

Alcohol Use and Sleep Quality Among Young Adults: A Correlation Study

Mohini Gupta^{1*}, Shauryaa Sharma²

ABSTRACT

Alcohol and other drugs are commonly used and abused by young people. It can negatively impact the family, the person, and the broader community (Velleman et al., 2005). Sleep is defined as a behavioural state characterized by reduced responsiveness to stimuli, decreased awareness and interaction with the environment, muscle relaxation, and reduced movement” (Benca, 2012; Kryger et al., 2011). Alcohol is one of the most significant factors that can impact the quality and quantity of sleep. Alcohol has many negative effects on sleep, including disrupting certain sleep stages as well as affecting physiological and chemical processes involved in sleep (Peeke et al., 1980). Alcohol also interferes with essential hormonal processes required for sound sleep. The present study aimed to examine the relationship between alcohol use and sleep quality among young adults. The study comprised of a cross-sectional design. The sample consisted of 110 young adults, aged between 18-35 years. There were both males (n=54) and females (n= 56) from north India. Data was collected using purposive and snowball sampling method. Self-report measures namely, Alcohol Use Disorders Identification Test (WHO, 1989; updated in 1992) and Sleep quality scale (SQS, Yi et al., 2006) were used. Pearson’s correlation was calculated using SPSS version 29. The finding revealed a positive correlation ($r = .424$; $p < .001$) between alcohol use and sleep quality among young adults. Previous research stated that consumption of alcohol just before bedtime or high levels of stress could be factors responsible for the positive association. A negative impact on cognitive functioning, daytime level of activity and daytime sleepiness were also observed in previous research. Further studies can assess the effects of multiple substance use and different substance use on sleep quality or the impact of early initiation of substance use.

Keywords: Alcohol Use, Sleep Quality, Young Adults

Alcohol Use

Alcohol and other drugs are commonly used and abused by young people. Substance abuse by these young people or anyone else in the family can negatively impact the other family members, the person, and the broader community. Many of the terms that are commonly used in this field are vague. The words "substance use" and "substance misuse" are frequently used interchangeably; "use" refers to any use, including

¹M.A. Clinical Psychology, Sharda School of Humanities & Social Sciences, Sharda University, Greater Noida, India.

²Clinical Psychologist, Assistant Professor, Department of Psychology, Jagannath University, Bahadurgarh.

*Corresponding Author

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experimentation; "misuse" denotes problematic or excessive use; and "substance" refers to alcohol, illegal drugs, and volatile substances (Velleman et al., 2005). Alcohol is a psychoactive drug with addictive qualities that have been used for ages in many different cultures. Alcohol consumption can harm friends, family, coworkers, and strangers in addition to oneself. About 10 to 15% of alcohol users develop alcohol dependence and become alcoholics (WHO, 2022). Alcohol use in India is estimated to be 62.5 million people, and throughout the 15 years from 1970 to 1996, there was a 106.7% increase in per capita alcohol consumption (WHO, 1999). Drinking alcohol can have negative social, legal, professional, psychological, and medical repercussions. There is a continuum between the likelihood of adverse effects and disability (Tulshi D Saha et al., 2006). Consequences of alcohol use- Alcohol abusers are more likely to experience adverse effects like altered appetite, weight loss, eczema, headaches, liver disease and disturbed sleep (Newbury-Birch et al., 2009). While alcohol abuse has significant negative effects that must be taken seriously, there is proof that young people who can drink responsibly have some positive effects as well. The ability to communicate more confidently with individuals of the opposite sex may be advantageous for some young people. Alcohol consumption at specific amounts (undefined) can make young people feel more sociable (Newbury-Birch et al., 2009).

Sleep Quality

“Commonly, sleep is defined as a behavioral state characterized by reduced responsiveness to stimuli, decreased awareness and interaction with the environment, muscle relaxation, and reduced movement” (Benca, 2012; Kryger et al., 2011). Age, sex, diet, physical and mental health, and other variables all have an impact on sleep, which is a private experience. A self-report-based evaluation is necessary to evaluate sleep quality because the components of sleep quality and their importance vary depending on the individual (Buysse et al., 1989). Sleep is important for the restoration of the body and for maintaining energy (Shapiro and Flanigan, 1993; Spensely, 1993). The elements of a restful night's sleep, such as how long it takes to fall asleep, how frequently you wake up, and how well-rested you feel in the morning, make up sleep quality. High levels of tension and depression as well as decreased psychological wellbeing are all linked to poor sleep quality (Pilcher et al., 1997).

Both a quantitative and a subjective definition of sleep quality are possible. According to Krystal and Edinger (2008), there is no clear definition of perceived sleep quality. Every person has a different perception of what constitutes good sleep; some may attribute it to not waking up during the night, while others may view a brief latency as indicative of good sleep (Goelema et al., 2017). Long-term sleep deprivation has a number of detrimental impacts on a person's mental and physical health, including obesity, prehypertension, behavioural issues, and lowered cognitive function (Gunnarsdottir, 2014).

