

## Impact of Autonomous Sensory Meridian Response (ASMR) on Sleep Quality among Emerging Adults

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### ABSTRACT

During the Covid 19 pandemic, many university students had online classes held on online platforms with it came major sleep disturbances these students faced due to increased stress. The research aimed at investigating the impact of watching ASMR (Autonomous Meridian Sensory Response) videos on sleep quality among university students. ASMR (Autonomous Meridian Sensory Response) is a relatively new phenomenon which deals with sensations and sensory response. The research was a quasi-experimental pre-test post-test design, with a sample size of 30 students using the Pittsburgh Sleep Quality Index. Convenience sampling was used for data collection and inclusion criteria was that participants should be between the age of 18-24 and must be a college student with no previous exposure to ASMR. The results were consistent with previous literature and null hypothesis that stated there is no significant difference in the sleep quality of emerging adults before and after introduction to ASMR was rejected. This suggests that ASMR can be recognized as a therapeutic practice which may be administered by mental health professional to enhance the lifestyle pattern of the individuals as well it can be integrated along with existing therapeutic techniques.

**Keywords:** ASMR (Autonomous Meridian Sensory Response), Sleep Quality, Young Adults

During the Covid 19 pandemic, many university students had online classes held on platforms such as Zoom and Google meet, etc. with it came major sleep disturbances these students faced due to increased stress. ASMR (Autonomous Meridian Sensory Response) is a relatively new phenomenon which deals with sensations and sensory response. It may have future implications for positive psychology as well as roots in cognitive psychology since it is a type of perceptual condition wherein a particular audio and visual stimuli is shown which triggers a pleasurable and tingling sensation to the viewer. Studies for evaluating effects of autonomous sensory meridian response stimulation (ASMR) on sleep quality have been conducted in the past in Diponegoro University, Indonesia. But in order for ASMR to be effective in the Indian context research should be done since Indian youth have very different challenges and the number of asmr viewers have been increasing (Giulia Lara Poerio et al., 2018) It is believed that ASMR can lower heart rate and hence causes a relaxed feeling. Meridian are the energy pathways of the body and

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sensory are the bodily sensations. ASMR videos are easily available on YouTube. Some have triggers such as tapping on objects, visual triggers using many objects, brushing objects close to a microphone to create a very minimized noise, whispering and many others. Sounds created are done by using high technology microphones. These videos are said to help cause tingling, static-like feeling that travels across the skull and down the neck (Taylor, 2014). These videos involve themes of role play and help people achieve sleep and a sense of relaxation.

Sleep is a very important aspect of life. Quality sleep can be defined as a state of deep sleep without any sort of disruption and it is necessary in order to keep one's immune system healthy. A disrupted sleep routine can have major issues for the overall health of a person, it can lead to cognitive deficits as well as compromised immunity. It can lead to heart diseases and high blood pressure. The repair and restoration theory of sleep states how important it is since it helps in cell division and protein synthesis as well as consolidation of memories.

The research will study if watching ASMR videos before going to sleep would help university students have a good quality sleep. The aim is to understand the impact of ASMR on Sleep Quality, the null hypothesis for the study is that there is no significant difference in the sleep quality of emerging adults before and after introduction to ASMR. The rationale of this study is the fact that there is still ongoing research on this newly formed perceptual phenomenon which claims to cure depression and ease anxiety symptoms. People have been using these videos as a self-soothing technique. Research on it can pave the way for ASMR to be recognized as a therapeutic practice which may be administered by therapists to their clients and help people with insomnia. Moreover, this study would be done on the Indian youth who have had a very disturbed sleep since it is expected for them to help out their parents, and especially during the lockdown they were forced to multitask which led to extreme levels of stress and disturbed sleep. If ASMR can aid pupils with sleep problems, it will yield a more productive outcome from the students resorting to this technique.

There is not a lot of research done on this growing concept of asmr. Research on this phenomenon will help individuals use this as a self-soothing technique or it may even be used in therapies. People may benefit by relaxing their mind after a tiring day and get a restful sleep. Many Indians have also started to open up YouTube channels specifically for producing asmr. With this growing interest and usefulness of asmr, research is very much needed to understand it. The research question is How can asmr affect sleep quality of Indian students.

### **METHOD**

The research design is a Quasi-experimental pretest posttest design with a sample size consisting of 30 students of any gender. The age range of the students would range from 18 to 24 years old. Sampling method of choice was convenience sampling which is a type of non-probability sampling since it would require participants' commitment for 15 days.

#### ***Inclusion criteria:***

1. The participants must be students and currently enrolled in a university.
2. The Participants must be above 18 and under the age of 24.
3. The participants must not have any previous exposure to ASMR videos.

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### *Exclusion criteria:*

1. Participants with lower scores on the PSQI will not be considered.
2. Participants not enrolled in any University will not be considered.

The research design used will be a Quasi-experimental pretest post-test design with two levels of the independent variable. The Independent variable is ASMR - Duration for which it has to be watched, how many days, nature of content etc., Dependent variable is Sleep Quality. This research design will let us understand the implications and effects of watching asmr before participants go to sleep. It aims to find a cause-and-effect relationship and participants in such a study cannot be randomly assigned.

The tool used is Pittsburgh Sleep Quality Index (PSQI) questionnaire. It is a self- rated questionnaire consisting of 19 questions related to sleep where seven scores are obtained to find out a global score each ranging from 0, no difficulty to 3, severe difficulty in sleeping. It was made by Daniel J. Buysse in 1988. A higher score is indicative of poorer sleep. (Md. Dilshad Manzar et al) PSQI was validated among a sample of Indian subjects and a Cronbach alpha of 0.736 was obtained with high internal homogeneity. It has internal consistency and is applicable to Indians. The other tool is a particular asmr video which will remain the same for all 15 days the participants need to watch it.

