

# Study The Impact Of Traffic Noise On The Health Of Road Side Shop Owners And Traders In Kolhapur City

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## **Abstract:**

*Road side noise (Traffic noise) is a most notable source of environmental pollution. Now a day with increasing number of vehicles, the noise pollution also has been increased. The present article focuses on the survey of various impacts of traffic noise on road side shop owners and traders. Different five locations were studied in Kolhapur city. Assessment was done among the 100 respondents residing near traffic signals. The survey was conducted on self-prepared questionnaire. Responses from the people regarding to their health were considered for analysis. The outcome from this study shows the various negative health issues including psychological, physiological, sleep disruption, interference between communication, working efficiency, auditory impacts and the percentage of preventive measures have been taken to minimize the impact of noise. .*

## **Keywords**

*Traffic noise, survey, physiological effects, psychological effects.*

## **1. Introduction**

Noise can be defined as unwanted sound or sound in the wrong place at the wrong time. Noise can also be defined as any sound that is undesirable because it interferes with speech and hearing, is intense enough to damage hearing, or it otherwise annoying. Noise pollution is a very significant component of environmental pollution, not only due to its harmful traits, but also through its presence in all the compartments of modern life. Social survey data has shown that annoyance, sleep disturbance and cardiovascular problems are considered to be the most important environmental noise effects (Ouis, 1982; Langdon, 1976). The road transports are the main source of noise in the modern society, with around 80% of a town's noise pollution being

represented by the noises emitted by auto vehicles (Paris gathering, 1990).

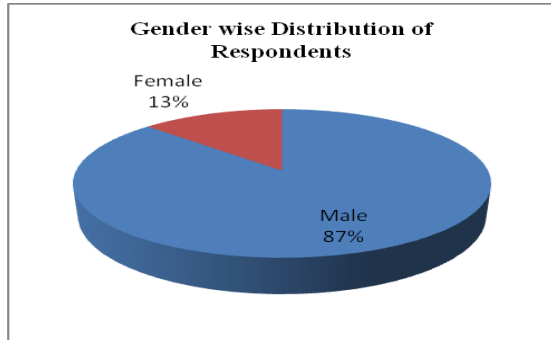
Kiernan finds that an even relatively low level of noise affects human health adversely. Sharp and Donovan (1979) confirm that more people are exposed to noise from motor vehicles than any other single source of noise, they are also stated that more people are exposed to noise from motor vehicles than any other single source of noise. Pal and Bhattacharya (2012) done their case study in Agartala and it is pointed out that the most prevalent problems from the traffic noise include irritation, headache, tinnitus, and sleeplessness. The problem of noise pollution is less in small towns and villages. But, those residing in villages or towns along the national or state highways or close to railway tracks do bear the burnt of excessive noise (Salave 2014). Dasarathy and Thandavamoorthy (2013) concluded that the effects of excessive noise could be so severe that either there is a permanent loss of memory or a psychiatric disorder. According to (Savale 2014), The social survey should be one way of finding out what type of sound upset people most and they appear at present to be the only method of determine the effects of noise pollution.

## **2. Methodology**

Present study is based on primary data which was collected through structured questionnaire and interviews of roadside shop owners and traders. Total 100 respondents were selected from the most busy traffic points from the Kolhapur city by using simple random sampling method. Questionnaire contains various questions about overall impact of noise on roadside shop owners and traders. It also includes the study of various health problems regarding to their psychology, physiology, sleep disruption, working efficiency, interference In between speech and other expressions from respondent on roadside noise.

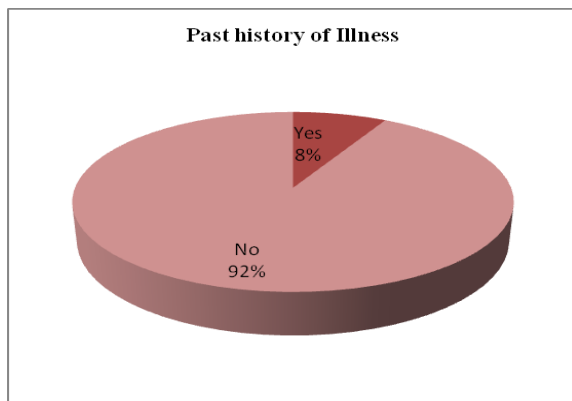
## **3. Results**

Total 100 respondents were studied from the different traffic areas. Out of which the male respondent were 87% and the female respondents were 13%.



