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TO STUDY THE COORELATION BETWEEN RUMINATION, SOCIAL ANXIETY AND SLEEP QUALITY AMONG YOUNG ADULTS.

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Abstract: The purpose of this study was to test the relationship between rumination, social anxiety, and sleep quality among 200 young adults. Sleep is a biopsychosocial process, which forms the basis of cognitive operations, emotional regulation, and health in general. The research design used was 'survey through questionnaire' with the convenience sample consisting of 200 university students between the ages of 18-25 years. The data was collected manually. The result showed that rumination and social anxiety had strong positive relationships and both variables had negative relationships with sleep quality. The findings indicate clinically the efficacy of rumination and social anxiety treatment, including cognitive-behavioral therapy, mindfulness-based skills and metacognitive strategies, to improve sleep and psychological functioning among young adults, also suggesting the necessity for further research into other psychological and contextual elements that may affect sleep quality.

Keywords: rumination, social anxiety, quality of sleep, young adults.

I. INTRODUCTION

1.1 Sleep Quality

Sleep has been twisted into inactive, the state of suspended consciousness or transient rest, between periods of productive activity. The process of sleep reforms cognitive and emotional system dynamically and they do not rest indifferently. All neurocognitive functions are thus controlled by enough sleep. Nevertheless, sleep deprivation impairs these abilities, and it may be observed in instances of irritability, poor academic performance, and high probability of acquiring a psychological disorder (Buysse, 2014; Pilcher and Huffcutt, 1996).

More to the point, the quality of sleep should be distinguished based on the sleep duration. It is a multidimensional concept that introduces sleep phenomenology and healing ability. Poor quality of sleep has been closely connected with anxiety disorders, depressive cognition, and maladaptive emotion regulation patterns (Harvey, 2002). In particular, the given dynamic becomes particularly acute in the context of the young adulthood when identity formation, increased autonomy, and the negotiation of academic, work, and relationship-related vicissitudes are the developmental processes.

1.2 Rumination

Rumination is characterized by a cyclical, passive, and self-referential obsessive-compulsive focus on distress, its causes, consequences, and perceived implications, with no positive problem-solving. The presence of negative thinking does not make rumination maladaptive, but it is an immobilizing quality that is recursive in nature. People who are likely to ruminate often complain of intrusive thoughts, lack of focus and cognitive inability to change mental frames, to forget about threat-related interpretations. In a metacognitive perspective, advanced by Adrian Wells (2009), rumination is maintained with dysfunctional beliefs concerning its alleged utility. People can support the idea that the analysis of distress will be continued, and clarity, insight, or emotional mastery will be obtained.

1.3 Social Anxiety

Social anxiety is defined as extreme anticipatory anxiety, avoidance behavior, and distress which is of a clinical level. Its essence is not only the fear of other people but also the fear of self will be perceived through the criticizing eyes of other people. David M. Clark and Adrian Wells (1995) provide a complicated explanation of the mechanisms which underlie this disorder through the Cognitive Model of Social Anxiety. According to this model, socially anxious individuals become preoccupied with excessively self-centered attention in the face of a social situation and instead of attending to the external social environment, they pay attention to a personal experience of self and their perceived flaws. They develop deformed, often disastrous versions of themselves since they are likely to see themselves as being observed as nervous, ineffective or clumsy, and they are likely to think ahead of what happens and afterwards. Adulthood in youth brings a fertile environment particularly where social anxiety is likely to thrive. It is a developmental stage whereby self-awareness is high; identity formation and increased involvement in evaluative environments, academic presentation, peer comparison, professional networking and new intimate relationships are made.

1.4 The Hyperarousal Model of Insomnia

The Hyperarousal Model of Insomnia is a progressive development of chronic sleep disturbance, in which the idea of insomnia is not just a breakdown of the control of sleep mechanisms, but rather the result of persistent and widespread arousal within the cognitive, emotional, and physiological system. This framework, which opposes reductionist behavioral explanations of sleep, has been articulated in the current understanding of sleep by Bonnet and Arand (2010) as foreshadowing a greater central nervous system activity, greater metabolic rate, and central adaptive mechanisms in regulating stress-response mechanisms. In this model, the state of insomnia is not a deprivation of the sleep drive, but rather a state of constant vigilance.

