



The Scientific Temper

VOL-VIII, NO.1&2; JANUARY-JULY, 2017

ISSN 0976 8653, E ISSN 2231 6396

UGC SR NO 2535; JR NO. 47226

e-mail: letmepublish@rediffmail.com

Web: www.scientifictemper.com

STRESS AND ACADEMIC ACHIEVEMENT IN RELATION TO DURATION OF SLEEP AND COURSE

Seema Rani Sarraf* and S.N.Dubey**

*Department of Psychology, M. G. Kashi Vidyapith, Varanasi, U.P.

**Department of Psychology, K. S. Saket P. G. College, Ayodhya, Faizabad.

ABSTRACT

An average student gets 7 hours of sleep instead of the desirable 9.2 hours. This lack of sleep makes students less concentrated, and reduces their cognitive abilities. All this leads to decreased academic achievement. The study aimed to elucidate the effect of duration of sleep on stress and academic achievement in students studying professional and non-professional courses. A total of six hundred and eighty students, aged 20 to 25 years participated in this research. Purposive sampling technique was applied to select the subject. The groups formed on the basis of duration of sleep e.g. long sleepers (more than nine hours out of twenty- four hours) and short sleepers (less than six or fewer hours out of twenty- four hours). These are independent variables which were manipulated through selection. A self- biographical sheet and The Hassles Scale (Lazarus and Folkman, 1981) were used for the purpose of data collection. Student's last three years academic performance was considered as their academic achievement. 2 x 2 Analysis of variance (ANOVA) was carried out to find out the significance of difference between the means of groups as well as interaction effects.

A significant difference was found between long and short sleepers on stress variable. short sleepers were more stressful than long sleepers. Course opted by the students also differed on stress level. Professional group scored high on stress variable.

A significant difference has been recorded for course variable. Professional group scored high on academic achievement variable. Duration of sleep had no significant effect on academic achievement.

Keywords : Stress, Sleep, Academic performance.

INTRODUCTION

Our bodies regulate sleep in much the same way that they regulate eating, drinking, and breathing. This suggests that sleep serves a similar critical role in our health and well-being. *Sleep* can be defined as a process in which important physiological changes (e.g. shifts in brain's activity, slowing of basic bodily functions) are accompanied by major shifts in consciousness (Baron; 2003). Every individual's sleep-needs vary. Whether we get enough sleep depends on our psychological and physiological needs or state (how we feel). Sleep is a necessary human function — it allows our brains to recharge and our bodies to rest. When we do not sleep long or well enough, our bodies do not get the full benefits of sleep, such as muscle repair and memory consolidation. Sleep is so crucial that even slight sleep deprivation or poor sleep can affect memory, judgment and mood. When we are sleep deprived, our focus, attention, and vigilance drift, making it more difficult to receive information. Without adequate sleep and rest, over-worked neurons can no longer function to coordinate information properly, and we lose our ability to access previously learned information. A lack of sleep—especially on a regular basis—is associated with long-term health consequences, including chronic medical conditions like diabetes, high blood pressure, and heart disease, and that these conditions may lead to a shortened life expectancy. Poor sleep may be a potential cause of stress; individuals who report more fatigue and less total sleep are more likely to report more stress. Stress and sleep have a two-way relationship. High stress levels can make sleeping more difficult. They can even lead to sleep disorders. At the same time, getting a good night's sleep can help reduce the effects of stress.

An average student gets 7 hours of sleep instead of the desirable 9.2 hours. This lack of sleep makes students less concentrated, and reduces their cognitive abilities. All this leads to decreased academic achievement. Studies have shown that students who go to bed late and get up late in the morning show poorer academic achievement and

they have trouble concentrating. Students with insufficient sleep are less creative, more neurotic, and psychologically maladjusted; all these reasons can make their academic achievement poorer. Sleep deprivation is associated with memory deficits, impaired performance and alertness, and delayed responses. The loss of rapid eye movement sleep (a period of intense sleep) can result in increased irritability, anxiety and depression, decreased socialization, reduced concentration and decreased ability to handle complex tasks and to be creative. The variables associated with short sleep, such as anxiety and psychological maladjustment, have consistently been shown to be negatively associated with educational performance (Covington & Omelich, 1987; Hill & Wigfield, 1984). The experience of anxiety, psychological maladjustment, and neuroticism tend to adversely affect the educational experience by decreasing individuals' attention and concentration and increasing task performance errors (Woolfolk, 1993). Ross et al. (1999) conducted a study on college students of both genders and found a different set of stressors that were common among all college students; those experiences associated with stress included a change in eating and sleeping habits, new responsibilities, heavier workloads and breaks.

When the word college comes to mind, it is often associated with studying, coffee and lack of sleep. Many students sacrifice sleep to study for a test, finish a project on time or just because they are stressed out. Because of the many stressors in life, sleep deprivation is a common issue among college students. The average amount of sleep a person should be getting is between seven and eight hours a night; however, most college students are averaging about six hours a night. Achievement is task-oriented behaviour that allows the individual's performance to be evaluated according to some internally or externally imposed criterion that involves the individual in competing with others, or that otherwise involves some standard of excellence. Salcedo et al. (2005) viewed that the students need to spend more time to study and less time to sleep. Sleep deprivation results in fatigue

and excessive daytime sleepiness which decline cognitive function and academic achievement.

OBJECTIVE OF THE STUDY

The study aimed to elucidate the effect of duration of sleep on stress and academic achievement in students studying professional (B.Tech., MBA and B. Pharma, N= 340) and non-professional (B.A. and M.A. courses, N = 340) courses.

MATERIALS AND METHODS

Sample

In the study a total of six hundred eighty subjects, including both male and female of age groups 18-25 years studying in different college affiliated from Dr. R.M.L. Avadh University, Faizabad and M.J.P. Rohilkhand University, Bareilly district of Uttar Pradesh.