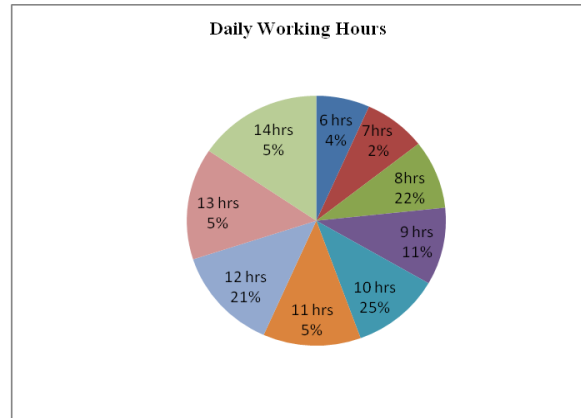
### 3.1. Gender wise Distribution of Respondents

It was also found that the 8% respondents were having past history of illness, on other hand 92% respondents were not found any kind of past history of illness.



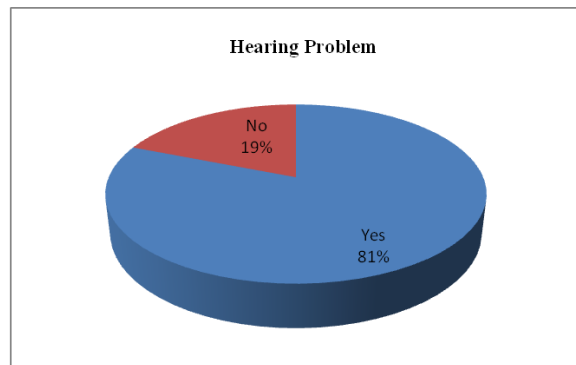
### 3.2. Past History of Illness

The daily working hours of respondents were taken into consideration. The range of daily working hours was found about 7 – 10 hours, the minimum working hours were noticed i.e. 7 hours where 2% respondents were working daily near traffic area. While 25% respondents were daily working for 10 hrs.



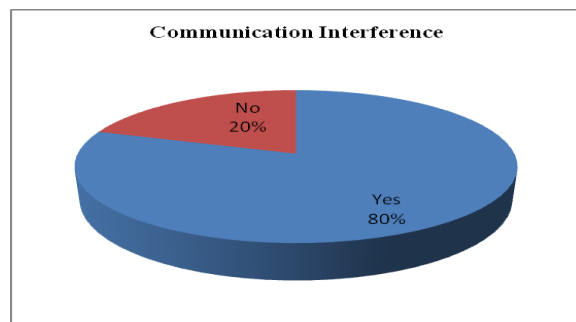
### 3.3. Daily Working Hours

This study shows the hearing problem occurred due to traffic noise among respondents. 81% respondents were feeling hearing problem and 19% were did not faced any difficulties in hearing.



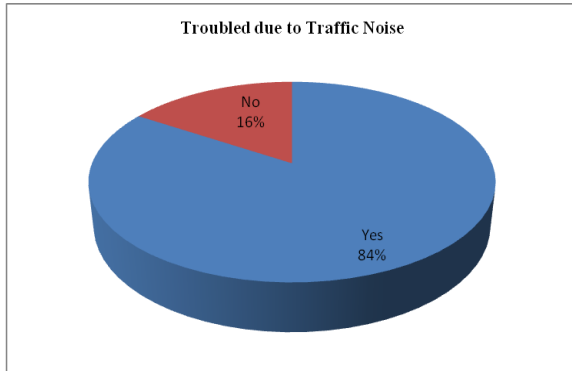
### 3.4. Hearing Problems

The notable impact of traffic noise was interference in communication among respondents. 80% respondents were experiencing the problem while communicating with others as well as remaining 20% were not did not experience such problem.



