

The Influence of Psychological Distress on Insomnia Tendencies Among Students

A. Fatima Az-Zahra¹, Ahmad Ridfah¹, Rahmat Permadi¹

¹Psychology Study Program, Faculty of Psychology, Universitas Negeri Makassar, Indonesia

Email: ahmad.ridfah@unm.ac.id

Abstract. *University students often face academic, social, and personal pressures that can trigger psychological distress, such as anxiety or depression, contributing to mental health issues like insomnia. Using a quantitative approach and a correlational research design, this study aims to examine the influence of psychological distress on the tendency for insomnia among university students. A total of 574 university student respondents participated in this study, obtained through accidental sampling techniques. The average age of the respondents was 19 years. The tendency for insomnia was measured using the Insomnia Severity Index (ISI) and psychological distress was measured using the Kessler Psychological Distress Scale (K10). This study employed ordinal regression analysis. The results showed a significant effect of psychological distress (mean = 26.97, st. dev = 7.29) on the tendency for insomnia (mean = 16.84, st. dev = 4.03) among university students (pseudo-r² = 0.184, p < 0.001). This means that the higher the level of psychological distress, the greater the tendency for insomnia among university students. This research is expected to make a significant contribution to the literature on university student insomnia by focusing on psychological distress as a potential factor.*

Keywords: *Insomnia Tendency, Psychological Distress, University*

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INTRODUCTION

The life of university students is often considered a challenging period in their lives. During their studies, they face various academic, social, and personal demands that can significantly impact their overall well-being (Husna & Frieda, 2017). Changes in circumstances can trigger feelings of worry, anxiety, fear, and discomfort, stemming from both internal and external factors (Nugraha, 2020; Mukholil, 2018). Insomnia is one of the mental health issues frequently experienced by students (Putra et al., 2017). Jarrin (2015) define insomnia as a sleep difficulty characterized by the inability to sleep comfortably despite having adequate opportunities to do so. Individuals with insomnia face difficulties falling asleep, leading to distress or daily functional problems, even when sufficient time for sleep is available. Insomnia is associated with an increased risk of mental health issues, such as depression, and physical health problems, such as diabetes.

Aspects of insomnia include difficulty falling asleep despite the desire and favorable conditions for sleep. Insomnia sufferers often wake up during the night or too early in the morning and cannot return to sleep. Insomnia causes distress and daytime functioning impairments, with symptoms occurring at least three times a week for three months (Fernandez-Mendoza, 2025; Spiegelhalder et al., 2026; Riemann et al., 2022; Rosenberg et al., 2021; Krystal et al., 2019). The National Sleep Foundation reported in 2018 that the global prevalence of insomnia reached 67% among 1,508 individuals in Southeast Asia. The survey revealed that 7.3%

of university students experienced insomnia. Insomnia prevalence data in Indonesia also showed significant figures, with about 67% of cases. Among these, 55.8% were classified as mild insomnia, while 23.3% were moderate insomnia cases (Fernando & Hidayat, 2020). A preliminary survey for this study was conducted with 34 respondents. Among them, 66.7% were female, and 33.3% were male. The survey results indicated that the majority of respondents (45.5%) reported sleeping less than 5 hours, while 36.4% slept between 5 and 6 hours per night.

According to research, sleeping less than 5-6 hours per night is generally insufficient for most adults and increases the risk of various health issues. Watson et al. (2015), Gordon et al. (2022), Leong & Chee (2023), Mukherjee et al. (2024) also recommends that adults sleep at least 7 hours per night to maintain optimal health, as sleeping less than this may contribute to cognitive decline and poor emotional well-being. Of the respondents surveyed, 42.4% reported always having difficulty sleeping, while 39.4% experienced frequent sleep difficulties in the past two weeks. When facing sleep difficulties, 42.4% of respondents required more than 60 minutes to fall asleep after lying in bed. Regarding waking up during sleep, 36.4% experienced frequent awakenings, while only 6.1% reported always waking up during sleep. Most respondents disclosed that they often or always experienced stress before bedtime, continuously worrying about problems or concerns in the past two weeks (Cheung et al., 2016; Suárez-Orozco & López Hernández, 2020; Coveney, 2014; Chung et al. 2020). Of these, 45.5% frequently worried, and 24.2% always did so. The most common sources of concern were related to studies and work, including anxiety about unfinished assignments, graduation, final exams, or job-seeking issues. A body under constant stress and tension can experience changes in its nervous system and hormone levels. These changes can impact various bodily functions, including sleep (Oroian et al., 2021). Awada et al. (2023), Branson et al. (2019), Szabo, (2020) identified two types of stress: eustress, a positive reaction to events, and distress, a negative one.

