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INSOMNIA SEVERITY AND ITS ASSOCIATION WITH DEPRESSION AND ANXIETY SYMPTOMS: THE ROLE OF EMOTIONAL REGULATION IN YOUNG ADULTS

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ABSTRACT

The present study examined the relationship between insomnia severity and symptoms of depression and anxiety, with a particular focus on the mediating role of emotional regulation among young adults. A total of 150 participants aged 18–30 years were included in the study. Standardized self-report measures were used to assess insomnia severity, depression, anxiety, and emotional regulation. The results indicated that participants experienced moderate levels of insomnia, depression, and anxiety, along with noticeable difficulties in emotional regulation. Correlation analysis revealed significant positive relationships among all variables, indicating that higher insomnia severity is associated with increased depression, anxiety, and emotional dysregulation. Further analysis showed that emotional dysregulation significantly predicts both depression and anxiety. Mediation analysis demonstrated that emotional regulation partially mediates the relationship between insomnia severity and psychological distress. In addition to indirect effects, insomnia also showed a direct significant impact on both depression and anxiety. The findings suggest that insomnia is closely linked to mental health outcomes in young adults, and emotional regulation plays an important role in this relationship. The study highlights the need to address both sleep disturbances and emotional regulation difficulties in order to improve psychological well-being.

Keywords: Insomnia, Young, Anxiety, Adults, Sleep.

I. INTRODUCTION

Sleep is a basic biological activity that is important for mental, physical, and emotional wellbeing. Insomnia is one of the most common sleep problems, especially among young people. Insomnia is usually defined by ongoing trouble falling asleep or staying asleep, or by having sleep that doesn't restore energy even when there is enough time to do so. In recent years, sleeplessness has gained recognition not only as an independent problem but also as a substantial risk factor for many psychiatric issues. Young adulthood, a transitional phase characterised by scholastic pressures, job ambiguity, social transformations, and identity formation, is particularly linked to irregular sleep habits and increased susceptibility to mental health issues. Consequently, comprehending the correlation between insomnia and psychological consequences in this demographic has emerged as a significant study domain. A rising corpus of research has repeatedly shown a substantial link between how bad insomnia is and how depressed someone feels. Depression is a prevalent mental health illness marked by enduring sorrow, diminished interest in activities, exhaustion, and cognitive deficits. Historically, sleep disruption was seen as a symptom of depression; however, recent research indicates that insomnia may also serve as a precursor or contributing factor to the onset of depressive symptoms. Longitudinal studies have shown that those who experience chronic insomnia are more likely to become depressed over time. The mechanisms that explain this connection may include changes in neurotransmitter systems and circadian rhythms, as well as cognitive aspects including negative thought patterns and rumination. Consequently, sleeplessness is now regarded as both a symptom and an independent predictor of depression, underscoring its therapeutic relevance.

Insomnia has also been closely connected to feelings of anxiety. People with anxiety disorders worry too much, feel more aroused, and have physical signs like a faster heart rate and restlessness. People who have trouble sleeping generally say that their cognitive and physiological arousal levels are higher than normal, which may make it hard for them to fall asleep and stay asleep. This establishes a circular connection whereby worry induces sleep difficulties, which subsequently aggravate anxiety symptoms. Studies indicate that the correlation between sleeplessness and anxiety may be more pronounced than its connection with depression in some groups. Additionally, insomnia has been identified as a precursor to anxiety disorders, underscoring its significance as a pivotal element in mental health. The

bidirectional aspect of this link highlights the need of treating both sleep and anxiety symptoms in clinical and research settings. Depression and anxiety often coexist, especially in persons with sleep difficulties. This comorbidity may make it harder to diagnose, treat, and function in general. It might be hard to tell these disorders apart since they all have similar symptoms, such weariness, irritation, and trouble focusing. In the context of sleeplessness, sadness and anxiety may have similar underlying causes, such as being more emotionally reactive and having less control over your thoughts. To create effective treatments, it is important to understand the common and unique ways that insomnia may lead to various mental health problems. One potential area of research in this respect is the study of emotional regulating mechanisms.