Table- 1 representing the distribution of subjects in each group

Total number of subjects N= 680			
Male n= 340		Female n= 340	
Long sleepers n= 170	Short sleepers n= 170	Long sleepers n=170	Short sleepers n= 170

RESEARCH INSTRUMENT

The instruments used for collecting data from subjects were:

- 1. Case study sheet-** A biographical sheet was prepared to get the appropriate sample. This sheet helped to control the extraneous variables. In this sheet information regarding the subject was coded, which helps to find out the subject of similar status. The points of the sheet will be name of the subject, age, sex, class, timing of sleep, duration of sleep, name of the institute, family income, percentage of last three years, and address.
- 2. The Hassles Scale (Lazarus and Folkman, 1981):** This scale consists 117 items which has three alternative answer to tick. There is no absolute time limit.

- 3. Academic achievement:** For academic achievement, the last three years performance of the students was considered.

VARIABLES

First independent variable duration of sleep varied at two levels: long sleepers (more than 9 hours out of 24 hours) and short sleepers (6 or fewer hours out of 24 hours).

Second independent variable Course varied at two levels: Professional courses (B.Tech.; MBA, B.Pharma) and Non- professional (M.A.; M.Sc.; M. Com.)

Statistical analysis

2x2 Analysis of variance (ANOVA) was carried out to find out the significance of difference between the means of groups as well as interaction effects.

RESULTS AND DISCUSSION

In table 2 and 3 the statistics of research variables are presented. In table 2, mean and S.D. of stress and academic achievement are discussed according to the amount of sleep which was taken by the students' e.g. short sleep and long sleep.

Table: 2 Mean and S.D. of Stress and Academic achievement

Variables		Stress	Academic achievement	
		Mean \pm S.D.	Mean \pm S.D.	
A	Duration of sleep	Long sleeper	160.29 \pm 65.31	60.91 \pm 6.16
		Short sleeper	175.25 \pm 65.65	60.24 \pm 5.86
B	Course	Professional	185.81 \pm 60.31	62.16 \pm 5.86
		Non- professional	149.72 \pm 66.31	58.99 \pm 5.76

Table: 3 Analysis of Variance for Stress and Academic achievement

	Stress F- value	Academic achievement F- value
Sleep (A)	11.27**	2.49
Course (B)	65.56**	55.11**
sleep X course (AB)	7.928**	2.32

Table 3 revealed that a significant difference was found between long and short sleepers on stress variable. Short sleepers were more stressful than long sleepers. Spinks; (2002) found that people with sleep deprivation have lower abilities than people who get enough sleep. Sleep deprivation creates higher level of stress, anxiety and depression which have own risk to health and abilities. Students with insufficient sleep are less creative, more neurotic and psychologically maladjusted. A significant difference has been recorded for course variable. Professional group scored high on academic achievement variable. Duration of sleep had no significant effect on academic achievement. Course opted by the students also differed on stress level. A significant difference was found between professional and non- professional groups. Professional group scored high on stress variable. It is seen that besides the usual stressors associated with college life, students enrolled in a curriculum of professional courses seem to face additional stressors related to their course. Also, burnout among caring professionals, such as those in medicine, nursing and social work, is an issue of concern. Dziegielewski et al. (2004) state that the risk of burnout is high among this population of professionals.

A significant difference has been recorded for course variable. Professional group scored high on academic achievement variable. Duration of sleep had no significant effect on academic achievement. However, Kongsomboon, K. (2010) reported that poor academic achievement of medical students was correlated to sleep deprivation of less than 6 hours per day and correlated to increase levels of stress.

CONCLUSION

It has been revealed that course opted by the students affect the level of stress and academic achievement

of students. Duration of sleep is considered a lifestyle factor and affect the stress level. However, a sleeping pattern is actually not merely a habit one can freely choose but may also be affected by physical, mental or social conditions. In conclusion, sleep is essential to learning and getting good grades in college. A lack of sleep will inhibit our ability as students to process information and problem solve. Quantity and quality of sleep are key variables in determining what one's grade will be at the end of the semester.

REFERENCES

- Baron A. Robert, (2003), *Psychology*. Delhi: Pearson Education Pvt. Ltd.; 132
- Covington, M., and Omelich, C. L. (1987). "I knew I could before the exam": A test of the anxiety-blockage hypothesis. *Journal of Educational Psychology*; 79, 393-400.
- Dziegielewski, S. F., Turnage, B. & Roest-Marti, S. (2004). Addressing stress with social work students: A controlled evaluation. *Journal of Social Work Education*, 40(1), 105-119.
- Hill, K. T., and Wigfield, A. (1984). Test anxiety: A major educational problem and what can be done about it. *Elementary School Journal*; 85, 105-126
- Kongsomboon, K. (2010). Academic Achievement Correlated to Stress, Depression, and Sleep Deprivation in Medical Students. *Srinagarind Med J* 2010; 25(2): 109-14.
- Ross, S. E. Neibling, B. C. & Heckert, T. M. (1999). Sources of stress among college students. *College Student Journal*, 33(2), 312- 317.
- Salcedo AF, Rodriguez AFM, Monterde AML, Garcia JMA, Redondo MP, Marcos NAI. (2005). *Sleeping habits and sleep disorder during adolescence: relation to school performance*. *Aten Primaria*; 35:408-14.
- Spinks, S. (2002). *Adolescents and Sleep*. Retrieved November 23, 2004, from <http://www.pbs.org/wgbh/pages/frontline/shows/teenbrain/from/sleep.html>
- Woolfolk, A. E. (1993). *Educational psychology* (5th ed.). Boston, MA: Allyn and Bacon.

<http://www.scientifictemper.com/>