Responses to stress vary depending on the type of stress and how an individual's body physiologically responds (Maryati et al., 2023). According to Matthews (2016), Arvidsdotter et al. (2016), Makwana, (2019), Byles et al. (2014), Van & Schlebusch, (2021) psychological distress is an emotional state encompassing negative symptoms such as anxiety, depression, and hopelessness. Pompili (2024), Fusar-Poli et al. (2024), Kaiya (2016) describe psychological distress as a subjective, unpleasant condition comprising two aspects: depression (including sadness, lack of enthusiasm, loneliness, hopelessness, feelings of worthlessness, suicidal thoughts, sleep disturbances, and difficulty performing activities) and anxiety (including tension, worry, restlessness, anger, and fear). These symptoms can manifest as mood changes (emotional) or malaise (physiological disturbances). Psychological distress, such as excessive anxiety or severe depression, can disrupt normal sleep patterns (Laisanputty & Manoppo, 2022). Individuals experiencing significant emotional stress may have trouble falling asleep or waking up frequently during the night. They may also experience restless sleep, easily waking up and having nightmares (Tristianingsih & Handayani, 2021).

Research findings suggest that psychological distress significantly influences the occurrence of insomnia in the studied populations. Maryati et al. (2023) linked insomnia to psychological distress levels among healthcare workers during the COVID-19 pandemic. The pandemic had a significant impact on the psychological distress experienced by healthcare workers, with one of its effects manifesting as sleep disturbances and insomnia. Research conducted by Li et al. (2021) found that psychological distress, particularly anxiety and depression, was more pronounced in patients with insomnia compared to healthy control groups. This study highlighted that psychological distress significantly affects insomnia severity. Similarly, Wang et al. (2021) demonstrated that higher levels of psychological distress among psychiatric nurses were correlated with poorer sleep, such as insomnia and early awakenings. This may be related to anxiety, depression, and other psychological factors that disrupt sleep and activate the body's stress systems.

In this context, this study aims to address existing research gaps and provide meaningful contributions. By utilizing the concept of psychological distress to understand its impact on

insomnia, the study aims to offer additional insights into the issue of insomnia among students and contribute to efforts to improve their overall well-being. With a focus on students, the research aims to explore how psychological distress influences the tendency toward insomnia in this population.

METHODS

Design and Sampling Technique

This study adopts a quantitative approach using a correlational research design. The questionnaire was distributed online through social media. This allowed researchers to broadly reach respondents from the study population. The sampling technique used was non-probability sampling, specifically accidental sampling, involving participants who voluntarily completed the online questionnaire during May–June 2024. This technique was chosen due to its ease of access to the student population at several universities in Makassar. The study focuses on students experiencing insomnia tendencies. The research subjects were active students aged 18 to 25 currently pursuing their education in Makassar. Since the population size is unknown, the sample size was determined using Lemeshow's formula (1991). A total of 574 students participated in this study.

Instruments

There are two research scales used in this research, namely the Insomnia Severity Index (ISI) and psychological distress using the Kessler Psychological Distress Scale (K10). The Insomnia Severity Index (ISI) used in this study is a translated and standardized version by Dr. Edo Sebastian Jaya in 2012, originally developed by Bastien, Vallieres, and Morin in 2001. Meanwhile, the Kessler Psychological Distress Scale (K10) used in this study is an adaptation by Sitompul in 2021.