Emotional regulation is the capacity to keep an eye on, judge, and change how you feel in a manner that is useful and fits the situation. People utilise a variety of ways to deal with their emotions, including cognitive reappraisal, problem-solving, and repression. Being able to control your emotions successfully is very important for your mental health. On the other hand, having trouble controlling your emotions, which is frequently called emotional dysregulation, is linked to a number of mental health issues, such as anxiety and depression. Young people, in particular, may find it hard to control their emotions since the parts of their brains that are responsible for executive functioning and emotional processing are still growing. Recent studies have underscored the critical importance of sleep in emotional regulation. For the prefrontal cortex and amygdala, which are parts of the brain that control emotional reactions, to work at their best, they need enough sleep. Insomnia and not getting enough sleep may make these brain processes less effective, which can make you more emotionally reactive and less able to deal with unpleasant feelings. Consequently, persons suffering from insomnia may be more susceptible to experiencing severe and protracted unpleasant emotional states, thereby fostering the development of depressive and anxious symptoms. This indicates that emotional dysregulation may function as a major mechanism connecting sleeplessness to psychological suffering. Based on these results, emotional control has been suggested as a possible mediating factor in the correlation between insomnia intensity and mental health outcomes. A mediating variable elucidates the mechanism by which one variable affects another. In this scenario, insomnia may result in challenges in emotional regulation, thereby elevating the risk of feeling sadness and anxiety. Empirical investigations have started to validate this mediation hypothesis, indicating that people with heightened insomnia levels exhibit increased emotional

dysregulation, correlated with intensified feelings of sadness and anxiety. Nonetheless, despite increasing interest in this domain, there persists a need for more study, especially among young adult demographics, to enhance comprehension of these intricate linkages.

The current research seeks to investigate the correlation between insomnia severity and symptoms of sadness and anxiety, emphasising the mediating function of emotional regulation in young people. The research aims to further the knowledge of the psychological effects of insomnia by examining these linkages. Furthermore, recognising emotional regulation as a mediating variable might have significant ramifications for intervention methodologies. For example, cognitive-behavioral therapy for insomnia (CBT-I) and emotion-focused therapies are two types of therapy that may be especially good at lowering psychological discomfort since they work on both sleep problems and emotional regulation abilities. Insomnia is a complex and major problem that affects more than just sleep; it also affects how people feel and think. Its substantial link to sadness and anxiety shows how important it is to take sleep into account when looking at mental health in a more holistic way. Emotional regulation is a key part in understanding these interactions, providing important information about how insomnia affects mental health. This study focuses on young people, a demographic notably susceptible to sleep disruptions and emotional difficulties, hence offering significant contributions to both research and treatment in the mental health domain.

II. REVIEW OF LITERATURE

Zagaria, Andrea et al., (2023) Adolescent studies examining the impact of emotion regulation (ER) difficulties on mental health have shown inconsistent outcomes, unlike the uniform results seen in adult populations. Developmental variations at different ages may underscore the significance of cognitive emotional regulation (ER) techniques, which include the ability to manage emotions via cognitive processes. We examined 431 young adults (70% women and 30% men) and 271 adolescents (44.6% girls and 55.4% boys) across two studies to investigate the correlation between cognitive emotion regulation mechanisms and mental health symptoms, including depression, anxiety, and sleeplessness. The participants completed many questionnaires, including the Youth Self-Report, the Cognitive Emotion Regulation Questionnaire, the Insomnia Severity Index, the Beck Depression Inventory-II, and the State-Trait Anxiety Inventory. We used hierarchical multiple regressions to ascertain the particular

contributions of cognitive emotion regulation strategies on mental health outcomes. Both samples consistently exhibited worse mental health when participants used maladaptive strategies such as rumination and catastrophising; however, only young adults demonstrated enhanced mental health when using adaptive tactics like positive refocusing and positive reappraisal. Cognitive emotion control techniques are significant risk factors for psychopathology, and our findings support the notion that interventions focused on this domain might be beneficial. The variation in the connection between cognitive emotion regulation strategies and psychological well-being with age may be attributed to the maturity of emotional control abilities.

