

The Correlation Between Sleep Deprivation and Social Skills: A Review

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Abstract

This review article examines the correlation between sleep deprivation and social skills. Research has shown that sleep deprivation has negative effects on social skills, including emotional recognition, social communication, and decision-making. The article presents the methods and findings of relevant studies and discusses potential mechanisms between sleep quality and social skills. Lastly, the article provides suggestions to help improve sleep quality and increase social skill levels. This review provides an in-depth understanding of the correlation between sleep deprivation and social skills, helping individuals better understand the importance of sleep for their physical and mental health.

Keywords: sleep deprivation, social skills, correlation, review, emotional recognition

1. Introduction

Sleep and social skills are both essential factors contributing to individual health and quality of life. Adequate sleep is vital for physical and mental health, while social skills play a critical role in effective communication, relationship building, and decision-making. However, many individuals experience sleep deprivation due to various reasons, such as work, stress, and lifestyle choices. This can have a negative impact on their social skills, leading to difficulties in recognizing emotions, communicating effectively, and making sound decisions.

The research question of this paper is to explore the correlation between sleep deprivation and social skills. Specifically, we aim to review existing empirical research findings to understand how sleep deprivation affects social skills and to identify potential mechanisms that may explain this relationship. The purpose of this research is to provide a comprehensive understanding of the impact of sleep deprivation on social skills and to offer suggestions for improving sleep quality and enhancing social skills.

Overall, this research is important because it highlights the critical role of sleep and social skills in individual health and quality of life. It can help individuals, healthcare professionals, and policymakers better understand the importance of sleep and social skills and take steps to improve both for better overall well-being.

2. The Correlation Between Sleep Deprivation and Social Skills

Sleep deprivation is generally defined as getting less sleep than needed for optimal functioning, which can vary depending on age, lifestyle, and other individual factors. Social skills are typically defined as the ability to interact effectively with others in various social situations. This includes the ability to recognize and interpret emotions, communicate effectively, and make sound decisions in social contexts.

Sleep deprivation is a common problem in today's fast-paced society, and it can have a significant impact on an individual's physical and mental health. Along with its effects on cognitive performance and mood, sleep

deprivation has also been linked to difficulties in social interaction and the development of social skills.

Research has found that sleep plays a crucial role in the consolidation of memory, learning, and emotional processing, all of which are essential components of social interaction. When we are sleep deprived, our ability to process emotional information and respond appropriately to social cues can be impaired, leading to difficulties in social interaction and communication.

Daniela Tempesta et al. made a study involved 40 university students who were assigned to either the sleep group or the deprivation group. The students were asked to rate their emotional reactions to 180 standardized visual stimuli categorized as pleasant, neutral, or unpleasant. The results showed that sleep deprivation had no significant effect on the evaluation of pleasant and unpleasant stimuli. However, subjects who experienced sleep deprivation perceived neutral pictures more negatively and had a decrease in subjective alertness and an increase in negative mood. The study suggests that sleep plays a role in regulating emotional evaluation and that the bias towards negative responses to neutral stimuli may support the “better safe than sorry” principle. The findings may have important implications for healthcare workers, military, and law-enforcement personnel. (Daniela T. et al., 2010)

Sleep deprivation can also impact our ability to regulate our emotions, which is a critical component of social interaction. When we are sleep deprived, we may be more prone to emotional reactivity and have difficulty regulating our emotional responses. This can lead to social difficulties, such as misinterpreting social cues, overreacting to social situations, or having difficulty expressing oneself effectively.

The research conducted by Els van der Helm et al. found that the ability to accurately recognize facial emotions, particularly those that are related to threats (such as anger) and rewards (such as happiness), is impaired by sleep deprivation, especially in females. This suggests that sleep loss affects specific neural systems responsible for processing emotions, which disrupts the identification of important emotional social cues. (E. van der Helm et al., 2010)

Furthermore, sleep deprivation can affect our ability to concentrate, focus, and remember important details, all of which are essential for effective communication and social interaction. When we are sleep deprived, we may have difficulty paying attention to social cues, remembering important details about others, or staying focused during social interactions. This can lead to social difficulties, such as misunderstandings, miscommunications, or missing important social cues.

A study by Lee K Brown showed that the systemic effects of nonspecific sleep deprivation in adults may include defects in cognitive abilities, vigilance, emotional stability, risk-taking behaviors, and potentially, moral reasoning. (Brown L. K., 2012)

Overall, the research suggests that sleep deprivation can have a significant impact on social skills and social interaction. Sleep plays a critical role in the consolidation of memory, learning, emotional processing, and regulation, all of which are essential components of social interaction. When we are sleep deprived, our ability to perceive, process, and respond to social cues can be impaired, leading to difficulties in social interaction and communication.

It is essential to recognize the importance of sleep in maintaining good physical and mental health, as well as social well-being. Adequate sleep is critical for optimal cognitive performance, mood, and social interaction. By prioritizing sleep and establishing healthy sleep habits, we can improve our overall well-being and enhance our social skills, leading to more positive and fulfilling social interactions.

