

## What do young adults think they know about their sleep?

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### Abstract

**Sleep deprivation secondary to socially imposed restricted sleep schedules is common in young adult sleepers. Grade point averages, overall health, mood and cognitive abilities of attention are a few empirically substantiated variables that are altered by poor sleep in young adults. Numerous studies have identified the problematic condition of poor performance in college coursework, performance on learning activities involving creativity and/or initiative and perceptions of the impact of sleepiness on behavior. Education informs opinion and beliefs about behaviors. The current study was designed to investigate the level of knowledge about sleep in young adults. Education informs opinion and beliefs about behaviors. Students were provided with a ten-item questionnaire about sleep concepts at the start and following six weeks of one hour per week classroom instruction on the basics of sleep science. A dichotomous agrees or disagree response for each question was requested. The course was organized around broader themes of sleep science and dreaming. The feedback about the change over time in terms of the general sleep concepts that the questionnaire measured was used to organize additional coverage of topics for enhanced learning. A summarization of the percentage of change from pre to post by item is reported. Implications of the findings of better learning in some sleep concept areas and not in others are presented. Implications of the translation of knowledge of sleep concept and to the practice of health sleep hygiene is discussed.**

**Keywords:** Sleep science, Cognitive performance, Emotional distress.

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### Introduction

Young adult sleep quality is commonly compromised. Young adults are in transition to their adult roles with responsibilities and opportunities as well as maintaining their connection to others—largely through social media. These two dimensions often place Young Adults at odds with organizing themselves to obtain a healthy, essential amount of sleep. The consequence of this poor sleep, ironically, places the young adult in a position of increased intensity to maintain their schedule. Research findings have provided evidence for the increased amount of stress and heightened vulnerability of the young adult. Thus, the competing demands of their station in life along with their choices to have rather constant social media leads to erratic schedules challenging the young adult to obtaining poor sleep. The most common sleep pattern of young adults is a variable sleep pattern of late night bedtimes and early wake times for class/job followed by early to bedtime followed by late bedtime and other combinations of short and long sleep intervals. The consequences of studies in this area have identified associations between poor sleep and increased negative mood, poor cognitive performance resulting in lower grades, poorer quality assignments, emotional distress/irritableness, and less physical activity. Chronic poor sleep patterns such as the variable sleep pattern described that sustains irregular total sleep times has been found to be associated with physical aggression, depression, suicidal ideation [1-3].

With poor sleep quality associated with young adult sleep,

important research questions have evolved to query the nature of young adults' understanding of sleep and of their sleep. The impact of poor sleep quality on development during the young adult interval (ages 18-30 years) has also been a subject of study. Findings in this regard indicate that health information is requested from online sources most commonly by young adults and visits to health facilities are often ranked low in their priority of tasks to do. While only a small percent of varied decision-making outcomes and impulsivity is measured in comparison to theorized developmental tendencies, the ramifications of poor sleep quality impairs decision making as information is not processed as efficiently and completely when one is sleep deprived [4].

The current investigation examined the level of knowledge young adults possessed about their sleep pattern and the impact of sleep quality on performance. Studies in this area have focused on the delivery of materials with some being classroom presentation and others online or mailed materials in the form of "health newsletters" [5]. The findings have been typically reported in terms of the preference of the participants for the delivery of information. The focus of the current study looked specifically at the participants' level of understanding about sleep and the quality of a sleep pattern's impact on performance [6].

### Method

Participants completed an informed consent about their

completion of a sleep knowledge test before and following a six session course meeting once a week for one hour focused on basics of sleep. All participants were within the inclusion criteria of 18-30 years old and part of a course where a segment of six class meetings were to focus on the basics of sleep for one hour, once a week (Six sessions total). Table 1 presents the general topics of the sleep education meetings. Subjects were excluded from the study if they had a sleep disorder diagnosed by a Sleep Specialist and/or were under medical treatment for a sleep disorder. 57 participants expressed interest in the study and five were excluded with three due to exclusion criteria and two by self-choice [7].

## Result and Discussion

The Sleep Knowledge Test, a seven item test requiring a choice from the dichotomy of "true" or "false" was administered preceding the instruction and following the instruction. This research tool was generated to measure general facts about sleep, circadian rhythm and sleepiness factors. The current group served as the normative group where a reliability analysis indicated an inter-item agreement score of 0.81. Results from the pre and post testing measures were gathered from scores of each item as correct or incorrect. Comparisons of the item scores from pre to post by area were examined. A percentage of change score was computed for each item and is reported in Table 2.

Participants in the study scored in the range, reflecting 25.8% correct overall on the items. There were positive changes, in terms of more correct responses, at the final testing with –areas having the most change overall. It seems that participants' measured knowledge of basic sleep factors is not completely accurate and in certain areas, following instruction, learning or awareness of the factors occurs. The gains in general

**Table 1:** Sleep Basics Topics Presented in Classroom Instruction (\*: = 6 class meetings of one hour presentation followed by discussion).

Topics
• Sleepiness Behaviors
• Stages of Sleep, Sleep Patterns
• Sleep Disorders
• Sleep Hygiene
• Circadian Rhythm

**Table 2:** Average Percentage of Change of Correct Responses by Item (n=52)

Item	Sleep Concept	Percentage of Change
1	Circadian Rhythm	29%
2	Sleep Hygiene	53%
3	Sleep Hygiene	25%
4	Sleep – general	14%
5	Sleepiness	14%
6	Sleep – general	8%
7	Sleepiness	26%
8	Sleep – general	40%
9	Circadian Rhythm	30%
10	Sleep – general	19%

(Note: Percentage of change was calculated between pre to post questionnaire item; the, an average was calculated and is represented above).

knowledge about sleep suggest that instruction is useful with this vulnerable population [8]. While the modality or preference of the dissemination of instruction is important to investigate, the level of the participant's knowledge is instrumental to consideration as well.

## Conclusion

In this defined sleep deprived population, it is important to fully consider factors of the participant's sleep or perception of their sleep. The disparity between young adults' sleep knowledge and behavior can be reduced with sleep education. Health Education—specifically Sleep Health education can increase awareness of one's sleep pattern as it relates to their general health. The goal of such efforts is to increase the priority of sleep in young adults. Future investigations to explore the nature of how to positively impact and educate young adults on important sleep health matters will need to consider the beliefs and understandings the participant has about sleep factors. It may be the case that behavior changes do not occur with the classroom presentation of sleep hygiene information in this population because the participants don't find it relevant. Furthermore, the public health cost of poor sleep quality is extensive given the identified association to chronic mental health, cardiovascular and endocrine disorders. Therefore, it is imperative that more precise examinations of sleep behaviors in young adults be done – starting with assessing a baseline of their understanding of basic sleep.

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