1.5 The Present Study

Despite there are strong literature suggesting the relationships between rumination and sleep and between social anxiety and sleep, relatively little studies have placed these two constructs in a single, integrative model. Previous research has tended to examine these factors separately and hence fail to capture the interactive processes by which repetitive negative thinking and social evaluative issues can intersect to disrupt the quality of sleep.

The current research aims at filling this gap and exploring the interrelationships between rumination, social anxiety, and sleep quality in a sample of young adults. Based on the Response Styles Theory of Susan Nolen-Hoeksema, the Cognitive Model of Social Anxiety of David M. Clark and Adrian Wells, the Cognitive Model of Insomnia of Colin Espie, the Hyperarousal Model of Insomnia, and the Perseverative Cognition Hypothesis, the investigation is grounded on transdiagnostic and mechanism-focused approach. The study does not theorise sleep disturbance as a separate symptom, but as a result of a cyclic interaction of cognitive and affective processes

By this, this study not only hopes to recreate already known relationships, but also to integrate them in a coherent explanatory context, leading to further development of theory integration. It is expected that the findings will be added to the developing body of transdiagnostic literature and that it will be introduced in assessments and intervention programs focusing on sleep and psychological health among young adults. Finally, through placing the sleep at the cross point between rumination and social anxiety the current study aims at making our cognition life more precise on how the restorative processes are shaped by the cognitional life, and how the change of thinking level can be echoed through the structure of well-being.

II. RESEARCH METHODOLOGY

2.1 Population and Sample

The sample used for research consisted of 200 young adults aged between 18 and 25 years through convenience sampling. Participants were selected from online platforms, universities, and institutions based on their availability and willingness to participate. Male and female participants were included to ensure representation.

2.2 Data and Sources of Data

The primary data used in the study was collected manually using self-report questionnaires. Participants were recruited through university networks, and the surveys were distributed in a structured manner. Answers from participants were immediately recorded, manually entered, and coded into statistical software for analysis. Because all of the data was collected at once, the study was cross-sectional in nature. Standardized psychological tools were used to measure the following factors:

Rumination Response Scale (RRS)

Social Interaction Anxiety Scale (SIAS)

Pittsburgh Sleep Quality Index (PSQI)

Ethical principles, such as obtaining informed consent, maintaining voluntary participation, and ensuring confidentiality, were strictly followed throughout the data collection process.

2.3 Theoretical Framework

The current study is based on the repetitive negative thinking framework which formulate rumination and social anxiety as perspective processes persistent, intrusive and negative thought patterns. These processes contribute to intensified cognitive and emotional awakening, which intervenes with the initiation and maintenance of sleep.

The Hyperarousal Theory of Insomnia further supports this relationship by suggesting that excessive psychological activation, particularly in the form of worry and rumination, disrupts normal sleep processes. Individuals experiencing high levels of rumination and social anxiety are more likely to engage in pre-sleep cognitive activity, thereby impairing sleep quality.

Additionally, the study is informed by the biopsychosocial model, which emphasizes the interaction of psychological factors with overall health outcomes. Within this framework, rumination and social anxiety function as psychological determinants that negatively influence sleep quality among young adults.

2.4 Statistical Tools

The data was analyzed using IBM SPSS Statistics (Version 27.0). Descriptive statistical techniques were used to examine the relationships between rumination, social anxiety, and sleep quality.

2.4.1 Descriptive Statistics

To summarize the distribution of the study variables (rumination, social anxiety, and sleep quality), descriptive statistics such as mean, standard deviation, minimum, and maximum values were calculated.

2.4.2 Correlation Analysis

Pearson product-moment correlations were conducted to assess the relationships between Rumination, Social Anxiety, and Sleep Quality. The cutoff point for statistical significance was set at p <.05.