Insomnia Tendency Scale

The Insomnia Severity Index (ISI) is a self-assessment tool designed to assess the severity of insomnia based on personal perceptions of sleep problems. This tool measures aspects of insomnia including difficulty initiating sleep, difficulty maintaining sleep, disruption caused by sleep problems in daily functioning, and the level of distress or worry caused by sleep problems. The ISI is a seven-item Likert scale that evaluates four aspects of insomnia. The ISI score ranges from 0 to 28. The higher the ISI score, the more severe the insomnia. Based on ISI assessment guidelines, the total ISI score reflects the respondent's insomnia tendency. An ISI score between 8 and 14 is considered the lower limit of severity. An ISI score between 15 and 21 is considered clinical insomnia of moderate severity. A score of 22 and 28 indicates clinical insomnia of more severe severity (Jaya, 2012). A pilot test was conducted with 200 respondents representative of the study population. The validity test results for the Insomnia Severity Index (ISI) showed correlation values (r) for each item ranging from 0.488 to 0.769. All items were deemed valid, indicating that each item significantly correlated with the total scale score and was suitable for measuring insomnia tendencies. The discriminant power analysis of the ISI showed item discrimination values ranging from 0.282 to 0.646, with the Corrected Item-Total Correlation indicating a strong relationship between each item and the total scale score. The reliability test results for the ISI showed a Cronbach's Alpha value of 0.772 for its 7 items, indicating good reliability. These results confirm that the scale consistently measures the intended construct and is appropriate for use in research.

Psychological Distress Scale

The Kessler Psychological Distress Scale (K10) is a simple tool used to assess an individual's level of psychological distress. The K10 scale measures two main aspects of psychological distress: anxiety and depression. The anxiety aspect encompasses symptoms of nervousness and worry. Meanwhile, the depression aspect encompasses symptoms of fatigue and negative affect that can impact an individual's mental well-being (Ridley et al., 2020; Alharbe,

2025; Vîslă et al., 2022; Hammoudi et al., 2023). The K10 scale is a Likert scale consisting of 10 questions about emotional states, each with a five-level response scale. The maximum K10 score is 50, indicating severe distress, while the minimum score is 10, indicating no distress. The total score on the K10 scale reflects the level of psychological distress experienced by the respondent. A K10 score in the range of 10 to 15 is considered low. A K10 score between 16 and 21 is considered moderate. A K10 score between 22 and 30 is considered high. A K10 score between 31 and 50 is considered very high. A pilot test was conducted with 200 respondents representative of the study population. The validity test results for the Kessler Psychological Distress Scale (K10) showed correlation values (r) for each item ranging from 0.584 to 0.818. All items were deemed valid, indicating that each item significantly correlated with the total scale score and was suitable for measuring psychological distress. The item discrimination values ranged from 0.489 to 0.763. The reliability test results for the Kessler Psychological Distress Scale (K10) showed a Cronbach's Alpha value of 0.916 for its 10 items, indicating excellent reliability. These results confirm that the scale consistently measures the intended construct and is appropriate for use in research.

RESULT AND DISCUSSION

Descriptive Analysis Results

Inferential analysis will be conducted to test the research hypotheses and identify the relationship between the independent variable (psychological distress) and the dependent variable (insomnia tendency). This study used non-linear ordinal logistic regression with SPSS v.29.0. If the analysis results show a significance level <0.05 , it can be concluded that psychological distress influences insomnia tendency in college students. Respondents in this study included 574 active college students (81% female, 19% male; aged 18–25) currently studying in Makassar and experiencing insomnia. The primary data collection phase took place from May 14, 2024, to June 4, 2024. Data collection was conducted online via a Google Form distributed through social media and offline at several campuses.

Researchers initially collected data from 726 respondents. 127 respondents were excluded due to their careless response. In the data cleaning process, the minimum Insomnia Severity Index (ISI) score used was 8, which indicates the lowest limit of severity. Therefore, 25 respondents who were classified as asymptomatic or had an ISI score of less than 8 were excluded from further analysis. Therefore, the number of respondents whose data was used in the research analysis was 574. This study obtained participant approval through online informed consent, which was guaranteed confidentiality. Below is the detailed descriptive analysis of the participants:

Table 1. Categorization of Descriptive Analysis Results

Description	Frequency	Percentage
Gender		
Male	109	19%
Female	465	81%
Age		
18	85	14,8%
19	190	33,1%
20	168	29,3%
21	92	16%
22	34	5,9%
23	5	0,9%
Mean Age = 19		
University		
Universitas Negeri Makassar	527	91,8%
Universitas Hasanuddin	22	3,8%

Universitas Bosowa	19	3,3%
STMIK Profesional Makassar	1	0,2%
Politeknik Pembangunan Pertanian Gowa	1	0,2%
Universitas Islam Negeri Alauddin Makassar	1	0,7%
Year		
2019	2	0,3%
2020	44	7,7%
2021	100	17,4%
2022	227	39,5%
2023	201	35%

The respondents consisted of 19% males and 81% females. The majority of respondents were from the age group 19 years (33.1%), followed by 20 years (29.3%) and 18 years (14.8%). Most of the respondents were from Universitas Negeri Makassar (91.8%), with smaller percentages from Universitas Hasanuddin (3.8%) and Universitas Bosowa (3.3%). In terms of cohort, the highest number of respondents came from the 2022 (39.5%) and 2023 (35%) cohorts, with smaller numbers from the 2021 (17.4%) and 2020 (7.7%) cohorts.