Vanek, Jakub et al., (2020) Insomnia and mood disorders are two of the most common and debilitating mental health problems in today's society. There seems to be a link between not getting enough sleep and having trouble managing your emotions, although there are still numerous problems in this area. In recent decades, much research has been conducted on the behavioural and cognitive consequences of insomnia and suboptimal sleep quality; nevertheless, there is a deficiency in the replication and validation of empirical findings on emotional experiences in this domain. The review research examined publications published from January 1990 to March 2020, sourced from the PubMed database. A variety of combinations of the keywords "Insomnia, Emotional regulation, Nightmares, Mental disorders, Sleep quality, Nightmares treatment" were used. After going over all 145 articles very thoroughly, 42 papers were finally picked to be published. The original document list was augmented with secondary texts extracted from the reference lists of publications primarily selected for examination. At the latest count, 159 articles were being looked at for the review. Sleep helps individuals manage their emotions, whether they are healthy or have a mental disease. Many studies show that becoming excited about good and bad things before bed makes it harder to sleep since it makes you more emotionally aroused. Nonetheless, extensive evidence demonstrates that adults' emotional functioning is adversely affected by both inadequate sleep quality and sleep loss. The evidence included for this review suggests that emotional regulation may serve as a mediator between insomnia and other mental health disorders. Insomnia may be a key risk factor for a range of mental diseases. A successful approach to alleviating the distress of individuals with insomnia may include recognising transformative processes and concentrating on the prevention of emotional illnesses. Along with the basic treatment for these

illnesses, a complicated treatment plan is required. This might include cognitive-behavioral therapy for insomnia.

Predatu, Razvan et al., (2020) The presence of depressive symptoms in individuals with insomnia may be attributed to their more pronounced emotion regulation (ER) difficulties relative to controls. Since no study has clearly validated this hypothesis, we aimed to examine the possible correlation between sleeplessness and depressive symptoms via emergency department consequences.A total of 177 individuals suspected of having insomnia and 268 healthy controls were assessed for emergency room issues and depressed symptoms, use the Sleep Condition Indicator as a benchmark score.The findings indicated that, relative to the control group, individuals with a likely insomnia problem had more severe depressive symptoms and emotional regulation issues. Furthermore, the possibility for insomnia was substantially correlated with depressive symptoms indirectly via overall emotional regulation issues.Conclusion: Individuals potentially experiencing sleeplessness had more emergency room challenges, which were also associated with intensified depressive symptoms. To enhance the efficacy of Cognitive Behavioural Therapy for Insomnia (CBT-I) in individuals exhibiting insomnia symptoms and associated emotional challenges, we advocate for the incorporation of treatments aimed at fortifying executive functioning abilities.Drawbacks: Our models of indirect correlations depended on cross-sectional data.

Kirwan, Mitchell et al., (2017) A lot of negative things happen when people can't sleep, which is a common fear. There is some evidence of a bivariate connection between anxiety symptoms, emotional dysregulation, and insomnia severity; however, less research has examined their possible interaction. A total of 468 undergraduates and 136 students who reported sleeplessness completed questionnaires assessing anxiety, the severity of insomnia symptoms, and difficulties in emotional regulation. Interactions among anxiety symptoms, general difficulties in emotion regulation, and insufficient access to emotional regulation tools were associated with heightened sleeplessness symptoms throughout the whole population. Conversely, within the subsample of individuals experiencing insomnia, the intensity of insomnia symptoms increased concurrently with anxiety symptoms among those exhibiting significant emotion regulation difficulties, whereas in individuals with minimal difficulties, insomnia symptoms remained unchanged despite variations in anxiety symptoms. People who have insomnia may benefit from therapy that addresses both their anxiety and their failure to manage their emotions. This

is because the findings suggest that dysfunctional emotion regulation is necessary for anxiety symptoms to adversely affect sleep.

III. RESEARCH METHODOLOGY

Research Design

The study used a quantitative cross-sectional research approach to investigate the correlation between insomnia severity, depression, anxiety, and emotional regulation in young people. This approach facilitates the examination of relationships among variables at a certain moment.

Population

The target market was young people aged 18 to 30 years, including students and employed persons from educational institutions and metropolitan environments.

Sample Size

A convenience sample method was used to choose 150 people. This sample size is deemed sufficient for doing correlation and mediation studies in psychological research.

Data Collection

Data were collected using standardized self-report questionnaires:

- Insomnia Severity Index (ISI)
- Patient Health Questionnaire (PHQ-9)
- Generalized Anxiety Disorder Scale (GAD-7)
- Difficulties in Emotion Regulation Scale (DERS)

Responses were collected through online and offline modes with informed consent and confidentiality maintained.