2.4.3 Multiple Linear Regression

A linear regression was performed to determine if Rumination and Social Anxiety significantly predicted Sleep Quality impairment. The model evaluated the coefficient of determination (R^2) to measure the amount of variance explained, regression coefficients (β) to determine the direction and strength of predictors, and the F-statistic to determine the overall model significance,

III. RESULT AND DISSCUSSION

3.1 Descriptive Statistics of Study Variables

Variable	Minimum	Maximum	Mean	Std. Deviation	Shapiro-Wilk W
Rumination	23	87	54	17.5	0.964
Social Anxiety	5	80	41	15.8	0.992
Sleep Quality	0	21	9.86	5.54	0.971

Table 3.1: *Descriptive Statistics of the sample (N= 200)*

Descriptive statistics were used to summarize the central tendency and dispersion of the research variables, which included Rumination (RRS Total), Social Anxiety (SIAS Total), and Sleep Quality (PSQI Total) are presented in Table 3.1. The mean score for Rumination was 54.00 (*SD* = 17.50), for Social Anxiety was 41.00 (*SD* = 15.80), and for Sleep Quality (measured via the PSQI) was 9.86 (*SD* = 5.54). Assumptions for parametric testing were assessed. The Shapiro-Wilk test indicated that residuals were normally distributed (*W* = .995,).

3.2 Correlation Matrix for study variables

Variables	I	II	III
I. Rumination			
II. Social Anxiety	0.442***		
III. Sleep Quality	0.544***	0.444***	

Table 3.2: *Pearson's Correlational Analysis result table.*

Pearson product-moment correlations were conducted to assess the relationships between Rumination, Social Anxiety, and Sleep Quality. All correlations were positive and statistically significant (Table 3.2). Rumination was strongly associated with poorer sleep quality (r = .54, p < .001). Social Anxiety also showed a moderate positive correlation with sleep quality impairment (r = .44, p < .001).

3.3 Linear Regression of the Predictors

Predictor	B	SE	β	t	p
Social Anxiety	0.089	0.023	0.254	3.95	<.001
Rumination	0.137	0.020	0.432	6.73	<.001

Note: R= 0.589, R^2= 0.347, Adjusted R^2= 0.341, F= 52.4, N= 200

Table 3.3: *Linear Regression*

A linear regression was performed to determine if Rumination and Social Anxiety significantly predicted Sleep Quality impairment. The overall model was significant, F (2,197) = 52.40, p < .001, explaining approximately 34.1% of the variance in sleep quality (Adjusted R^2 = .341). As shown in Table 3.3, both predictors were significant. Rumination was the stronger predictor (β = .432, p < .001), indicating that higher levels of rumination were significantly associated with poorer sleep quality. Social Anxiety also remained a significant independent predictor (β= .254, p = .001)

3.4 Interpretation and Discussion

The given study considered the interaction of cognitive and emotional vulnerability variables in predicting sleep quality in young adults with specific references to rumination and social anxiety as two distinct yet interrelated channels of sleep disruption. The results of our sample of 200 young adults showed a significant level of support of the hypothesized relationships and found out that

both ruminative thinking patterns and social anxiety have a significant contribution to poor quality of sleep but also show significant intercorrelations with each other.

The current results are in line and complement the prior studies on cognitive and emotional predictors of sleep quality in yo ung adults. The previous studies have already determined that repetitive negative thinking, including both rumination and worry, is associated with lower sleep quality in a wide range of samples. The current study also adds to this literature in that it advances the study by analyzing rumination and social anxiety simultaneously in the same model so as to clarify the relative and combined contribution.

Social anxiety has not been a central focus of the literature on the relationship between social anxiety and sleep disturbance as rumination, but there is some emerging evidence to support its relevance. The present results build on this study by showing that even after controlling by rumination, social anxiety continues to be a predictive factor influencing sleep quality, indicating that social anxiety provides distinct scope of variation on its overlap with rumination

The significant difference in sleep quality accounted by rumination and social anxiety conveys the clinical significance of these two variables and implies that the manipulations of the cognitive and emotional processes can produce significant benefits in sleep quality. Independent effects of rumination and social anxiety further indicate that holistic interventions that focus on both the cognitive tendencies and the emotional reactions would be especially beneficial and possibly beneficial in comparison to the interventions that would focus on one dimension only.

Since the issue of sleep disturbance is a serious communal health issue amid youth adults, which has consequences in academic results, emotional well-being, physical health, and quality of life, future studies clarifying the psychological factors of sleep quality are also at a priority. The current results are important to this endeavor because they clarify the behavior of rumination and social anxiety as different yet related mechanisms that lead to sleep disturbance and emphasize the usefulness of integrated cognitive-emotional models in explaining how factors interact in contributing to sleep quality in this susceptible group.

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