Sleep and Alcohol

Alcohol is one of the most significant factors that can impact the quality and quantity of sleep. Alcohol has many negative effects on sleep, including disrupting certain sleep stages as well as affecting physiological and chemical processes involved in sleep (Peeke et al., 1980). Alcohol interferes with the neurotransmitters GABA and glutamate in the central nervous system, which is associated with sleep (Mihic & Harris, 1997). Alcohol also interferes with essential hormonal processes required for sound sleep. Melatonin is one of the main hormones the brain produces to regulate sleep. Melatonin secretion varies in amount and is primarily controlled by circadian rhythms, which cause production to rise in the evening and fall just before awakening. Alcohol consumption right before bed has been

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shown to have sedative effects and make participants sleepy. As a result, the brain produces less melatonin because it is no longer necessary to produce more sleep-inducing substances. Because the alcohol has been metabolized and there is insufficient melatonin in the system to maintain a regular sleep pattern, this causes sleep disruption and premature awakening in the second half of sleep (Chan et al., 2013).

Singleton & Wolfson (2009) examined the connections between college students' academic performance, sleep quality, and alcohol use. A random sample of 236 students (124 women) from a liberal arts college was interviewed in person. The interviews assessed drinking habits, gender, academic standing, bedtimes and rise times during the week and on the weekends, and daytime sleepiness. Ninety-five percent of the sample gave permission for grade-point average (GPA) and Scholastic Aptitude Test (SAT) scores to be taken from official college records. The results further demonstrate the link between alcohol use and grades by demonstrating how college students' alcohol use is connected to their sleep-wake cycles.

van and others (2017) studied the effects of heavy drinking on hangover severity, daytime sleepiness, and sleep quality. A survey of sleep quality, daytime sleepiness, and hangover symptoms was completed by 335 adults who had experienced an alcohol hangover and compared it to a non-alcohol occasion. The Stanford Sleepiness Scale and the Groningen Sleep Quality Scale were used to evaluate the quality of sleep (SSS). They discovered that drinking a lot of alcohol significantly worsens sleep quality and increases daytime sleepiness the next day.

Park and others (2015) analyze how alcohol affects sleep quality. A cross sectional survey using questionnaires was done on 234 men and 159 women who had been to a general hospital. Participants employed structured questionnaires Pittsburgh Sleep Quality Index-Korean version and the Alcohol Use Disorder Identification Test Korean revised version (AUDIT-KR) (PSQI-K). Men who scored higher on the AUDIT- KR tended to have less restful sleep. Scores from the AUDIT-KR had a strong relationship with men's subjective sleep quality, sleep duration, and sleep disturbances and there was no correlation between alcohol use and sleep quality among women.

Ehlers and others (2010) measure the substance use disorders and sleep quality in a sample of young Mexican Americans. 294 Mexican American young adults provided information on their family history of alcohol dependence, alcohol use disorders, other psychiatric disorders, Pittsburgh Sleep Quality Index (PSQI) scores, and stress related to acculturation. These diagnoses were based on the Diagnostic and Statistical Manual of Mental Disorders, Third Edition, Revised. Family history of alcohol dependence, acculturation stress, and lifetime diagnoses of major depressive disorder were all associated with significantly worse sleep quality as measured by the PSQI's overall score.

Rationale

The aim of the study was to explore the relationship between alcohol use and sleep quality among young adults. The researcher wishes to establish the association between alcohol use and sleep quality among young adults living in North India. Although previous research has been conducted on the aforementioned variables, there is a dearth of research conducted in India on the same. The researcher wishes to fill this gap in present research knowledge through their work.

METHODOLOGY

Study Setting and Participants: A questionnaire-based study was conducted on an urban sample of 110 young adults aged between 18-35 years. The participants involved in the study were residents of India. The study protocol was approved by Institutional Review Board and Ethical Committee of Jagannath University, Bahadurgarh. The mean of the age was 22.64 (S.D. = 2.36) of all the participants. There were 54 males and 56 females. In the sample half of the population were undergraduate (59), 32 participants were graduates and 19 were postgraduate. The occupational status of individuals in the present study showed that 75 of them were unemployed and 35 were employed. The marital status of the participants showed that 103 participants were unmarried and 7 were married.