Statistical Analysis

Data were analysed using SPSS software. The following statistical techniques were applied:

- Descriptive statistics (mean, standard deviation)
- Pearson correlation analysis
- Regression analysis
- Mediation analysis to assess the role of emotional regulation

The level of significance was set at $p < 0.05$.

IV. DATA ANALYSIS AND INTERPRETATIONS

Demographic profile of the Respondents

Gender

Table 1: Gender of the respondents

Particular	**Frequency**	**Percentage%**
Male	72	48.0%
Female	78	52.0%
Total	**150**	**100**

The table above shows how many men and women took part in the research. A total of 150 people were asked to fill out a survey. Of them, 72 (48.0%) were men and 78 (52.0%) were women. This means that the sample has a fairly even mix of men and women, with a little larger percentage of women than men. The fact that there are almost equal numbers of male and female respondents makes the results more reliable and generalisable since it reduces gender bias in the data. The somewhat larger proportion of females indicates that female participants were somewhat more receptive or available during data collection. The gender makeup of the

sample is suitable for analysing the correlation between insomnia severity, emotional regulation, depression, and anxiety among young people, as it facilitates a more thorough comprehension across both genders.

Age

Table 2: Age of the respondents

Particular	**Frequency**	**Percentage%**
18–21 years	58	38.7%
22–25 years	64	42.7%
26–30 years	28	18.6%
Total	**150**	**100**

The table shows how old the people who answered the survey were. Of the 150 people who took part in the study, 58 (38.7%) were between the ages of 18 and 21, 64 (42.7%) were between the ages of 22 and 25, and 28 (18.6%) were between the ages of 26 and 30. This means that most of the people who took part are between the ages of 22 and 25, followed by those who are between the ages of 18 and 21. The distribution indicates that the sample mostly consists of persons in early young adulthood, namely those in their early to mid-twenties. The reduced number of people in the 26–30 years group shows that older young adults are not as well represented. The age distribution is suitable for the research, as it encompasses a critical developmental stage during which people are predisposed to sleep problems, difficulties in emotional regulation, and mental health issues, including despair and anxiety.

Table 3: Descriptive Statistics of Study Variables

Variable	**Mean (M)**	**Standard Deviation (SD)**	**Minimum**	**Maximum**
Insomnia Severity (ISI)	14.82	4.65	5	26
Depression (PHQ-9)	11.34	5.12	2	24
Anxiety (GAD-7)	10.76	4.89	1	22
Emotional Regulation (DERS)	92.15	18.40	55	140

The table shows the descriptive statistics for the main research variables, such as the severity of sleeplessness, sadness, anxiety, and emotional regulation among the people who answered the questions. The average score for insomnia severity (ISI) is 14.82, with a standard deviation of 4.65. This means that, on average, the people who took the test had a moderate level of insomnia. The ratings go from 5 to 26, which shows that the people who answered had different levels of sleep problems.

The average score for depression (PHQ-9) is 11.34, with a standard deviation of 5.12. This shows that the sample has a modest amount of depressed symptoms. The ratings go from 2 to 24, which means that some people say they have very few symptoms and others say they have more severe depression. The mean anxiety (GAD-7) score is 10.76, with a standard deviation of 4.89, which means that the subjects had moderate levels of anxiety. The ratings vary from 1 to 22, which suggests that anxiety symptoms are quite different in the group.

The mean score for emotional regulation, as assessed by the DERS, is 92.15, and the standard deviation is 18.40, which is higher than the mean score. This means that individuals' capacity to control their emotions varies more than average. The scores go from 55 to 140, which means that some people are better at controlling their emotions than others, while others have a lot of trouble doing so. The descriptive statistics show that the sample had moderate levels of sleeplessness, sadness, and anxiety, and that emotional regulation varies a lot. This variability indicates that the data is appropriate for additional analysis, including the examination of correlations and mediation effects among these variables.

Table 4: Correlation Matrix Among Variables (N = 150)

Variables	**1**	**2**	**3**	**4**
Insomnia Severity	—			
Depression	0.62**	—		
Anxiety	0.68**	0.71**	—	
Emotional Dysregulation	0.59**	0.65**	0.67**	—

The table shows the correlation matrix for the sample of 150 individuals, which shows how insomnia severity, depression, anxiety, and emotional dysregulation are related to each other.

The findings show that all of the variables are positively and substantially connected with each other at the 0.01 level ($p < 0.01$). This means that sleep issues, problems with emotional regulation, and mental health symptoms are all strongly linked.

