

## **NOISE POLLUTION AND HEALTH IMPACTS STAFF EDUCATIONAL INSTITUTIONS**

**Elena MARICA**

**Scientific Coordinator: Lect. PhD Mihai Teopent CORCHES**

“1 Decembrie 1918” University of Alba Iulia  
Bethlen G. street, 5 , Zip code 510 009, Alba Iulia Romania,

Corresponding author email: elenamarica93@yahoo.com

### **Abstract**

*Noise pollution is neglected in schools, although it can cause multiple effects on students and teachers. This article will be presented potential sources of noise that affect the smooth conduct of classes, methods of measuring noise pollution, methods of combating this type of pollution, then I will briefly effects that may occur on the health staff in institutions education.*

**Key words:** health effects of noise, noise, noise sources, the noise in schools.

### **INTRODUCTION**

Noise pollution is caused by noise that can come from natural or anthropogenic sources.

Noise is defined as sound or combination of sounds discordant strong, unpleasant noise, noise, noise, thunder, etc. Noise is unwanted sound and unpleasant hearing. It is characterized by two of its important attributes: intensity, measured in decibels [dB], and frequency, measured in hertz [Hz]. Noise intensity is measured in dB and measuring scale is logarithmic. Normal conversation is about 65 dB, and the cry is around 80 dB. Although the difference between normal conversation and is only 15 dB cry, cry intensity is 30 times higher (Munteanu).

Noise pollution is a threat to quality of life. It is more severe and widespread than before and will continue to increase in intensity because of population growth, industrial development and road, air and rail, will become a major problem in all major cities in the world (Marica and Corcheș, 2017).

Noise pollution is also felt in educational institutions because their neighborhood was developed traffic, appeared at bus stops and public squares were developed. Most campuses are near busy roads so students are exposed to high noise levels for more than 8 hours per day, which causes many health problems and also suffers learn. Must process to pay particular

attention to this problems and to find solutions to remedy this situation in which the majority of students in campuses.

I intend to determine the level of noise in the University where I study. Initially you identify the sources producing noise, then continue with measuring noise using a sound level meter, I will propose some solutions to reduce such pollution. Mention that such studies were carried out in a small number, so a to present some data from international studies that address the subject of noise in educational institutions.

### **MATERIALS AND METHODS**

To monitor noise levels in schools we need a sound level meter. This measure of sound pressure level (sound pure and complex sounds, noises), is composed of a directional microphone or the environment, an amplifier, a voltmeter graduated in decibels and possibly a filter generally octave or third octave. More evolved versions contain adjustments for sensitivity, maximum and minimum levels, boost digital displays of sounds recorded on split second until the loudness average over more or less long.

The lever meter are commonly used in noise pollution studies to determine almost any type of noise, but especially for industrial,

environmental and airport noise (<https://ro.wikipedia.org/wiki/Sonometru>).

Noise pollution in schools can be countered by two methods: reducing noise propagation path and method reduce noise at source.

The first method involves implementing several measures such as:

a) the location of absorbing panels on the walls of classrooms, including the ceiling, where lighting systems allow this change. I mention that these boards do not affect the aesthetics classrooms.

b) The location of the educational institution to be surrounded by high concrete fences, which can absorb waves sound or driving them to other areas, thus protecting personal inside the institution noise from outside.

c) Planting of trees that can absorb the noise level to 6 dB depending on the characteristics of the trees planted, which may have an aesthetic role (Debnath D, 2012).

Method reduce noise at source admits the realization of several measures such as:

a) restricting car traffic near these institutions.

b) speed limit for vehicles that are forced to move in that area.

c) students and teachers can help reduce noise respecting rules on restricting the production of noise during breaks or during any school hours.

## RESULTS AND DISCUSSIONS

There have been studies addressing noise in educational institutions worldwide. The results of studies according to answers given by students and teachers from questionnaires show that students and teachers are bothered by the noise of traffic. According to studies done in India sources of noise are the traffic rate of 46%, students 40%, of people moving around institutions 9% and the remaining 5% is accounted for by other sources (Debnath et al., 2012).

In Turkey following a study by Nermin Bulunuz, over 90% of students say they are bothered by noise pollution (Nermin, 2014).

According to a study conducted at the University of Sulaimani was found in the morning and at noon hours are noisy. In the chart below you can see how noise varies depending on the traffic. Morning is more intense because most students and teachers

come Driving there from the same cause is pollution afternoon and greater (Rauf et al., 2015).

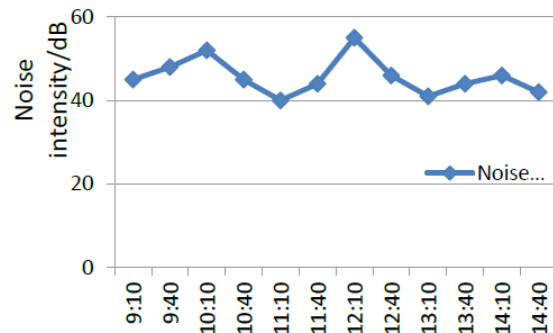


Figure. 1 Noise in school

According to the World Health Organization there are seven categories of adverse human health effects of noise pollution. According to the report, noise pollution may be responsible for: hearing loss, impaired the communicate, sleep disorders, heart disease, impaired psychic system, preventing obtain performance and negative social behavior.

Regarding the major cause hearing loss is exposure in the workplace, although other sources of noise, especially noise leisure, can produce significant deficits. Studies suggest that children seem to be more vulnerable than adults to noise. There is also a general agreement that the exposure time of more than 8 hours at sound levels greater than 85 dB is potentially dangerous.

Noise pollution interferes with the ability to understand normal speech and can lead to a number of shortcomings personal handicaps and behavioral changes. These include trouble concentrating, fatigue, uncertainty, lack of confidence, irritation, misunderstandings, decrease working capacity, disturbed interpersonal relationships, and stress responses. A growing number of evidence confirms that noise pollution has both temporary and permanent effects on humans, the endocrine system and the autonomic nervous. It has been assumed that the noise acts as a biological stress which causes the body to fightprepare (Goines and Hagler, 2007).

In schools and college campuses where the noise level exceeds 50 dB student performance and teacher greatly decreases.

## CONCLUSIONS

From the above it can be concluded that there is noise pollution and educational institutions, which normally would be the perfect setting for learning-teaching. In general the main sources of noise which disturbs the smooth running of the courses coming from outside the building and inside sources are lower because their values are lower noise, also during the interval from occurring is less.

As regards the effects of noise we can say that levelhigh noise affects first attention, the degree of storing information, and while effects may occur such as: heart disease, chronic psychical, social behavior negativ, sleep disorders, hearing loss.

We can reduce noise by implementing methods to combat noise pollution presenting the corresponding chapter, even if we fail to stop this phenomenon, at least bring it to a level

where the effects are not so pronounced and numerous.

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