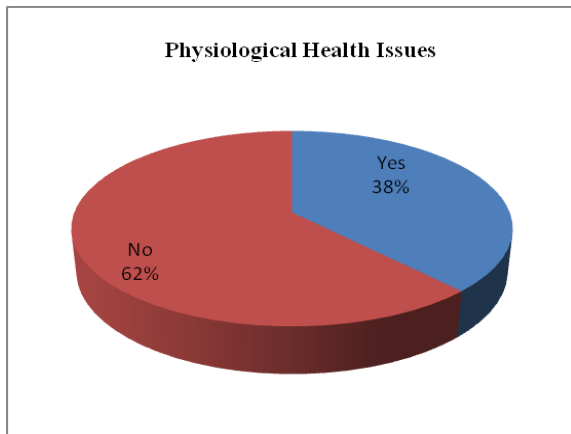
### 3.5. Communication Interference

It was also noticed that among 100 respondents 84 respondents has been troubled by traffic noise, where only 16 were not troubled by traffic noise, so it is indicate that the large number of respondents was adversely affected by heavy traffic noise.



### 3.6. Troubled due to Traffic Noise

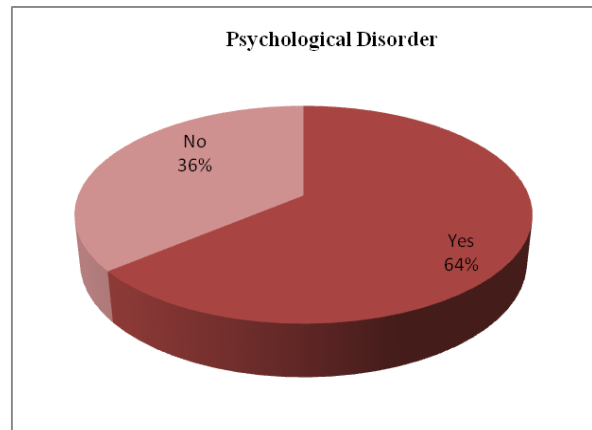
Present investigation was also focused on the physiological effects of traffic noise on the health of respondents. About 38% respondents were suffered by physiological effects due to traffic noise and while 62% were not affected by any physiological health issues due to noise pollution.



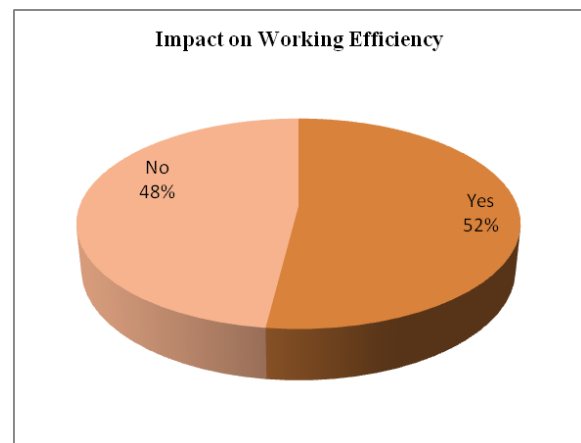
### 3.7. Physiological Health Issues

With respect to psychological disorder, maximum respondents were facing such problems it was 64%, whereas 36 % respondents were not affected by such disorders.

More (52%) respondents were believed on this traffic noise make adverse impact on their work efficiency.