Table 2. Descriptive Analysis of Research Data

Variable	Min	Max	Mean	St. Dev
Insomnia Tendency	8	28	16,84	4,03
Psychological Distress	9	45	26,97	7,29

Based on the descriptive data analysis, the insomnia tendency variable has a mean value of 16.84, with a range from 8 to 28 and a standard deviation of 4.03, indicating a small variation around the mean. On the other hand, the psychological distress variable has a mean value of 26.97, with a range from 9 to 45 and a standard deviation of 7.29, indicating a larger variation. The following is the categorization of the insomnia tendency variable.

Table 3. Categorization of Insomnia Tendency Variable

Score	Category	Frequency	Percentage
0 – 7	No clinically significant insomnia	0	0%
8 – 14	Subthreshold insomnia	175	30,5%
15 – 21	Clinical Insomnia (moderate severity)	325	56,69%
22 – 28	Clinical insomnia (severe)	74	12,9%
Total		574	100%

Respondents in this study fall into categories ranging from low to high levels of insomnia. The low category includes scores from 8 to 14, which consists of 175 respondents, or 30.5% of the total sample. The majority of respondents fall into the moderate category, with scores between 15 and 21, comprising 325 respondents, or 56.69% of the sample. The high category includes scores from 22 to 28, with 74 respondents, or 12.9% of the total sample. In total, this study involves 574 respondents, with the distribution of categories as described above.

Table 4. Categorization of psychological distress variable

Score	Category	Frequency	Percentage
10 – 15	Low	14	2,4%
16 – 21	Moderate	69	12 %
22 – 30	High	223	38,9%
31 – 50	Very High	268	46,7%
Total		574	100%

Based on the categorization table of psychological distress scores, the respondents in this study were divided into four categories. The low category includes scores between 10 and 15, consisting of 14 respondents or 2.4% of the total sample. The moderate category includes scores

between 16 and 21, with 69 respondents or 12% of the total sample. The high category includes scores between 22 and 30, with 223 respondents or 38.9% of the total sample. The majority of respondents fall into the very high category, which includes scores between 31 and 50, with 268 respondents or 46.7% of the total sample. Overall, this study involves 574 respondents with the category distribution as described.

Ordinal Logistic Regression Analysis Results

This study examines the impact of psychological distress on insomnia tendencies among students. The hypothesis proposed is that there is an influence of psychological distress on insomnia tendencies in students, where increased levels of psychological distress contribute to an increased risk of insomnia tendencies (Ha), and there is no influence of psychological distress on insomnia tendencies among students (H0). The results of the hypothesis test are shown in the following table:

Table 5. Hypothesis Test Results

Variable	Pseudo-R ²	Goodness-of-fit	p	Explanation
Insomnia Tendency	0,197	0,016	< 0,001	H ₀ rejected
Psychological Distress				

Based on the results of the ordinal logistic regression analysis, it was found that the variable psychological distress has a significant effect on the tendency for insomnia among students. The Pseudo-R² value of 0.197 indicates that 19.7% of the variation in insomnia tendencies can be explained by the level of psychological distress. The goodness-of-fit value of 0.016 suggests that the logistic regression model used fits the data well, making it suitable for analysis. The significance value (p) less than 0.001 confirms that the relationship between psychological distress and insomnia tendency is significant. Therefore, the null hypothesis (H0) is rejected, meaning there is a significant effect of psychological distress on the tendency for insomnia among students. The regression equation model based on the estimated parameters to estimate insomnia tendency influenced by psychological distress can be written as follows:

Logit equation for threshold 1 (Y = 1):

$$\text{Log} \left(\frac{P(Y \leq 1)}{1 - P(Y \leq 1)} \right) = 2,422 - 0,126X$$

Logit equation for threshold 2 (Y = 2):

$$\text{Log} \left(\frac{P(Y \leq 2)}{1 - P(Y \leq 2)} \right) = 5,592 - 0,126X$$