There is a substantial positive link between insomnia severity and sadness ($r = 0.62$) and anxiety ($r = 0.68$). This suggests that elevated sleeplessness correlates with heightened depressed and anxiety symptoms in young people. The correlation between insomnia and anxiety is somewhat more robust than that with depression, indicating that sleep difficulties may be more strongly associated with anxiety-related symptoms in this cohort. Also, there is a significant correlation between the intensity of insomnia and emotional dysregulation ($r = 0.59$), which means that those who have more trouble sleeping also have more trouble controlling their emotions.

Depression is significantly linked with anxiety ($r = 0.71$), indicating a substantial degree of comorbidity between these two psychiatric disorders. Additionally, depression has a substantial positive correlation with emotional dysregulation ($r = 0.65$), suggesting that persons with elevated depressed symptoms are more prone to difficulties in emotional regulation. In the same way, anxiety is positively linked to emotional dysregulation ($r = 0.67$), which means that those with higher levels of anxiety have more trouble controlling their emotions.

The data indicate a strong interconnection among insomnia severity, sadness, anxiety, and emotional dysregulation. These robust positive associations substantiate the hypothesis that emotional dysregulation may significantly contribute to the association between insomnia and depression and anxiety, hence warranting additional examination, including mediation testing.

Table 5: Mediation Analysis (Emotional Regulation as Mediator)

Path	**B**	**SE**	**t-value**	**p-value**
Insomnia → Emotional Dysregulation	0.58	0.07	8.28	<0.001
Emotional Dysregulation → Depression	0.42	0.06	7.00	<0.001
Emotional Dysregulation → Anxiety	0.45	0.05	9.00	<0.001
Insomnia → Depression (direct effect)	0.36	0.08	4.50	<0.001
Insomnia → Anxiety (direct effect)	0.40	0.07	5.71	<0.001

The table shows the findings of a mediation study that looked at how emotional dysregulation affects the link between the severity of insomnia and psychological consequences like sadness and anxiety. The results show that the intensity of insomnia has a strong positive influence on emotional dysregulation ($B = 0.58$, $p < 0.001$). This means that those who have more sleeplessness likely to have more trouble controlling their emotions.

Additionally, emotional dysregulation is a substantial predictor of both depression ($B = 0.42$, $p < 0.001$) and anxiety ($B = 0.45$, $p < 0.001$). This suggests that those who have trouble controlling their feelings are more likely to say they have greater symptoms of depression and anxiety. These robust and substantial correlations underscore emotional dysregulation as a critical psychological component affecting mental health outcomes.

Insomnia severity had a substantial direct influence on depression ($B = 0.36$, $p < 0.001$) and anxiety ($B = 0.40$, $p < 0.001$), in addition to the indirect routes. This suggests that sleeplessness exacerbates sadness and anxiety via both emotional dysregulation and direct mechanisms.

The findings indicate that emotional dysregulation partly mediates the association between insomnia severity and both depression and anxiety. Insomnia directly impacts these psychological symptoms and indirectly affects them by disrupting emotional control. This data corroborates the suggested model and underscores the need of focusing on emotional control in therapies designed to mitigate the psychological effects of insomnia in young people.

V. CONCLUSION

The current research sought to investigate the correlation between insomnia intensity and symptoms of sadness and anxiety, as well as to evaluate the function of emotional regulation in young people. The results unequivocally demonstrate a substantial correlation between insomnia and both sadness and anxiety, indicating that persons with more severe sleep disturbances are predisposed to elevated levels of psychological discomfort. The research further identified a significant correlation between emotional dysregulation and sleeplessness, despair, and anxiety. Significantly, emotional control was identified as a partial mediator in the link between sleeplessness and mental health outcomes. This implies that sleeplessness not only makes sadness and anxiety worse directly, but it also makes them worse indirectly by making it harder for a person to handle their emotions well. These results underscore the significance

of emotional regulation as a critical element in comprehending the psychological effects of insomnia. Simply treating sleep disorders may not be enough; to have better mental health results, treatments should also work on increasing emotional management abilities. The research underscores the interrelatedness of sleep, emotional dynamics, and mental health in young people. Encouraging good sleep patterns and efficient ways to control emotions may help lessen depression and anxiety symptoms and enhance overall health.

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