Tools used

- **Socio-Demographic Performa:** Basic demographics such as a participant's name, age, email, gender, education qualification, occupation, marital status, and information about whether the participant consumes alcohol or not was collected
- **Alcohol Use Disorders Identification Test (AUDIT):** This test is used to identify people who have hazardous and harmful patterns of alcohol consumption. The World Health Organization (WHO, 1989 and 1992) developed the AUDIT as a simple method of screening for excessive drinking and assisting in brief assessment (Saunders et al., 1993). The test has three domains: (a) Hazardous alcohol (items: frequency of drinking and typical quantity); (b) Dependence symptoms (items: impaired control over drinking, increased salience of drinking, morning drinking and frequency of having drink); (c) Harmful alcohol use (items: guilt after drinking, blackouts, alcohol-related injuries, and others concerned about drinking). The questionnaire contains 10 questions and a Likert scale is used for item responses, with options ranging from 0 to 4 depending on how frequently or severely each question is asked. The first eight questions receive scores of 0, 1, 2, 3, or 4, and the final two questions receive scores of 0, 2, or 4. The AUDIT has a 40 overall score. Alcohol use is thought to be unlikely in people who receive scores of 0–7. People who score 8 to 15 are classified as having risky alcohol use, 16 to 19 as having harmful alcohol use, and 20 and up as having high-risk alcohol use. Good internal validity of AUDIT illustrated by a Cronbach alpha 0.85; this value corresponds to as observed in two additional studies with primary care patients: 0.86 and 0.77 and the test-retest reliability is observed higher with alternate alcohol use disorders screening instrument (the MAST), with correlation coefficients of 0.84 to 0.97 (Daepfen et al., 2000).
- **Sleep Quality Scale (SQS):** Yi and colleagues (2006) developed the Sleep Quality Scale (SQS). It calculates a global score after measuring the previous month's sleep quality. The scale has 28 items and six factors, including daytime dysfunction, sleep restoration, difficulty falling asleep, difficulty getting up, satisfaction with sleep, and difficulty maintaining sleep. SQS is a comprehensive self-reported measure that has been validated and found to be reliable for use with a variety of research populations between the ages of 18 and 59. It assesses various subjective aspects related to sleep quality (Yi et al., 2006). The Likert scale has four categories: (1) rarely, (2) occasionally, (3) frequently, and (4) almost always. According to responses, each item is scored 0, 1, 2, or 3. After that, the total score was calculated. Reverse Out of a total of 28 items, 8 were scored because they were positively correlated with good sleep quality and fell under the categories of satisfaction with sleep and restoration after sleep. Items 2, 8, 9, 13, 16, 18, 20, and 27 are reverse scored. Total scores can

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range from 0 to 84, with lower scores indicating better sleep and higher scores indicating worse sleep. The scores above the median an attainable score of 42 was deemed to be poor in order to determine the frequency of poor-quality sleep (Goyal & Gupta, 2020). The Cronbach alpha value for the test-retest reliability is 0.849. It also had a content validity coefficient was observed to be 0.976 (Andas et al., 2020).

Statistical Analysis: Descriptive and inferential statistics was used to analyse the obtained data. Mean and standard deviation was calculated for the same. Pearson correlation coefficient analysis was carried out to measure the relationship between alcohol use and sleep quality among young adults. Statistical Package for the Social Sciences (SPSS Version 29) was used to carry out the analysis.

RESULTS

Table -1 Depicting the descriptive statistics and correlations for study variables

Variable	N	M	SD	1	2
Alcohol use	110	9.04	7.58	-	
Sleep quality	110	36.14	13.37	.424**	-

**p<.001.

Table- 1 display the Pearson's product moment correlation value between the alcohol use and sleep quality. Results revealed that alcohol use has significant positive correlation with sleep quality ($r = .424$, $p < .001$).

DISCUSSION

The aim of the present study was to explore the relationship between alcohol use and sleep quality among young adults. The researcher wants to assess the association between alcohol use and sleep quality among young adults living in North India. The data was collected from the city of the Delhi and National Capital Region (NCR). The sample size of the study was 110 participants. Participants belonged to the age group 18-35 years. The mean of the age was 22.64 (S.D. = 2.36) of all the participants. There were 54 males and 56 females. In the sample half of the population were undergraduate (59), 32 participants were graduates and 19 were postgraduate. The occupational status of individuals in the present study showed that 75 of them were unemployed and 35 were employed. The marital status of the participants showed that 103 participants were unmarried and 7 were married.

Results shows that there is positive correlation between alcohol use and sleep quality. Similar results have also been found in research by Miller and others (2021) showed that participants self-reported higher sleep efficiency on days when they consumed more alcohol (driven mostly by improvements in sleep onset latency), and they reported drinking more on days when their sleep quality had improved (driven by improvements in total sleep time). Another study by Ebrahim and colleagues (2013) demonstrated that large alcohol dosages increase total night slow wave sleep (SWS) across gender and age categories. According to a study by Van Reen and colleagues (2006), a moderate amount of alcohol consumed right before bedtime increased the quality of sleep for a brief period of time.

However, some researchers also observed that there was a significant negative association between alcohol use and sleep quality. A study by Valero and colleagues (2016) found that general health levels, stress levels, and alcohol/cigarette usage all had a negative impact on sleep quality. Another study by Morioka and colleagues (2003) examined the prevalence of sleep disruption, which is more common in young people who drink alcohol. According to

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research by Spadola and colleagues (2019), even after adjusting for a number of possible confounders, using nicotine and alcohol within 4 hours of going to bed was linked to more interrupted sleep in the night afterward. According to research by Ayre and others (2021), drinking alcohol impairs sleep, which is linked to worse cognitive function and more severe hangovers the next day. Devenney and colleagues (2019) discovered that excessive alcohol consumption reduces sleep quality, which is linked to a worsened hangover the following day and decreased levels of activity. According to research by van Schroyen Lantman and others (2017), heavy drinking dramatically lowers the quantity and quality of sleep and greatly increases daytime sleeplessness the next day. Some studies indicated that alcohol interacts with sleep deprivation and sleep restriction which leads to daytime sleepiness and alcohol-induced performance deficits, which may be one of the reasons for the adverse connection (Roehrs & Roth, 2001). Hence, we can say that further research on a more heterogeneous and representative sample can be conducted for more clarity.

