiety rate of 57.54% is higher compared to the anxiety rate of students in an earlier research, which was 43.17% [40]. Students categorized as experiencing stress in this study amounted to 33.41%, a figure smaller than previous research, indicating a stress prevalence of 43.17% among students, with 39% experiencing stress at least once in an academic year [40,41].

The demographic characteristic that has a significant relationship with mental health is gender (p-value: 0.019) with an OR value of 2.13 (95%CI: 1.07–4.28), using male gender as a reference, indicating that the risk of mental health problems is 2.13 times greater in female students compared to males. The same results were obtained in previous studies, which found that mental health issues are more prevalent among women compared to men, and women have a 2.7 (95%CI: 1.14-6.55) times greater risk of experiencing stress compared to men [42-44].

Mental health literacy

Based on the analysis results, it was found that almost half of the students have low mental health

literacy (48.96%); a similar result was obtained by previous research conducted on students in Indonesia, which showed that almost half of the students still have low mental health literacy (45.90%) [6]. Other research shows that 42.3% of students do not know where to find adequate resources for mental health issues, and the search for information related to mental health literacy based on Google Trends in Indonesia during the period 2014-2015 was 0% [6,7].

In bivariate and multivariate analyses, mental health literacy shows no significant relationship with students' mental health. The same results were obtained in previous research [45]. Low mental health literacy is not the only factor in experiencing mental health issues. This result is possible because someone who experiences mental health issues can also have high mental health literacy. A study conducted on a community experiencing mental health issues found that more than half of the community with mental health problems had high mental health literacy, amounting to 55.40% [46]. Mental health literacy was first defined as knowledge and beliefs about mental disorders in their recognition, management, and prevention [33]. Mental health literacy focuses on the knowledge and skills to provide others with first aid and mental health support [47]. Mental health literacy itself is more often associated with stigma regarding mental health issues, early recovery, help-seeking behavior, and the use of mental health services [8,9,48]. Although the results of this study show no significant relationship between mental health literacy and mental health issues, mental health literacy remains essential to consider in mental health maintenance actions. Previous research has shown that individuals with high mental health literacy utilize mental health services.

Mental health literacy of students qualitatively; students still cannot recognize specific mental health issues and lack adequate information about professional help and healthcare facilities for mental health problems. Students feel they do not seek information about mental health assistance because they believe they do not have mental health issues. These results are similar to previous research, which indicated that survey results show mental health literacy is still lacking, particularly regarding knowledge about finding available help and treatment options [33]. Another study mentioned that students with high mental health literacy do not know where to find adequate resources to identify mental health issues. Mental health literacy focuses on knowledge and skills to provide others with first aid and mental health support [47]. Mental health literacy itself is more often associated with stigma related to mental health issues, early recovery, help-seeking behavior, and the use of mental health services [8,9,48]. Although the results of this study show no significant relationship between mental health literacy and mental health issues, mental health literacy remains important to consider in mental health maintenance actions. Previous research has shown that individuals with high mental health literacy utilize mental health services.

Qualitatively, student mental health literacy cannot still recognize specific mental health issues and sufficient information regarding professional assistance and healthcare facilities for mental health problems. Students feel that they do not seek information about mental health problem assistance because they believe they do not have mental health issues. This result is similar to previous research, where survey results indicated that mental health literacy is still lacking, particularly in terms of knowledge about seeking available help and treatment options [33]. Another study mentioned that students with high mental health literacy do not know where to find adequate resources to identify mental health problems [7].

Mental health factor

In the bivariate test, the significant factors related to mental health are physical activity, history of parenting problems, pocket money, peer interaction, and academic interaction. As in previous studies, these factors are bivariately related to mental health [49-53]. The aspects of mental health literacy and residence, respectively, show no significant relationship with mental health in a bivariate manner. The same results were obtained in previous studies [45,54].