Ordinal regression equation:

$$p1 = \frac{\exp(2,422 + 0,126 \cdot 1)}{1 - \exp(2,422 + 0,126 \cdot 1)} = \frac{\exp(2,548)}{1 - \exp(2,548)} = \frac{12,774}{1 - 12,774} = -1,078$$

$$p1 + p2 = \frac{\exp(5,592 + 0,126 \cdot 1)}{1 - \exp(5,592 + 0,126 \cdot 1)} = \frac{\exp(5,718)}{1 - \exp(5,718)} = \frac{303,634}{1 - 303,634} = -1,003$$

$$p2 = -1,003 - (-1,078) = 0,075$$

In general, the constant and regression coefficients for the psychological distress variable (X) are positive. This means that the higher an individual's level of psychological distress, the more likely they are to experience insomnia. If an individual's level of psychological distress increases by one unit, the probability of not experiencing insomnia decreases by 1.078%. On the other hand, the likelihood of the individual experiencing moderate insomnia increases slightly by 0.075%. Additionally, the regression coefficient for the psychological distress variable (X) is 0.126, which, when exponentiated, becomes $\exp(0.126) = 1.134$. This means that every one-unit increase in the level of the psychological distress variable (X) will increase the likelihood of experiencing insomnia by approximately 1.134 times compared to other conditions. In simple

terms, the higher the level of psychological distress, the more likely an individual is to experience insomnia.

Results of Additional Data Analysis

The analysis of additional data was performed using the Crosstab Chi-square test. The Crosstab Chi-square test was used to determine whether specific patterns emerge when the level of psychological distress increases or decreases, and how this is related to the level of insomnia tendencies. The results of the Crosstab Chi-square test are shown below:

Table 6. Crosstab Chi-square Test Results

Insomnia Tendency	Psychological Distress					
	Low	Moderate	High	Very High	Total (n)	Total (%)
Subthreshold insomnia	8	42	87	38	175	30.5%
Clinical Insomnia (moderate severity)	5	23	124	173	325	56.6%
Clinical insomnia (severe)	1	4	12	57	74	12.9%

The analysis results show that the majority of respondents with very high psychological distress tend to have moderate to high levels of insomnia. In contrast, respondents with low psychological distress tend to experience less insomnia. This indicates that the higher the level of psychological distress in students, the greater their tendency to experience insomnia.

Overview of Insomnia Tendency

Descriptive analysis shows that the majority of respondents fall into the moderate category. The categorization indicates that 56.69% of respondents are in the moderate insomnia tendency category, while 30.5% are in the low category, and 12.9% are in the high category. This shows that most respondents experience moderate insomnia levels, meaning they experience significant difficulty sleeping but not to an extreme level. The International Classification of Sleep Disorders 2 (2001) describes that the moderate insomnia tendency category reflects complaints about insufficient sleep or not feeling refreshed after a usual sleep episode. This is accompanied by mild to moderate disruptions in social or work functions. Moderate insomnia is always associated with feelings of restlessness, irritability, anxiety, daytime fatigue, and tiredness. Research by Chattu et al. (2018) and Potter et al. (2016) indicates that insufficient sleep can have widespread and significant impacts on an individual's daily activities. Decreased performance and productivity are major consequences. Individuals who experience this often struggle with concentration, processing information, and making decisions, which can lead to reduced performance at work or school. Individuals with moderate insomnia often experience sleep problems that impact their daily activities, but not to the extent that they severely impair their daily functions. This implies that many respondents in the study are experiencing insomnia at a level that requires monitoring. However, their condition has not yet reached the most severe stage.

Overview of Psychological Distress

Descriptive analysis of the respondents shows that the majority of respondents (46.7%) are in the very high psychological distress category. 2.4% are in the low category, 12% are in the moderate category, and 38.9% are in the high category. Based on this data, it can be concluded that the majority of respondents in this study experience psychological distress at a very high level. Viertiö et al. (2021) revealed that psychological distress levels reflect disturbed mental health and can indicate common mental disorders, such as depression and anxiety. This study aligns with other findings that show significant psychological pressure can negatively affect individual well-being. A study conducted on 374 students in France by Beiter et al. (2015) found that factors such as academic pressure, workload, financial problems, and social relationships can be major causes of distress among students. This finding strengthens the idea that distress among students can significantly impact various aspects of their well-being. In addition, Søvold et al.