CONCLUSION

The aim of the study was to explore the relationship between alcohol use and sleep quality among young adults. The study was conducted on an urban sample of 110 participants aged between 18-35. The mean of the age was 22.64 and the standard deviation was 2.36 for all the participants. The participants involved in the study were residents of India. There were 54 males and 56 females included. Alcohol use was assessed by using the scale named Alcohol use disorders identification test (AUDIT) and sleep quality was assessed using Sleep quality scale (SQS). The results implicated that alcohol use has a significant positive correlation with sleep quality ($r = .424, p < .001$).

Limitations

Despite the researcher's best efforts to carry out a legitimate investigation, this study, like other studies, has some limitations. These limitations emphasize areas that additional study may focus on, which may further produce meeting the target group's requirements.

1. Unlike many previous study samples in this field of research, the current sample size is small, especially when it comes to the alcohol user group, which reduced the statistical power of the analyses. This study might not be generalizable to a larger population due to the small sample size. To generalize and validate the findings, larger numbers of samples can be used.
2. Only participants who resided in the North India regions were chosen for the current study. The study might, however, be expanded to include participants from additional other cities of the country.
3. In the present study, a self-report measure was used to collect the information from the participants. They may not have given honest answers to the questionnaire because it was self-reported; instead, they may have chosen to mark only socially acceptable responses.
4. The study didn't consider the usage of other substances (other than alcohol) which could have affected their sleep quality.

Suggestions for future research

As the sample size was small, larger numbers of samples can be used to generalize and validate the findings. Further studies can assess the effects of multiple substance use and different substance use on sleep quality. The studies can assess the early initiation of substance use. Furthermore, researchers can also assess the impact of socio-economic status on substance use. Causes that help understand factors like early initiation and continued use in spite of negative health impacts can also be assessed. This understanding could also be

incorporated into clinical settings to help individuals dealing with substance use and addiction.

REFERENCES

- Alapin, I., Fichten, C. S., Libman, E., Creti, L., Bailes, S., & Wright, J. (2000). How is good and poor sleep-in older adults and college students related to daytime sleepiness, fatigue, and ability to concentrate? *Journal of psychosomatic research*, 49(5), 381-390. [https://doi.org/10.1016/S0022-3999\(00\)00194-X](https://doi.org/10.1016/S0022-3999(00)00194-X)
- Andas, A. M., Effendi, C., & Setyarini, S. (2020). Validity and reliability test on sleep quality scale (SQS) instruments in Indonesia version on cancer patients. *International Journal of Research in Pharmaceutical Sciences*, 11(4), 7275-7280.
- Apte, M. V., Wilson, J. S., & Korsten, M. A. (1997). Alcohol-related pancreatic damage: mechanisms and treatment. *Alcohol Health and Research World*, 21(1), 13.
- Ayre, E., Scholey, A., White, D., Devilly, G. J., Kaufman, J., Verster, J. C., ... & Benson, S. (2021). The Relationship between alcohol hangover severity, sleep and cognitive performance; a naturalistic study. *Journal of Clinical Medicine*, 10(23), 5691.
- Babor, T. F., Hofmann, M., DelBoca, F. K., Hesselbrock, V., Meyer, R. E., Dolinsky, Z. S., & Rounsaville, B. (1992). Types of alcoholics, I: Evidence for an empirically derived typology based on indicators of vulnerability and severity. *Archives of general psychiatry*, 49(8), 599-608. doi:10.1001/archpsyc.1992.01820080007002
- Benca, R. M. (2012). *Sleep Disorders: The Clinician's Guide to Diagnosis and Management*. Oxford University Press.
- Bonnet, M. H. (1985). Effect of sleep disruption on sleep, performance, and mood. *Sleep*, 8(1), 11-19. <https://doi.org/10.1093/sleep/8.1.11>
- Bonnet, M. H., & Rosa, R. R. (1987). Sleep and performance in young adults and older normals and insomniacs during acute sleep loss and recovery. *Biological psychology*, 25(2), 153-172. [https://doi.org/10.1016/0301-0511\(87\)90035-4](https://doi.org/10.1016/0301-0511(87)90035-4)
- Bonnet. (2000). *Sleep deprivation* (3rd ed.). Principles and Practice of Sleep Medicine.
- Bowersox, S. S., Kaitin, K. I., & Dement, W. C. (1985). EEG spindle activity as a function of age: relationship to sleep continuity. *Brain Research*, 334(2), 303-308. [https://doi.org/10.1016/0006-8993\(85\)90222-7](https://doi.org/10.1016/0006-8993(85)90222-7)
- Buysse, D. J., Reynolds III, C. F., Monk, T. H., Berman, S. R., & Kupfer, D. J. The Pittsburgh Sleep Quality Index: A new instrument for psychiatric practice and research (1989) *Psychiatry Res*, 28. *CrossRef Medline*, 193-213.
- Cacioppo, J. T., Hawkey, L. C., Berntson, G. G., Ernst, J. M., Gibbs, A. C., Stickgold, R., & Hobson, J. A. (2002). Do lonely days invade the nights? Potential social modulation of sleep efficiency. *Psychological Science*, 13(4), 384-387. <https://doi.org/10.1111/1467-9280.00469>
- Carpenter, J. S., & Andrykowski, M. A. (1998). Psychometric evaluation of the Pittsburgh sleep quality index. *Journal of psychosomatic research*, 45(1), 5-13. [https://doi.org/10.1016/S0022-3999\(97\)00298-5](https://doi.org/10.1016/S0022-3999(97)00298-5)
- Carskadon, M. A., & Dement, W. C. (2005). Normal human sleep: an overview. *Principles and practice of sleep medicine*, 4(1), 13-23.
- Chang, A. K., & Choi, J. (2016). Predictors of sleep quality among young adults in Korea: gender differences. *Issues in Mental Health Nursing*, 37(12), 918-928. <https://doi.org/10.1080/01612840.2016.1235636>
- Chan, J. K., Trinder, J., Andrewes, H. E., Colrain, I. M., & Nicholas, C. L. (2013). The acute effects of alcohol on sleep architecture in late adolescence. *Alcoholism: Clinical and Experimental Research*, 37(10), 1720-1728