3. Mechanisms of Sleep Deprivation and Social Skills

There are several possible mechanisms that may explain the relationship between sleep deprivation and social skills. These mechanisms include physiological, psychological, and social factors.

3.1 Impact of Sleep Deprivation on Social Skills at the Physiological Level

Sleep deprivation can impact social skills physiologically in several ways. One of the primary physiological mechanisms that can lead to impaired social skills is the disruption of the body’s natural circadian rhythm. The circadian rhythm is a 24-hour cycle that regulates various physiological processes, including sleep-wake cycles, hormone production, and body temperature. When we are sleep deprived, our circadian rhythm can be disrupted, leading to a range of physiological changes that can impact social skills.

One of the key physiological changes that occur with sleep deprivation is an increase in the production of the stress hormone cortisol. Cortisol is known to have a negative impact on cognitive function, memory, and emotional regulation, all of which are essential components of social skills. In addition, cortisol can lead to increased anxiety and social withdrawal, further impairing social interaction.

Sleep deprivation can also lead to a decrease in the production of growth hormone, which is essential for healthy

brain development and the maintenance of cognitive function. Growth hormone is critical for the development of neural pathways that support learning, memory, and emotional processing, all of which are essential for effective social interaction.

Baumeister, Muraven, and Tice (2000) suggest that sleep is crucial for replenishing cognitive resources depleted in their Ego Depletion model. Studies of sleep-deprived individuals have found that glucose levels in the pre-frontal cortex are substantially limited, which is responsible for executive functioning or conscious decision making. This lack of glucose may lead to a diminished ability to make good decisions, especially when a decision is prepotent because it is the most hedonically relevant choice. An ethical decision, on the other hand, would require one to recognize that the prepotent option is less ethical, identify alternative responses, and initiate them. The pre-frontal cortex plays a critical role in this process.

Another physiological mechanism that can lead to impaired social skills with sleep deprivation is a decrease in the production of neurotransmitters that regulate mood and emotion, such as serotonin and dopamine. These neurotransmitters are essential for the regulation of emotional responses and the ability to perceive and respond to social cues. When levels of these neurotransmitters are reduced due to sleep deprivation, it can lead to emotional dysregulation, social anxiety, and difficulties in social interaction.

The study conducted by Ye H et al. (2022) on intensive care unit physicians found that even acute and short-term sleep deprivation can impair their vigilance, attention, executive function, working memory, and cognitive abilities.

In summary, sleep deprivation can impact social skills physiologically by disrupting the body's natural circadian rhythm, leading to changes in hormone production and neurotransmitter activity. These physiological changes can impair the ability to process emotional information, regulate emotions, maintain attention, and communicate effectively, all of which are essential components of social interaction.

3.2 Impact of Sleep Deprivation on Social Skills at the Psychologically Level

Sleep deprivation can affect social skills by impacting our ability to regulate our emotions. When we are sleep deprived, we may be more prone to emotional reactivity and have difficulty regulating our emotional responses. This can lead to social difficulties, such as misinterpreting social cues, overreacting to social situations, or having difficulty expressing oneself effectively.

Sleep deprivation can impact social skills by causing social withdrawal. When we are sleep deprived, we may feel less motivated to engage in social activities, and may withdraw from social interactions. This can lead to social isolation, which can further exacerbate social difficulties.

Overall, sleep deprivation can have a significant impact on social skills at the psychological level. It can cause negative emotions, impair cognitive function, disrupt emotional regulation, and lead to social withdrawal. These effects can make it challenging to engage in effective social interactions, leading to social difficulties and isolation. It is important to recognize the importance of sleep in maintaining optimal psychological health and social well-being and establish healthy sleep habits to support social skills and healthy social interactions.

3.3 The Impact of Sleep Deprivation on Social Activities

Social interaction is a fundamental aspect of our daily lives. It plays an essential role in establishing and maintaining relationships, developing social skills, and promoting overall well-being. However, sleep deprivation can significantly impact our social lives in negative ways.

When an individual experiences sleep deprivation, they may become socially isolated or experience a reduction in social support. This can be due to the fact that they may not have the energy or motivation to engage in social activities. As a result, they may miss out on opportunities to connect with others, which can further exacerbate their feelings of isolation or loneliness. Additionally, a lack of social support can make it difficult for individuals to cope with the stresses of daily life, leading to increased anxiety, depression, and other mental health concerns.

Furthermore, sleep deprivation can affect an individual's ability to engage in social activities, leading to decreased opportunities to practice social skills. When an individual is sleep-deprived, they may experience fatigue, irritability, or difficulty concentrating, which can make it challenging to participate in social activities. They may find it challenging to maintain focus, remember important details, or effectively communicate with others. Over time, this can lead to a decline in their social skills, making it more difficult for them to connect with others and build meaningful relationships.

In conclusion, sleep deprivation can have a significant impact on an individual's social life. It can lead to social isolation, decreased social support, and a decline in social skills. Therefore, it is crucial to prioritize healthy sleep habits as a means of promoting social well-being. By getting enough sleep each night, individuals can enhance their energy levels, improve their mood, and increase their capacity to engage in social activities and develop meaningful relationships.