University students were recruited to participate through an online form where they were to give consent to participate for 15 days. A pretest was taken using PSQI, participants with higher scores were hence chosen. For 15 days, the participants watched a particular asmr video before going to sleep and took no part in other activities. A posttest was conducted and PSQI measures thus compared from before to see if asmr has an effect on sleep. A sleep log was maintained on google excel sheets where participants were to update it daily with their sleep timings and to keep a check on their watching habit of ASMR video. Data analysis will be done using a paired sample t test. The null hypothesis which states that there is no significant difference between sleep quality for people who watch asmr and those who do not before sleeping, may be rejected if p value is less or equal to the significance level. A paired sample t test is used since we need to compare before and after results.

## **RESULTS AND DISCUSSION**

The age range of the participants was from 18 to 24 years old. This age group has been selected for the purpose that their sleep schedules were drastically changed due to online classes during Covid 19. This led to students facing many sleep related issues. In order to control for external factors such as part time work, only full-time students enrolled in universities were chosen. The sample size chosen was 30 participants who would commit to the study for 15 days in order to get an in depth understanding of the effects of ASMR.

*Table 1 Descriptives*

	N	Age
Minimum	30	
Maximum		18 24

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**Table 2 Descriptives**

	<b>N</b>	<b>Mean</b>	<b>Median</b>	<b>SD</b>	<b>SE</b>
Pretest	30	9.90	10.00	2.44	0.446
Posttest	30	7.57	8.00	3.05	0.556

From Table 2, pretest and posttest data was collected from participants to assess their sleeping quality using Pittsburgh Sleep Quality Index. The mean for the pre-test scores is 9.90, mean for post test scores are 7.57. The standard deviation values are 2.44 for the pre test scores and 3.05 for the post test scores. Decrease in mean suggests that the intervention has had a positive impact on the sleep quality of the participants.

**Table 3 Normality Test (Shapiro-Wilk)**

		<b>W</b>	<b>P</b>	
Pre test	-	Post test	0.971	0.579

*Note. A low p-value suggests a violation of the assumption of normality*

The Shapiro-Wilks test was used to test normality since the sample size was small(N=30). The test was performed and it was seen that data is normally distributed. (W=0.971) and p value reported was 0.579 which is lower hence the data is normal.

**Table 4 Paired Sample t Test**

Paired Samples T-Test

	<b>t value</b>	<b>Df</b>	<b>P</b>	<b>Mean difference</b>	<b>SE difference</b>	<b>Effect Size</b>
Pretest-posttest scores	4.25	29.0	<0.001	2.33	0.549	0.775

*Note.  $H_a \mu \text{ Measure 1} - \text{Measure 2} < 0$*

A paired sample t test was conducted in order find a cause-and-effect relationship and to compare results between same group of participants. T value is 4.25 which signifies that this high value is reliable and coefficient is a good predictor.

Since p value is lesser than 0.001 at 95% confidence level it is likely that it is due to chance. There is a difference between the groups other than due to chance, alternate hypothesis thus can be accepted.

The objective of the study was to understand the impact of ASMR (Autonomous Meridian Sensory Response) on Sleep Quality, which proved true based on the results. The aim was to see if a cause-and-effect relationship exists. From the pretest and posttest scores obtained it is clear that watching ASMR does have an impact on sleep quality for the better.

A paired sample t test was conducted to find this cause-and-effect relationship, T value is 4.25, indicating that it is likely attributable to chance because the greater the value of T the greater the evidence of significant difference. The p value is less than 0.001 at a 95% confidence level. Alternative hypotheses can therefore be accepted because there is a difference between the groups that is not only the result of chance.

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(Hardian Hardian et al., 2020) In one such study an experimental group of medical students was to watch an ASMR video while the control group had to watch a non-ASMR video for 14 consecutive days. Results were in favour of improvement in sleep with ASMR stimulation. This is in line with the current research. (Minji Lee et al., 2019) Studied how combining ASMR triggers with a binaural beat and presented simultaneously can lead to feeling of calmness and this auditory stimulus encourages brain waves to act and induce sleep. Hence, this may help increase a good quality sleep. A good quality sleep is beneficial for cognitive functioning as well as overall health.

### CONCLUSION

A person's general health might suffer greatly from a disturbed sleep schedule because it can impair immune and cognitive function. Heart conditions and excessive blood pressure may result from it. Sleep is crucial because it aids in memory consolidation, cell division, and protein synthesis, according to the repair and restoration theory of sleep. (Hyeon Seung Wi, Byung Mun Lee, 2020) People with sleep disorders need some kind of stimulation either pink noise or ASMR, that will induce sleep. Individuals may vary based on their choice of triggers and preferences. In this study, a personalized SIS control system was used which allowed for selective sound control amongst the various ASMR and pink noise, determined by brain waves. 30 experiments were conducted on 5 participants, EEG data collected while they slept. Delta and theta waves were increased by 21% in experiments with sound control which are only present during deep sleep. This shows how effective ASMR sounds can be for effective sleep.

This research on asmr and Indian youth may pave way for further research on this topic for the use of asmr as a therapeutic tool. The results were in line with previous research on this new and growing phenomenon. ASMR as a relaxation tool can be explored more with anxiety and insomnia patients. Since it is established that ASMR does have an improvement on sleep.

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### ***Conflict of Interest***

The author(s) declared no conflict of interest.

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