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- Chen, Y., Tan, F., Wei, L., Li, X., Lyu, Z., Feng, X., ... & Li, N. (2018). Sleep duration and the risk of cancer: a systematic review and meta-analysis including dose–response relationship. *BMC cancer*, *18*, 1-13.
- Chesson, A., Hartse, K., McDowell, W. A., Davila, D., Johnson, S., Littner, M., ... & Rafecas, J. (2000). Practice parameters for the evaluation of chronic insomnia. *SLEEP-NEW YORK*, *23*(2), 237-242.
- Daepfen, J. B., Yersin, B., Landry, U., Pécoud, A., & Decrey, H. (2000). Reliability and validity of the Alcohol Use Disorders Identification Test (AUDIT) imbedded within a general health risk screening questionnaire: results of a survey in 332 primary care patients. *Alcoholism: Clinical and Experimental Research*, *24*(5), 659-665.
- Dahlgren, A., Kecklund, G., & Åkerstedt, T. (2005). Different levels of work-related stress and the effects on sleep, fatigue and cortisol. *Scandinavian journal of work, environment & health*, *27*7-285.
- Devenney, L. E., Coyle, K. B., Roth, T., & Verster, J. C. (2019). Sleep after heavy alcohol consumption and physical activity levels during alcohol hangover. *Journal of clinical medicine*, *8*(5), 752. <https://doi.org/10.3390/jcm8050752>
- Drummond, D. C. (1990). The relationship between alcohol dependence and alcohol-related problems in a clinical population. *British journal of addiction*, *85*(3), 357-366. <https://doi.org/10.1111/j.1360-0443.1990.tb00652.x>
- Ebrahim, I. O., Shapiro, C. M., Williams, A. J., & Fenwick, P. B. (2013). Alcohol and sleep I: effects on normal sleep. *Alcoholism: Clinical and Experimental Research*, *37*(4), 539-549. <https://doi.org/10.1111/acer.12006>
- Eckardt, M. J., File, S. E., Gessa, G. L., Grant, K. A., Guerri, C., Hoffman, P. L., ... & Tabakoff, B. (1998). Effects of moderate alcohol consumption on the central nervous system. *Alcoholism: Clinical and Experimental Research*, *22*(5), 998-1040. <https://doi.org/10.1111/j.1530-0277.1998.tb03695.x>
- Edéll-Gustafsson, U. M., Kritiz, E. I., & Bogren, I. K. (2002). Self-reported sleep quality, strain and health in relation to perceived working conditions in females. *Scandinavian journal of caring sciences*, *16*(2), 179-187. <https://doi.org/10.1046/j.1471-6712.2002.00078.x>
- Ehlers, C. L., Gilder, D. A., Criado, J. R., & Caetano, R. (2010). Sleep quality and alcohol-use disorders in a select population of young-adult Mexican Americans. *Journal of studies on alcohol and drugs*, *71*(6), 879-884. <https://doi.org/10.15288/jsad.2010.71.879>
- Emanuele, N., & Emanuele, M. A. (1997). The endocrine system: alcohol alters critical hormonal balance. *Alcohol health and research world*, *21*(1), 53.
- Ersser, S. T. E. V. E. N., Wiles, A., Taylor, H. E. I. D. I., Wade, S. I. A. N., Walsh, R., & Bentley, T. (1999). The sleep of older people in hospital and nursing homes. *Journal of clinical nursing*, *8*(4), 360-368. DOI: 10.1046/j.1365-2702.1999.00267.x
- Gais, S., Rasch, B., Dahmen, J. C., Sara, S., & Born, J. (2011). The memory function of noradrenergic activity in non-REM sleep. *Journal of Cognitive Neuroscience*, *23*(9), 2582-2592. <https://doi.org/10.1162/jocn.2011.21622>
- Goelema, M. S., Regis, M., Haakma, R., Van Den Heuvel, E. R., Markopoulos, P., & Overeem, S. (2019). Determinants of perceived sleep quality in normal sleepers. *Behavioral sleep medicine*, *17*(4), 388-397. <https://doi.org/10.1080/15402002.2017.1376205>
- Goyal, N., & Gupta, S. K. (2020). Sleep quality among medical students in Moradabad, Uttar Pradesh, India.
- Ham, L. S., Bonin, M., & Hope, D. A. (2007). The role of drinking motives in social anxiety and alcohol use. *Journal of Anxiety Disorders*, *21*(8), 991-1003. <https://doi.org/10.1016/j.janxdis.2006.10.014>

