IMPACT OF NOISE POLLUTION ON PROBLEM SOLVING ABILITIES IN HUMANS- A THEORETICAL FRAMEWORK

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ABSTRACT
Noise pollution continues to grow in extent, frequency and severity as a result of population growth, urbanization, and technological developments. It is also to be noted that in comparison to other pollutants, the control of environmental noise has been hampered by insufficient knowledge about its effects on humans. The problems of day-to-day life are also on an increasing mode. So, a need was felt to understand the relationship between the noise pollution and the problem-solving abilities. In this article light was thrown upon the effects of noise pollution that directly or indirectly relate themselves with problem-solving abilities. It was concluded that noise is an obvious side effect of urbanization and civilization but, in the last few years, its alarming hike is creating problems in the individuals’ lives. This, in turn, leads towards problems in social interactions. Moreover, the learning abilities and hence the academic skills are falling down in children. Analytical and creative, both abilities are being affected due to noise pollution.

KEYWORDS: Noise pollution, problem-solving abilities, analytical skills, creative skills.

BACKGROUND
The noise problems of the past pale in significance when compared with those experienced by modern city dwellers; noise pollution continues to grow in extent, frequency, and severity as a result of population growth, urbanization, and technological developments. It is also to be noted that in comparison to other pollutants, the control of environmental noise has been hampered by insufficient knowledge about its effects on humans. However, it is clear that noise pollution is widespread and imposes long-term consequences on health. In 1971, a World Health Organization (WHO) working group concluded that noise is a major threat to human well-being. The problems of day-to-day life are also on an increasing mode. So, a need was felt to understand the relationship between the noise pollution and the problem-solving abilities.

Noise pollution Includes aircraft noise, noise of the traffic, noise from electric appliances, industrial machinery and construction work etc. The potential health effects of noise pollution are numerous, pervasive, persistent and medically and socially significant. Noise produces direct and cumulative adverse effects that impair health and that degrades residential, social, working and learning environments. It interferes with sleep, concentration, communication and recreation.

Problem-solving abilities consist of a combination of various skills. These may be broadly classified into two types, that is analytical and creative skills. But, as stated above, noise pollution is affecting negatively on the positive aspects of human psychology.

MATERIAL AND METHODS
The authors have consulted google scholar’s articles about noise pollution and read about problem-solving abilities from the books of psychology. It was decided to identify the specific mental ability which helps in solving the problem and whether noise pollution is altering or affecting that ability either directly or indirectly.

DISCUSSION
Knowing about damaging effects of noise pollution on mental processes. The WHO has documented seven categories of adverse health effects of noise pollution on humans. These are.

- Hearing Impairment
- Interference with Spoken Communication
- Sleep Disturbances
- Cardiovascular Disturbances
- Disturbances in Mental Health
- Impaired Task Performance
• Negative Social Behavior and Annoyance

Reactions

Among these, light will be thrown upon the effects that directly or indirectly relate themselves with problem-solving abilities. Interference with spoken communication may lead to a number of personal disabilities, handicaps and behavioral changes. These include problems with concentration, fatigue, uncertainty, lack of self-confidence, irritation, misunderstandings, decreased working capacity, disturbed interpersonal relationships, and stress reactions. Noise pollution also interferes with the ability to comprehend normal speech.

When sleep disruption becomes chronic, the results are mood changes, decrements in performance and other long-term effects on health and well-being.

Noise pollution may cause or contribute to the following adverse effects: anxiety, stress, nervousness, nausea, headache, emotional instability, argumentativeness, sexual impotence, changes in mood, increase in social conflicts, nervousness, hysteria and psychosis.

The effects of noise pollution on cognitive task performance have been well-studied. Noise pollution impairs task performance at school and at work, increases errors and decreases motivation. Reading attention, problem solving and memory are most strongly affected by noise.

Let’s talk about problem-solving abilities. The popular strategies that experts often employ are abstraction which involves solving the problems in a model of the system before applying to the real system. Divide and conquer involves breaking down a large complex problem into smaller solvable problems. Hypothesis testing involves a possible explanation to the problem and trying to prove the assumption. Lateral thinking involves approaching solutions indirectly and creatively. Reduction assumes that transforming the problem into another problem for which solutions exist can also help in solving the problem. Likewise, other methods are research, root cause analysis, trial and error etc.

One can easily infer that all these strategies need concentration and relaxed mind. But, when the physiological homeostasis in the form of increased heart rate or high blood pressure, hormonal disturbances due to fight or flight like situations created due to noise pollution. The mind cannot be stable enough to focus. Due to noise, as stated above, verbal communication gets affected and hence it becomes difficult to comprehend the spoken words. This lead to confusing or altered perceptions and social behavior is changed accordingly. The sleep disturbance, which is a common problem caused by environmental noise impacts badly upon the process of lateral thinking or root cause analysis. It happens probably due to fatigue induced by unwanted sounds in the surroundings.

CONCLUSIONS

It may be concluded that noise is an obvious side effect of urbanization and civilization but, in the last few years, its alarming hike is creating problems in the individuals’ lives. This, in turn, leads towards problems in social interactions. Moreover, the learning abilities and hence the academic skills are falling down in children. Analytical and creative, both abilities are being affected due to noise pollution.

Suggestions

• A survey based study may be conducted for knowing more about effects of noise pollution on the various mental abilities in humans.
• A widespread social messaging is required to control noise as far as possible with the help of law or social awakening measures though advertising or with seeking direct help from volunteer NGO’s.

REFERENCES

3. This document is an updated version of the document published by the World Health Organization in, 1995.