

# COLLECTION

Innovation, integration and modern  
problems in the scientific activities of young  
researchers and students: theory and  
practice

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Innovation, integration and modern problems in the scientific activities of young  
researchers and students: theory and practice collection of materials of the  
international scientific and practical conference on the topic

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In the collection of materials of the conference, the role and role of Science, Education and production in the era of globalization, the pressing problems of the issues of interaction of these processes, feedback on their solutions were presented by mature specialists of the field.

In addition, research on the scientific and practical topic, carried out in the economics, Exact Sciences, Natural Sciences and socio-humanities during the globalization period, information is presented in the scientific and practical fields, which includes the latest innovative technologies in the fields of production.

It can be argued that this collection is one of the specific intersections of current thoughts and innovative ideas of the world of science. This scientific and practical conference was actively attended by professors and scientific researchers engaged in scientific research in Uzbekistan and foreign countries. In increasing the position of the scientific and practical conference, the professors and teachers of domestic and foreign higher educational institutions made a significant contribution.

Professors and teachers of foreign higher educational institutions who actively participated in the work of the conference made a worthy contribution to the high level of interaction with scientists of our country. The processes of international cooperation with foreign countries and exchange with them in the field of Science in the era of globalization have a positive effect on the development of Higher Education, the fields of Science and production. The materials of this conference are special in that they include a wide range of research, from theoretical developments to practical solutions, demonstrating the diversity of approaches and directions in this area.

In conclusion, it should be noted that this scientific and practical conference will be a very useful collection for everyone who is interested in modern research in the fields of further development of Higher Education, Science, Education and production in the era of globalization. The authors are responsible for the content and quality of the articles and abstracts included in the collection.

## WHY SHOULD WE SLEEP?

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**Annotation.** This article explores the biological, psychological, and cognitive importance of sleep as a vital human need. Drawing from recent scientific studies, it examines how sleep contributes to body restoration, hormone regulation, emotional balance, and memory consolidation. The paper also analyzes the consequences of chronic sleep deprivation on mental health, learning abilities, and physical well-being. Additionally, it highlights the necessity of maintaining proper sleep hygiene and offers recommendations for developing healthy sleeping habits in the digital age.

**Keywords:** sleep, biological rhythm, stress, memory, psychology, melatonin, restoration, circadian cycle, healthy lifestyle, cognitive functions.

Sleep is an essential biological process, occupying nearly one-third of the average human lifespan. Despite this, modern society suffers from a growing "sleep deficit" caused by excessive screen time, academic overload, night shifts, and an overall fast-paced lifestyle. Sleep is not a passive state; it is a highly active biological mechanism during which the brain and body undergo vital restoration. Adequate sleep enhances productivity, strengthens immunity, improves emotional stability, and supports healthy brain development.

From a biological perspective, sleep is the body's main restorative system. During deep sleep, growth hormones are released, facilitating tissue repair and muscle development. The hormone melatonin, produced in low-light conditions, regulates the circadian rhythm, the internal biological clock that synchronizes the body's functions.

**Cellular repair:** Damaged cells are restored, toxins are removed, and metabolic waste is cleared.

**Hormonal balance:** Sleep helps regulate cortisol (stress hormone), insulin, and appetite-related hormones such as leptin and ghrelin.

**Strengthened immunity:** Studies show that people who sleep 7-9 hours have stronger immune responses and recover faster from infections.

**Cardiovascular stability:** Sleep lowers blood pressure, heart rate, and reduces inflammation, which significantly lowers the risk of heart disease.

Scientists refer to sleep as the "natural healing cycle" because no other biological process replaces its restorative function.

Good sleep is closely linked to emotional and psychological well-being. A well-rested brain can regulate emotions more effectively, helping individuals cope with stress and negative experiences.

Sleep contributes to emotional health in several ways: Reduced anxiety and irritability lack of sleep intensifies emotional reactions and disrupts mood regulation. Improved stress management sleep helps reduce cortisol levels, ensuring emotional stability. Enhanced resilience individuals who sleep well recover from emotional setbacks more quickly. Better social interactions research shows that sleep-deprived people struggle with empathy and interpreting facial expressions.

During REM sleep, the brain processes emotional memories, helping a person "digest" stressful events. This is why people often feel calmer and more balanced after a good night's rest. Sleep is a key factor in learning, memory, attention, and overall brain performance. The brain does not turn off during sleep; instead, it becomes highly active, organizing and consolidating the information absorbed during the day. Strengthens long-term memory by transferring information from short-term storage. Improves problem-solving skills and creative thinking. Increases attention and concentration, which directly affects academic performance, Supports neuroplasticity, the brain's ability to form new neural connections. Students who get adequate sleep perform significantly better on exams, show higher motivation, and learn new information faster compared to those who regularly stay up late. Chronic sleep deprivation is considered a global health problem.

It affects nearly every system in the body and has both short-term and long-term consequences. Increased risk of heart disease, stroke, diabetes, and obesity, weakened immune system, hormonal imbalance, slower reaction time and reduced physical performance Cognitive and academic consequences: Difficulty concentrating, poor memory retention, reduced creativity and problem-solving ability

Lower productivity and academic performance, higher levels of stress and emotional instability, increased risk of depression and anxiety, poor decision-making skills, for young adults and students, lack of sleep is especially dangerous because the developing brain, requires more rest to function properly, American neuroscientist Matthew Walker emphasizes the irreplaceable role of sleep:

"Sleep is your life-support system. It is Mother Nature's best effort yet to help you live longer, learn better, and stay emotionally balanced".

Sleep is an essential pillar of human health, playing a fundamental role in physical restoration, emotional stability, and cognitive performance. During deep sleep, the body undergoes vital repair processes, including cellular regeneration, hormone regulation, and immune system strengthening. REM sleep supports emotional processing and memory consolidation, contributing to psychological resilience and learning efficiency.

Chronic sleep deprivation negatively affects nearly every aspect of human functioning. It increases the risk of cardiovascular diseases, diabetes, obesity, and

weakened immunity. Furthermore, lack of sleep impairs concentration, memory, creativity, and decision-making, while also raising the likelihood of anxiety, stress, and depression. These consequences highlight the importance of maintaining proper sleep hygiene, establishing a regular sleep schedule, and reducing digital screen exposure - especially among students and young adults.

In conclusion, sleep is not merely a biological necessity but a vital life-support system that enhances longevity, cognitive development, and emotional well-being. Prioritizing healthy sleep habits significantly improves overall quality of life and ensures optimal functioning in today's demanding, fast-paced world.

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