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- Harvey, A. G. (2000). Pre-sleep cognitive activity: a comparison of sleep-onset insomniacs and good sleepers. *British Journal of Clinical Psychology*, 39(3), 275-286.
- Hobson. (1995). sleep. *W. H. Freeman and Company*.
- Hyun, S., Hahm, H. C., Wong, G. T. F., Zhang, E., & Liu, C. H. (2021). Psychological correlates of poor sleep quality among US young adults during the COVID-19 pandemic. *Sleep medicine*, 78, 51-56. <https://doi.org/10.1016/j.sleep.2020.12.009>
- Iliescu, E. A., Coo, H., McMurray, M. H., Meers, C. L., Quinn, M. M., Singer, M. A., & Hopman, W. M. (2003). Quality of sleep and health-related quality of life in haemodialysis patients. *Nephrology Dialysis Transplantation*, 18(1), 126-132. <https://doi.org/10.1093/ndt/18.1.126>
- Jansen, E. C., Peterson, K. E., O'Brien, L., Hershner, S., & Boolani, A. (2020). Associations between mental workload and sleep quality in a sample of young adults recruited from a US college town. *Behavioral sleep medicine*, 18(4), 513-522. <https://doi.org/10.1080/15402002.2019.1626728>
- Kang, Kyung Hwa, Kang Sook Lee, Suk Il Kim, Kwang Ho Meng, Hyun Sook Hong, and Chun Hwa Jeong. "The relationship between alcohol use and job stress among firemen." *Korean Journal of Occupational and Environmental Medicine* 13, no. 4 (2001): 401-412. <https://doi.org/10.35371/kjoem.2001.13.4.401>
- Kryger, M. H., Roth, T., & Dement, W. C. (2011). Monitoring and staging human sleep. *Principles and practice of sleep medicine*. 5th ed. St. Louis, MO: Elsevier Saunders, 1602-1609.
- Krystal, A. D., & Edinger, J. D. (2008). Measuring sleep quality. *Sleep medicine*, 9, S10-S17.
- Kuppermann, M., Lubeck, D. P., Mazonson, P. D., Patrick, D. L., Stewart, A. L., Buesching, D. P., & Filer, S. K. (1995). Sleep problems and their correlates in a working population. *Journal of general internal medicine*, 10, 25-32.
- Levenson, J. C., Shensa, A., Sidani, J. E., Colditz, J. B., & Primack, B. A. (2016). The association between social media use and sleep disturbance among young adults. *Preventive medicine*, 85, 36-41.
- Lewinsohn, P. M., Rohde, P., & Seeley, J. R. (1996). Alcohol consumption in high school adolescents: frequency of use and dimensional structure of associated problems. *Addiction*, 91(3), 375-390. <https://doi.org/10.1046/j.1360-0443.1996.9133757.x>
- Lund, H. G., Reider, B. D., Whiting, A. B., & Prichard, J. R. (2010). Sleep patterns and predictors of disturbed sleep in a large population of college students. *Journal of adolescent health*, 46(2), 124-132. <https://doi.org/10.1016/j.jadohealth.2009.06.016>
- Mäkelä, P., Raitasalo, K., & Wahlbeck, K. (2015). Mental health and alcohol use: a cross-sectional study of the Finnish general population. *The European Journal of Public Health*, 25(2), 225-231. <https://doi.org/10.1093/eurpub/cku133>
- Maldonado-Molina, M. M., Reingle, J. M., & Jennings, W. G. (2011). Does alcohol use predict violent behaviors? The relationship between alcohol use and violence in a nationally representative longitudinal sample. *Youth violence and juvenile justice*, 9(2), 99-111. <https://doi.org/10.1177/1541204010384492>
- Matthews, T., Danese, A., Gregory, A. M., Caspi, A., Moffitt, T. E., & Arseneault, L. (2017). Sleeping with one eye open: loneliness and sleep quality in young adults. *Psychological medicine*, 47(12), 2177-2186.
- Meerlo, P., Sgoifo, A., & Suchecki, D. (2008). Restricted and disrupted sleep: effects on autonomic function, neuroendocrine stress systems and stress responsivity. *Sleep medicine reviews*, 12(3), 197-210. <https://doi.org/10.1016/j.smrv.2007.07.007>
- Miller, M. B., Freeman, L. K., Deroche, C. B., Park, C. J., Hall, N. A., & McCrae, C. S. (2021). Sleep and alcohol use among young adult drinkers with Insomnia: A daily

