

The Impact of Social Anxiety on Sleep Quality in Secondary and Tertiary Students: Symptoms, Emotional Factors, and Personality Traits

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Abstract

This study investigates the impact of social anxiety on sleep quality among secondary and tertiary students, focusing on three mediating dimensions: symptoms, emotional factors, and personality traits. Drawing on existing empirical studies, the paper explores how rumination, as a key symptom of social anxiety, disrupts cognitive processes and delays sleep onset; how emotional factors such as relative deprivation exacerbate feelings of inadequacy, increasing emotional arousal and leading to insomnia; and how personality traits like introversion and low self-esteem intensify cognitive and emotional burdens, further impairing sleep. Through an integrated review of quantitative findings from multiple psychological and educational studies, the research highlights the interplay between social anxiety and sleep quality, illustrating that these mediators amplify the negative consequences for students' academic performance, social functioning, and mental health. The paper concludes with recommendations for emotional regulation, self-esteem enhancement, and targeted interventions aimed at mitigating social anxiety's effects on sleep, ultimately fostering healthier learning environments for secondary and tertiary students.

Keywords

Social anxiety, sleep quality, rumination, relative deprivation, personality traits, secondary students, tertiary students.

1. Introduction

Social anxiety is a widespread psychological issue, particularly among secondary and tertiary students, as they navigate the challenges of integrating into school environments. This condition significantly impacts students' daily lives, affecting their academic performance, social interactions. However, another critical effect for higher education students is their sleep quality. It is easy to overlook that social anxiety can impair sleep, which enhances negatively impacts of students' academic performance and daily life. Research has shown that social anxiety not only disrupts sleep quality but also interacts with specific symptoms, emotional factors, and personality traits, to exacerbate these effects. Specifically, social anxiety affects sleep quality of secondary and tertiary students through some specific symptoms such as rumination; emotional factors like relative deprivation can further seriously affect college students' social anxiety and deepen sleep disorders; additionally, personality traits such as introversion and low self-esteem can potentially worsen social anxiety and its impact on sleep.

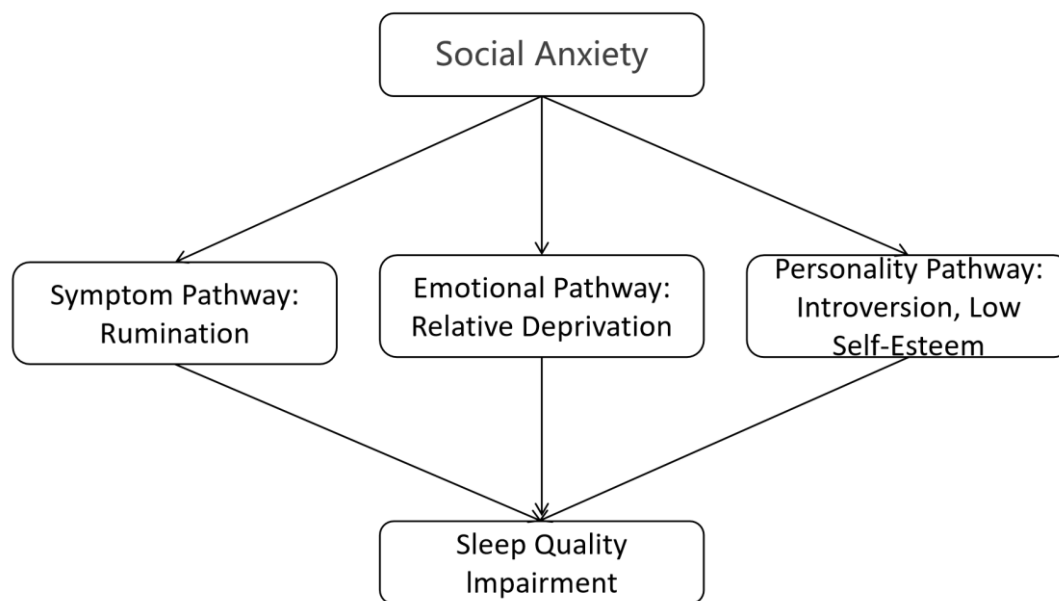


Figure 1. Pathways Linking Social Anxiety to Sleep Quality Impairment

Figure 1 illustrates the pathways through which social anxiety negatively impacts sleep quality in secondary and tertiary students. The model identifies three key mediators: specific symptoms, emotional factors, and personality traits. First, excessive rumination—characterized by repetitive negative thoughts, particularly about social interactions—disrupts cognitive relaxation, making it difficult to fall asleep and causing frequent interruptions. Second, emotional factors such as relative deprivation heighten feelings of anger, dissatisfaction, and self-devaluation, triggering emotional arousal and insomnia. Third, personality traits like introversion and low self-esteem increase vulnerability to social anxiety by amplifying cognitive and emotional burdens. These factors interact, forming a reinforcing cycle where social anxiety exacerbates sleep disturbances, which in turn worsen academic performance, social functioning, and overall well-being. By highlighting these interconnected mechanisms, the diagram emphasizes the need for targeted interventions addressing cognitive, emotional, and personality-related factors to improve students' mental health and sleep quality.