(2021), Mukhtar (2020) note that psychological distress that is not properly managed can contribute to the development of more serious mental health disorders. Therefore, it is important to identify and understand the factors that contribute to psychological distress. This way, we can create an environment that supports better mental health for students.

Overview of the Influence of Psychological Distress on Insomnia Tendency

This study aims to examine the influence of psychological distress on the tendency for insomnia among students in Makassar. A total of 574 respondents aged between 18 and 25 years were involved in this study. The female gender predominates, accounting for 81%, with the most common age group being 19 years (33.1%). The research findings reveal a significant relationship between psychological distress and insomnia tendency among students. Hypothesis testing through ordinal logistic regression analysis revealed that psychological distress has a significant effect on insomnia tendency with a p-value of < 0.001 . Additionally, the Pseudo- R^2 value of 0.197 shows that 19.7% of the variation in insomnia tendency can be explained by psychological distress. This finding suggests that students with higher psychological distress tend to have a greater risk of experiencing insomnia. Kalmbach et al. (2018) also confirmed that an individual's level of psychological distress tends to align with poor sleep quality and insomnia.

A study by Drake et al. (2014) supports the finding that psychological distress significantly affects the risk of insomnia. Individuals with insomnia have higher levels of psychological distress compared to those who do not experience insomnia. The study found that individuals with insomnia are 9.82 times more likely to have significant clinical depression and 17.35 times more likely to have significant clinical anxiety. Hertenstein et al. (2023) further explored the relationship between insomnia and emotional conditions like anxiety and depression. The study found that excessive emotions can make it difficult for people to sleep because their thoughts and body reactions become more active. When there are issues in the brain that regulate sleep, emotional disturbances like depression and anxiety, which are forms of psychological distress, can worsen. This is because sleep problems and emotions influence each other. Insomnia can increase psychological distress in the form of depression and anxiety, which in turn makes it more difficult for individuals to sleep. Thus, insomnia and psychological distress worsen each other in a cycle.

Researchers also asked 605 respondents additional questions, including, "If you feel anxious or worried before bed, what usually triggers that worry?" This question was intended to gain a clearer understanding of the psychological distress experienced by respondents and its impact on their tendency toward insomnia. Based on additional questions asking about sources of worry before sleep, many respondents revealed that they are often overwhelmed by anxiety, concerns, or repetitive thoughts related to various aspects of their lives. Additionally, some respondents expressed worry about the health conditions of family members, which adds to their mental burden. This anxiety not only revolves around past events but also includes excessive thoughts about what will happen the next day, whether they will fulfill their responsibilities, or how their unfinished tasks will turn out.

Many respondents also shared that they feel pressured by high expectations from their parents or themselves regarding academic performance and their future. These sources of concern often revolve around academic issues, such as piling assignments, approaching deadlines, and exam preparations. Some respondents stated that they often stay up late to finish assignments or study for exams, which directly disrupts their sleep schedule and increases their risk of insomnia. Zhang et al. (2023) in their study in China during the COVID-19 pandemic found that academic stress, anxiety, and depression contributed to the high prevalence of insomnia among medical students. Stressful events accompanied by constant, racing thoughts can disrupt sleep quality. This causes individuals to feel trapped in a cycle of thoughts that make it difficult to sleep (Li et al., 2021). When individuals face stressors, the body undergoes a physiological response involving three stages: alarm, resistance, and exhaustion or failure. These stages illustrate how the body reacts and adapts to prolonged stress. According to Morin's theory of

hyper-arousal insomnia, when a person's thoughts are highly active, this can play an important role in insomnia. theory explains that excessive and alert mental states can interfere with one's ability to sleep. Stress can trigger a biological response known as the "stress reaction," which consists of two main components: the sympathetic response and the Hypothalamic-Pituitary-Adrenal (HPA) response. The sympathetic response involves the release of adrenaline and norepinephrine, which increase heart rate, blood pressure, and blood flow to muscles. Meanwhile, the HPA response involves the release of cortisol, which increases blood sugar levels and prepares the body to withstand stress.