Alcohol Use and Sleep Quality Among Young Adults: A Correlation Study

- process model. *Addictive behaviors*, *119*, 106911. <https://doi.org/10.1016/j.addbeh.2021.106911>
- Mihic, S. J., & Harris, R. A. (1997). GABA and the GABAA receptor. *Alcohol health and research world*, *21*(2), 127.
- Molzon, E. S., Bonner, M. S., Hullmann, S. E., Ramsey, R. R., Suorsa, K. I., Chaney, J. M., & Mullins, L. L. (2013). Differences in sleep quality and health-related quality of life in young adults with allergies and asthma and their healthy peers. *Journal of American College Health*, *61*(8), 484-489. <https://doi.org/10.1080/07448481.2013.838566>
- Morioka, H., Itani, O., Kaneita, Y., Ikeda, M., Kondo, S., Yamamoto, R., ... & Ohida, T. (2013). Associations between sleep disturbance and alcohol drinking: a large-scale epidemiological study of adolescents in Japan. *Alcohol*, *47*(8), 619-628. <https://doi.org/10.1016/j.alcohol.2013.09.041>
- Murphy, J. G., McDevitt-Murphy, M. E., & Barnett, N. P. (2005). Drink and be merry? Gender, life satisfaction, and alcohol consumption among college students. *Psychology of addictive behaviors*, *19*(2), 184.
- Newbury-Birch, D. (2009). Impact of alcohol consumption on young people: A review of reviews.
- Park, S. Y., Oh, M. K., Lee, B. S., Kim, H. G., Lee, W. J., Lee, J. H., ... & Kim, J. Y. (2015). The effects of alcohol on quality of sleep. *Korean journal of family medicine*, *36*(6), 294. Doi- 10.4082/kjfm.2015.36.6.294
- Paschall, M. J., Freisthler, B., & Lipton, R. I. (2005). Moderate alcohol use and depression in young adults: findings from a national longitudinal study. *American Journal of Public Health*, *95*(3), 453-457.
- Peeke, S. C., Callaway, E., Jones, R. T., Stone, G. C., & Doyle, J. (1980). Combined effects of alcohol and sleep deprivation in normal young adults. *Psychopharmacology*, *67*, 279-287. <https://doi.org/10.1007/BF00431270>
- Pilcher, J. J., & Walters, A. S. (1997). How sleep deprivation affects psychological variables related to college students' cognitive performance. *Journal of American College Health*, *46*(3), 121-126. <https://doi.org/10.1080/07448489709595597>
- Rehm, J., Room, R., MONTEIRO, M., Gmel, G., Graham, K., Rehn, N., ... & Murray, C. J. L. (2004). Alcohol use.
- Roehrs, Timothy, & Roth, T. (2001). Sleep, sleepiness, and alcohol use. *Alcohol Research & Health*, *25*(2), 101-109.
- Sadock, B. J., Sadock, V. A., & Ruiz, P. (2014). *Kaplan and Sadock's Synopsis of Psychiatry: Behavioral Science/Clinical Psychiatry*. Lippincott Williams & Wilkins.
- Saha, T. D., Chou, S. P., & Grant, B. F. (2006). Toward an alcohol use disorder continuum using item response theory: results from the National Epidemiologic Survey on Alcohol and Related Conditions. *Psychological medicine*, *36*(7), 931-941. DOI: 10.1017/S003329170600746X
- Saunders, J. B., Aasland, O. G., Babor, T. F., De la Fuente, J. R., & Grant, M. (1993). Development of the alcohol use disorders identification test (AUDIT): WHO collaborative project on early detection of persons with harmful alcohol consumption-II. *Addiction*, *88*(6), 791-804.
- Saunders, J. B., Aasland, O. G., Amundsen, A., & Grant, M. (1993). Alcohol consumption and related problems among primary health care patients: WHO collaborative project on early detection of persons with harmful alcohol consumption—I. *Addiction*, *88*(3), 349-362.
- Savolainen, I., Oksanen, A., Kaakinen, M., Sirola, A., Miller, B. L., Paek, H. J., & Zych, I. (2020). The Association between social media use and hazardous alcohol use among