2. Symptom Pathway: Rumination and Sleep Quality

Social anxiety impairs the sleep quality of secondary and tertiary students by causing specific symptoms such as excessive rumination, which disrupts their cognitive processes and makes it difficult for them to fall asleep. According to Zhang et al., individuals often review, analyze, and reflect on past unpleasant events, especially when they are trying to fall asleep, a process known as rumination. The most important aspect of rumination is the excessive focus on personal relationship challenges, particularly on people's performance in social situations and the potential negative evaluations. In the experiment, Zhang et al. found 1653 students aged around 19 who completed questionnaires on social anxiety and rumination and measured their sleep quality using the Pittsburgh Sleep Quality Index (PSQI), PSQI is a standardized sleep questionnaire, suitable for research and clinical diagnosis of sleep disorders, widely used in a variety of people. The study has shown that "social anxiety mediated by rumination significantly affects sleep quality through difficulty falling asleep, sleep interruptions, and early awakenings" (Zhang et al.) [1]. The mechanism behind this relationship can be explained by the dual role of rumination. First, rumination intensifies stress responses such as alertness, resistance, and exhaustion, which change neurohormone levels and increase sleep interruptions, making it harder to relax. Second, rumination acts as an invasive pre-sleep

thought, such as replaying past unpleasant events from social interactions, which keeps the brain active and delays falling asleep. Therefore, rumination, as a key symptom of social anxiety, leads directly to sleep disturbances, which can negatively affect the academic performance and daily life of secondary and tertiary students.

3. Emotional Pathway: Relative Deprivation and Sleep Quality

Emotional factors such as relative deprivation significantly affect social anxiety among the tertiary students, further exacerbating sleep quality. In the research, Xiong et al. indicate that relative deprivation describes the feeling of being at a disadvantage when individuals compare their own situation to that of others, which leads to negative emotions such as anger and dissatisfaction. When individuals perceive themselves as disadvantaged through social comparisons, they may think that they are inferior to others and cause negative self-evaluation. However, the central factor of social anxiety is the negative evaluation of oneself. Thus, relative deprivation mediates the relationship between social anxiety and serious emotional problems. According to the study made by Xiong et al., hundreds of college students completed questionnaires on the relative deprivation scale, interaction anxiousness scale, and assessed their sleep quality using the Pittsburgh Sleep Quality Standards. It is asserted by the study that relative deprivation in people's upward comparison in society brings negative emotions: anger and resentment, triggering an excessive state of emotional arousal, which leads to a state of insomnia. Moreover, people's unreasonable cognition of themselves will form social anxiety, and self-underestimation will cause fear of future social interaction. Both factors are the reason that why relative deprivation acts as a mediating role of social anxiety significantly affect sleep quality. Therefore, the emotional factor that relative deprivation of tertiary students seriously deepens sleep disorders, it is important for the students to control their emotion and restrict the negative evaluation of themselves.

4. Personality Pathway: Introversion, Low Self-Esteem, and Sleep Quality

Adolescent students often develop different personality traits that play a decisive role in social interaction, and certain negative personality traits such as introversion and low self-esteem will aggravate social anxiety on sleep quality by increasing cognitive and emotional burdens. According to Macovei et al., individuals with low level of extraversion (low positive affectivity, sociability and activity) are most likely to avoid social interactions due to their fear about the negative evaluations. Most people want to be appreciated, liked and approved of in a group environment. Introverts, who are often sensitive, tend to pay more attention to and strive harder in their social interactions to avoid providing others with reasons for negative evaluations. Nevertheless, individuals with high levels of extroversion have a positive self-image and highly self-confidence, which helps them interact with groups easily and feel comfortable in social situations. As a result, extroverts rarely suffer from social anxiety. On the other hand, Ayeras et al. claim that students with high self-esteem often exhibit superior emotional control and take proactive measures to deal with stress in the face of challenges, while some students have lower self-esteem due to social anxiety, which makes them more prone to depression in the face of difficulties, leading to mental health problems. Self-esteem significantly affects the way people think, perception and behavior. Students with low self-esteem levels are unable to cope with fear in relationships, social challenges can cause them to be afraid to participate in groups, and they are overwhelmed in the face of stress. For this reason, boosting self-esteem to avoid social anxiety is crucial for students, "encouragement and relaxation from families and school, and participation in extracurricular group activities can all help boost the self-esteem of adolescent students and make them more confident in social interactions" (Ayeras et al.). According to the previous explanation, serious emotional and

cognitive problems brought about by introversion and low self-esteem can lead to excessive thinking problems such as rumination, thus disrupting sleep and affecting students' rest. Therefore, secondary and tertiary students' personality traits such as low extroversion and low self-esteem can lead to mistaken self-perception in social interaction, which can deepen social anxiety and affect sleep quality.

5. Conclusion

In conclusion, social anxiety significantly reduces secondary and tertiary students' sleep quality through rumination, relative deprivation, and personality traits such as introversion and low self-esteem. Rumination manifests as excessive focus on past social interactions, disrupting cognition and delaying sleep. Relative deprivation exacerbates feelings of inadequacy and resentment by comparison, intensifying social anxiety and sleep disorders. Introversion and low self-esteem increase emotional burdens and amplify the negative effects of social anxiety on sleep. To alleviate the effects of social anxiety, appropriate measures should be implemented to regulate individual emotions and personalities, thereby improving sleep quality, enhancing students' academic performance, social interaction and overall well-being, and creating a healthier learning environment.

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