Meyer et al. (2022) found that irregular sleep habits can disrupt the body's circadian rhythm. This has an impact on significant delays in the body's natural rhythms, such as the melatonin (sleep hormone) rhythm and sleep tendencies. These delays can lead to difficulty falling asleep. Moreover, some respondents also revealed that the use of technology before sleep is one of the factors affecting their tendency for insomnia. This includes habits such as playing games, listening to music, and watching videos before bed. Peters further explains that blue light emitted by electronic devices can suppress melatonin production, the hormone that regulates sleep, making it harder to fall asleep. Disruption in melatonin production can shift the desire to sleep later at night, leading to difficulty falling asleep or insomnia. Unfavorable sleep environment issues were also reported by one respondent as a barrier affecting their tendency for insomnia. This includes noise in dormitories or uncomfortable sleeping environments. An unsupportive sleep environment can make it difficult for individuals to sleep. This condition increases the tendency for insomnia and reduces the quality of sleep. The researcher concludes that stressors experienced by individuals tend to significantly affect insomnia tendency, creating a cycle where sleep difficulties increase psychological distress, which in turn worsens insomnia tendency. When individuals experience stress, the body reacts through three stages: alarm, resistance, and exhaustion, illustrating how the body responds and adapts to stress. Overactive thoughts can make it difficult for individuals to sleep. Stress also triggers biological responses that increase hormones such as adrenaline and cortisol, keeping the body alert and making sleep difficult. Furthermore, irregular sleep habits can disrupt the body's natural rhythm, such as melatonin production (sleep hormone), thus increasing the tendency for insomnia.

Additional Analysis

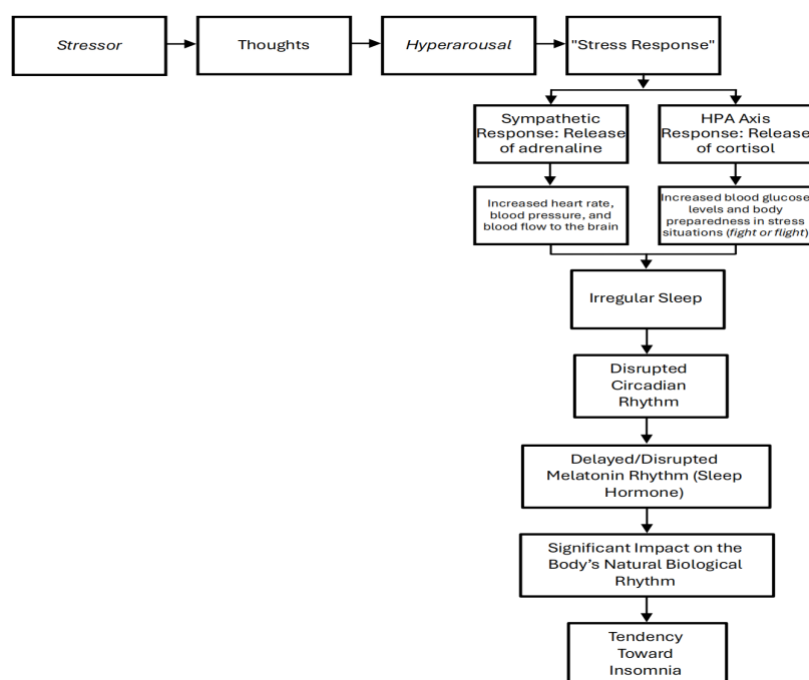


Figure 1. Additional Analysis

Source: Research Data, 2026

Based on the findings, it can be concluded that stressors experienced by individuals trigger excessive mental activity in the form of worry and repetitive thoughts, resulting in a state of hyperarousal in which the mind and body are on high alert. This condition triggers a stress response involving two main systems: the sympathetic nervous system (sympathetic nervous system) through the release of adrenaline, which increases heart rate, blood pressure, and blood flow to the brain, and the HPA nervous system (HPA) response, which releases cortisol to increase blood sugar levels and prepare the body for a stressful situation (fight or flight). When this response occurs continuously, the body has difficulty resting, leading to irregular sleep, which in turn disrupts the circadian rhythm. This disruption impacts the melatonin (sleep hormone) rhythm and disrupts the body's natural rhythm, leading to a tendency toward insomnia due to an imbalance between physiological stress and the normal sleep process.