The results of the multivariate analysis indicate that the factors significantly related to mental health are having a history of parenting problems and poor peer interactions after considering variables such as gender, mental health literacy, physical activity, pocket money, living environment, and academic interactions. Students who have a history of parenting issues and poor peer interactions have a greater risk of experiencing mental health problems. In previous research comparing individuals with a history of parenting issues (such as abuse and violence) to those without a history of parenting issues, significant differences in mental health were found, and a history of parenting issues has long-term detrimental effects, including experiencing mental health problems [50,55]. Having a history of parenting issues can have a significant impact on an individual, as research conducted on a population over the age of 18 has shown that among those with a history of physical violence, sexual violence, and violence in parenting,

there is a significantly high likelihood of suicide attempts [56].

The factor of poor friend interactions on mental health issues in previous research yielded similar results, the role of friends as the most influential risk factor for mental health problems after considering gender and the influence of lecturers [44]. The poor quality of interactions with friends can be due to communication issues, mistreatment, or conflicts with friends. In previous research, the friend factor can be an indicator of high anxiety risk, and mistreatment by friends is an indicator that increases long-term anxiety and is associated with depression [57,58].

The parental upbringing and peer interaction among college students in early adulthood become dominant factors in the shift in closeness from parents to close friends [59]. The quality of good interactions in friendships can provide good mental health support for someone; friends can be a place to share everything one wants to talk about, and this is related to good mental health, especially for someone with a history of parenting issues [50]. After considering other variables, gender, mental health literacy, physical activity, pocket money, living environment, and academic interaction became insignificant to mental health. Previous research yielded similar results, with the variables of mental health issues becoming insignificant after considering other variables [44,60].

Qualitatively, the factors most frequently reported to affect mental health are family factors, poor friendship factors, and the environment. Family factors such as a history of parenting issues (physical violence, verbal violence, and neglect) are detrimental to their mental health. A history of parenting issues is at risk of having long-term impacts. Research conducted on elderly individuals over 50 years old found that there is a significant relationship between adverse childhood experiences (such as physical violence and emotional neglect) and mental health issues and substance use [61]. Bad interactions with friends harm their mental health. A common experience is bullying from friends; the factor of friends can be an indicator of high anxiety risk, and mistreatment from friends is an indicator that increases anxiety in the long term [58].

The new finding from this study is that mental health literacy does not have a significant relationship with mental health, and qualitatively, there is no difference in mental health literacy between students who experience mental health issues and those who do not. The residence factor in the bivariate analysis shows no significant relationship with mental health. This differs from previous research because, in this study, respondents only chose between living at home or in a boarding house, making it impossible to assess the situation, conditions, and environment of the residence. Qualitatively, the factor of residence was conveyed as one of the factors detrimental to students' mental health, such as the role of parents at home, unpleasant experiences living at home, feeling distant from parents, and conflicts with the surrounding community.

The quantitative and qualitative research results in this study show different outcomes regarding the factor of pocket money. Qualitatively, it was found that pocket money was reported not to affect students' mental health because the qualitative research assessed the management and students' feelings towards pocket money about mental health, and students felt satisfied with the pocket money they received. The weakness of this study is in the research sample, which is almost entirely composed of females, and it did not find a causal relationship between the mental health factors studied and the student's mental health. Therefore, further research is needed to determine the cause-and-effect relationship. The advantage of this research is conducting a qualitative exploration of the quantitative research results.

CONCLUSION

Almost half of the students (48.96%) have low mental health literacy. More than half of the students (61.95%) experience mental health issues. The factor of parenting history and peer interaction as the most related factors to mental health issues among students after considering gender, mental health literacy, pocket money, living conditions, and academic interaction. Mental health literacy qualitatively has not yet recognized the characteristics and specific types of mental health problems and mental health service locations. Qualitatively, the factors most frequently reported to be detrimental to students' mental health are the history of parenting issues and poor peer interactions and environment.

The campus can create programs and policies related to student health literacy and mental health that are supported and implemented by each faculty member. The campus must also provide counseling facilities that students can access to improve mental health literacy and manage their mental health.

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