Alcohol Use and Sleep Quality Among Young Adults: A Correlation Study

- youths: A four-country study. *Alcohol and alcoholism*, 55(1), 86-95. <https://doi.org/10.1093/alcalc/agz088>
- Shapiro, C. M., & Flanigan, M. J. (1993). ABC of sleep disorders. Function of sleep. *BMJ: British Medical Journal*, 306(6874), 383. DOI: 10.1136/bmj.306.6874.383
- Singleton, R. A., & Wolfson, A. R. (2009). Alcohol consumption, sleep, and academic performance among college students. *Journal of studies on alcohol and drugs*, 70(3), 355-363. <https://doi.org/10.15288/jsad.2009.70.355>
- Smith, M. T., Perlis, M. L., Smith, M. S., Giles, D. E., & Carmody, T. P. (2000). Sleep quality and presleep arousal in chronic pain. *Journal of behavioral medicine*, 23, 1-13. <https://doi.org/10.1023/A:1005444719169>
- Spadola, C. E., Guo, N., Johnson, D. A., Sofer, T., Bertisch, S. M., Jackson, C. L., ... & Redline, S. (2019). Evening intake of alcohol, caffeine, and nicotine: night-to-night associations with sleep duration and continuity among African Americans in the Jackson Heart Sleep Study. *Sleep*, 42(11) <https://doi.org/10.1093/sleep/zsz136>
- Spenceley, S. M. (1993). Sleep inquiry: a look with fresh eyes. *Image: The Journal of Nursing Scholarship*, 25(3), 249-256. <https://doi.org/10.1111/j.1547-5069.1993.tb00790.x>
- Stein, M. D., & Friedmann, P. D. (2006). Disturbed sleep and its relationship to alcohol use. *Substance abuse*, 26(1), 1-13. https://doi.org/10.1300/J465v26n01_01
- Steriade, M. M. R. W., & McCarley, R. W. (1990). Brainstem control of wakefulness and sleep New York. *Plenum Press*
- Taylor, D. J., Jenni, O. G., Acebo, C., & Carskadon, M. A. (2005). Sleep tendency during extended wakefulness: insights into adolescent sleep regulation and behavior. *Journal of sleep research*, 14(3), 239-244.
- Tynjälä, J., Kannas, L., Levälähti, E., & Välimaa, R. (1999). Perceived sleep quality and its precursors in adolescents. *Health Promotion International*, 14(2), 155-166. <https://doi.org/10.1093/heapro/14.2.155>
- Valerio, T. D., Kim, M. J., & Sexton-Radek, K. (2016). Association of stress, general health, and alcohol use with poor sleep quality among US college students. *American Journal of Health Education*, 47(1), 17-23. <https://doi.org/10.1080/19325037.2015.1111173>
- Van Reen, E., Jenni, O. G., & Carskadon, M. A. (2006). Effects of alcohol on sleep and the sleep electroencephalogram in healthy young women. *Alcoholism: Clinical and Experimental Research*, 30(6), 974-981 <https://doi.org/10.1111/j.1530-0277.2006.00111.x>
- van Schrojenstein Lantman, M., Roth, T., Roehrs, T., & Verster, J. C. (2017). Alcohol hangover, sleep quality, and daytime sleepiness. *Sleep and Vigilance*, 1, 37-41
- Velleman, R. D., Templeton, L. J., & Copello, A. G. (2005). The role of the family in preventing and intervening with substance use and misuse: a comprehensive review of family interventions, with a focus on young people. *Drug and alcohol review*, 24(2), 93-109.
- Wever, R. A. (1988). Order and disorder in human circadian rhythmicity: Possible relations to mental disorders. *Biological rhythms and mental disorders*, 253-346.
- WHO. (2022, May 9). *Alcohol*. World Health Organization. <https://www.who.int/news-room/fact-sheets/detail/alcohol>
- Williams, D. L., MacLean, A. W., & Cairns, J. (1983). Dose-response effects of ethanol on the sleep of young women. *Journal of studies on alcohol*, 44(3), 515-523.
- Yi, H., Shin, K., & Shin, C. (2006). Development of the sleep quality scale. *Journal of sleep research*, 15(3), 309-316.
- Zakhari, S. (1997). Alcohol and the cardiovascular system: molecular mechanisms for beneficial and harmful action. *Alcohol health and research world*, 21(1), 21.

Alcohol Use and Sleep Quality Among Young Adults: A Correlation Study

- Zager, A., Andersen, M. L., Lima, M. M., Reksidler, A. B., Machado, R. B., & Tufik, S. (2009). Modulation of sickness behavior by sleep: the role of neurochemical and neuroinflammatory pathways in mice. *European neuropsychopharmacology*, 19(8), 589-602.
- Zavec, Z., Nagy, T., Galkó, A., Nemeth, D., & Janacsek, K. (2020). The relationship between subjective sleep quality and cognitive performance in healthy young adults: Evidence from three empirical studies. *Scientific reports*, 10(1), 4855.

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Conflict of Interest

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