Stressors experienced by individuals tend to significantly influence the tendency toward insomnia, creating a cycle where difficulty sleeping increases psychological distress, which in turn exacerbates the tendency toward insomnia. When individuals experience stress, the body reacts through three stages: alarm, resistance, and exhaustion, which indicate how the body responds and adapts to stress. An overactive mind can make it difficult for individuals to sleep. Stress also triggers a biological response that increases hormones like adrenaline and cortisol, which keep the body alert and make it difficult to sleep. Furthermore, irregular sleep habits can disrupt the body's natural rhythms, such as melatonin (the sleep hormone) production, further increasing the likelihood of insomnia.

The additional Chi-square Crosstab analysis between insomnia tendency and psychological distress shows a significant relationship, where the higher the level of psychological distress, the greater the tendency for insomnia among students. The majority of respondents with low insomnia tendency are in the high distress category. In the moderate insomnia tendency group, the majority of respondents are in the very high psychological distress category. Similarly, respondents with high insomnia tendency are mostly in the very high psychological distress category. This is supported by various previous scientific studies. According to research by Li et al. (2021), individuals with higher levels of psychological distress, such as depression, tend to experience more severe sleep disturbances, including difficulty starting and maintaining sleep. Various distress dimensions such as anxiety, somatization, and interpersonal sensitivity were found to be higher in insomnia patients compared to the healthy control group. Another study by Palagini et al. (2014) found that insomnia strongly correlates with stress, depression, and anxiety. They found that individuals experiencing high stress levels or psychological distress tend to have more severe sleep disturbances. This indicates that psychological distress plays an important role in exacerbating sleep issues like insomnia.

Therefore, the results of this additional analysis support existing literature. Students with higher levels of psychological distress, including those in the very high category, tend to have more severe insomnia tendencies. This indicates that psychological distress significantly contributes to the tendency for insomnia among students. This study shows that psychological distress has a positive and significant effect on the likelihood of insomnia in college students ($\beta = 0.126$; OR = 1.134; $p < 0.001$; pseudo- $R^2 = 0.197$). This finding indicates that the higher the level of distress experienced by students, the greater the likelihood of experiencing more severe insomnia. Theoretically, these results strengthen the stress-arousal model that explains the relationship between psychological distress and sleep disturbances. Practically, these findings emphasize the importance of counseling and psychoeducation services to help students manage distress and maintain sleep quality. This study has several limitations that should be considered. Its cross-sectional nature means it cannot confirm causal relationships. Furthermore, the use of accidental sampling may limit the generalizability of the results. However, the large sample size ($N = 574$) increases the reliability of the analysis.

This study has several limitations that need to be considered. There is a significant gender imbalance, with 81% of respondents being female compared to only 19% male, which may affect the generalization of the research results to a broader population, as males and females may have

different experiences related to insomnia and psychological distress. Additionally, the limitation of respondent locations, with the majority coming from Universitas Negeri Makassar (91.8%), restricts the generalization of the study's results to student populations in other regions or universities, which may have different conditions and experiences. Future research is recommended to balance the number of male and female respondents to increase representation and avoid gender bias, or conversely, to focus the study on one gender to explore gender differences more precisely. Furthermore, expanding the study population to various universities and regions could strengthen the generalizability of the findings. It is also important for future researchers to more deeply investigate external factors such as technology use, sleep environment, and other variables that may influence the relationship between psychological distress and insomnia.

CONCLUSION

The results of the study indicate a significant influence between psychological distress and the tendency for insomnia in college students. The ordinal logistic regression coefficient indicates a positive relationship, with higher levels of psychological distress contributing to an increased tendency for insomnia. This study revealed that the majority of respondents experienced very high levels of psychological distress and moderate levels of insomnia, indicating that the level of individual psychological distress tends to align with the level of insomnia tendency.

SUGGESTION

Considering that the majority of respondents experience insomnia tendencies in the moderate category, it is recommended to raise awareness about the importance of quality sleep. Simple steps such as maintaining consistent sleep times, avoiding technology use before sleep, and creating a comfortable sleep environment can help reduce insomnia symptoms. Respondents are encouraged to develop good time management skills, such as creating a regular schedule, setting priorities, and allowing sufficient rest time. Respondents are advised to engage in regular physical exercise or other activities to help reduce stress levels and improve sleep quality. Mental health service providers are expected to design and implement intervention programs focused on insomnia management for students, including training on sleep hygiene, relaxation techniques, and effective time management. Mental health service providers are encouraged to conduct regular awareness campaigns on the importance of quality sleep and the negative impacts of sleep deprivation on mental and physical health. This can include educating students on stress management and relaxation techniques to help reduce psychological distress.

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