These mechanisms can impact both sleep and social skills, leading to a cycle of negative effects. For example, poor sleep quality can lead to decreased social interactions, which can further impact an individual's ability to practice and improve social skills. Conversely, social isolation or lack of social support can lead to increased stress, which can negatively impact sleep quality and duration.

Understanding these mechanisms is essential for developing interventions to improve both sleep and social skills. For example, interventions aimed at improving sleep quality, such as cognitive-behavioral therapy for insomnia, may also improve social skills by addressing the underlying mechanisms that impair social skills. Similarly, interventions aimed at improving social skills, such as social skills training, may also improve sleep quality by addressing social isolation and stress.

Overall, further research is needed to fully understand the mechanisms between sleep deprivation and social skills and to develop effective interventions to improve both. By understanding the complex relationship between sleep and social skills, we can promote better overall well-being and improve individual health outcomes.

4. Improvement of Sleep and Social Skills

Improving sleep and social skills is vital for promoting individual health and overall well-being. There are several ways to improve sleep and social skills, including improving the sleep environment, cultivating good sleep habits, enhancing social skills, and establishing social support.

To improve the sleep environment, individuals can make changes to their bedroom, such as reducing noise and light levels, maintaining a comfortable temperature, and investing in a comfortable mattress and pillows. Cultivating good sleep habits, such as sticking to a consistent sleep schedule, avoiding caffeine and alcohol before bedtime, and limiting screen time before bed, can also improve sleep quality.

To enhance social skills, individuals can participate in social skills training or practice social skills in their daily life. This can include activities such as role-play scenarios, social communication tasks, and group therapy. Establishing social support, such as joining a social group or seeking support from friends and family, can also improve social skills and overall well-being.

Improving sleep and social skills is essential for promoting individual health and well-being. Poor sleep quality and social isolation are risk factors for a range of physical and mental health problems, including obesity, diabetes, anxiety, and depression. By improving sleep quality and social skills, individuals can reduce their risk of these health problems and improve their overall quality of life.

In daily life, individuals can take steps to improve their sleep and social skills, such as establishing a consistent sleep routine, participating in social activities, and seeking support from friends and family. By prioritizing sleep and social skills, individuals can improve their physical and mental health, enhance their relationships, and increase their overall well-being.

5. Limitations and Future Prospects of Research

Despite the significant research on the relationship between sleep deprivation and social skills, there are several limitations and shortcomings in the existing research. These limitations include sample characteristics, research design, measurement tools, and data analysis.

Sample characteristics in existing research may not be representative of the general population, limiting the generalizability of findings. Many studies have been conducted with small sample sizes, which may not accurately reflect the population as a whole. Additionally, many studies have focused on specific age groups, such as adolescents or college students, which may not be applicable to other age groups.

Research design limitations include a lack of control groups, cross-sectional designs, and self-report measures. Many studies do not include control groups, making it difficult to establish causality between sleep deprivation and social skills. Additionally, cross-sectional designs only provide a snapshot of the relationship between sleep deprivation and social skills, limiting the ability to draw conclusions about changes over time. Self-report measures also have limitations, as they rely on individuals' subjective reporting of their sleep and social skills.

Measurement tool limitations include a lack of standardized measures for sleep deprivation and social skills. Researchers often use different measurement tools, making it difficult to compare results across studies. Additionally, many studies rely on self-report measures, which may not accurately reflect an individual's sleep quality or social skills.

Finally, data analysis limitations include a lack of statistical power and failure to control for confounding variables. Many studies do not have sufficient statistical power to detect small effects, limiting their ability to draw conclusions. Additionally, many studies do not control for confounding variables, such as age, gender, or mental health status, which may impact the relationship between sleep deprivation and social skills.

Future research should address these limitations by using more robust research designs, such as longitudinal studies with control groups. Multiple measurement tools should be used to provide a comprehensive understanding of sleep deprivation and social skills. Additionally, researchers should consider including diverse samples to improve the generalizability of findings. Finally, data analysis should include controlling for confounding variables and using appropriate statistical methods.

6. Conclusion

In this paper, we have explored the complex relationship between sleep deprivation and social skills. We reviewed relevant studies and identified possible mechanisms that explain this relationship, including physiological, psychological, and social factors. We also discussed the impact of sleep deprivation on social skills, including physical and psychological consequences, and the impact of social skills on sleep, including social isolation, emotional states, and cognitive performance.

We proposed several ways to improve sleep and social skills, including improving the sleep environment, cultivating good sleep habits, enhancing social skills, and establishing social support. We emphasized the importance of improving sleep and social skills for promoting individual health and overall well-being.

The research question and purpose of this paper were to explore the relationship between sleep deprivation and social skills and provide ideas and theoretical basis for further research. We concluded that there is a complex bidirectional relationship between sleep deprivation and social skills, and that improving sleep and social skills is essential for promoting individual health and well-being.

In summary, improving sleep and social skills is crucial for improving individual health and quality of life. By understanding the relationship between sleep and social skills and taking steps to improve both, individuals can reduce their risk of physical and mental health problems, enhance their relationships, and increase their overall well-being.

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