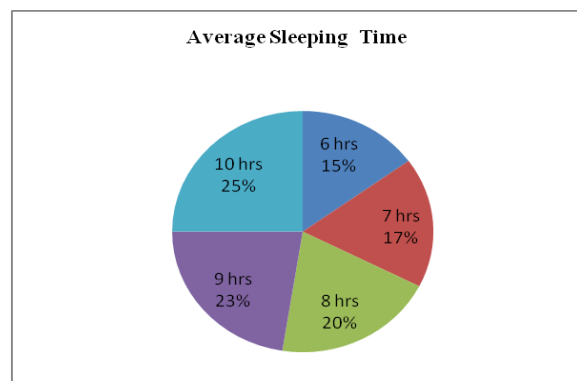


### 3.8. Psychological Disorder



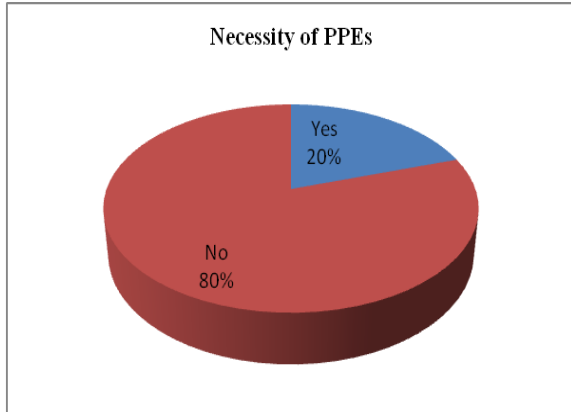
### 3.9. Impact on Working Efficiency

Noise created by heavy traffic has adversely affected on their average sleeping hours. The minimum average sleeping time has found up to 6 hours in 15% respondents. While in 25% respondents, the maximum average sleeping time found up to 10 hours.



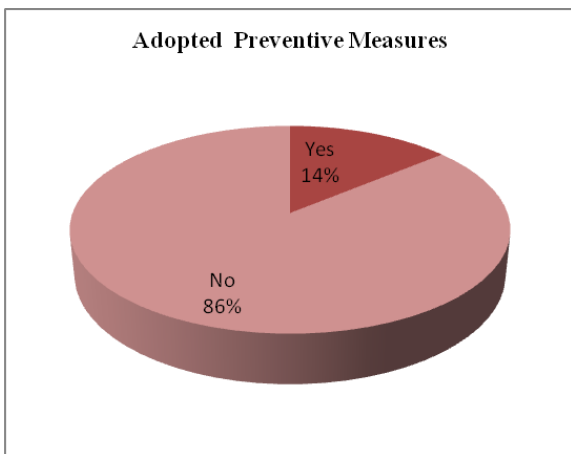
### 3.10. Average Sleeping Time

The traffic noise affected on the health of most of the respondents even according to maximum respondents there is no any kind of necessity to use Personal Protective Equipment (PPE) for the minimization the impact of traffic noise on their health.



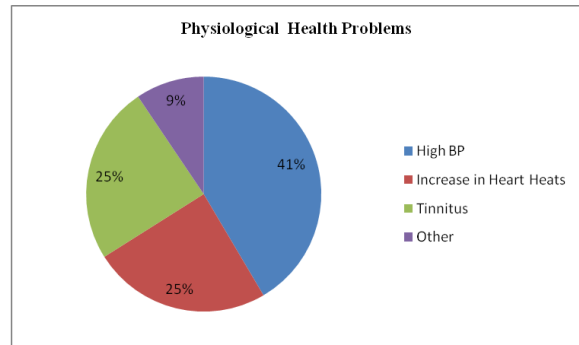
### 3.11. Necessity of PPEs

Same thinking was also found when the information was collected about adopted preventive measures for the minimization the impact of traffic noise on their health. About 86% respondents were not adopted any kind of preventive measures to minimize the exposure of noise. On other hand only 14% respondents were adopted preventive measures.



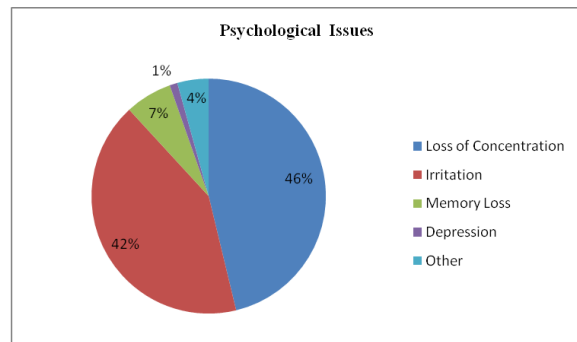
### 3.12. Adopted Preventive Measures

The impact of traffic noise on the physiological health of respondents was also considered in present study. Maximum respondents (41%) were suffering with high blood pressure, while remaining were also facing another problems i.e. Increase in heart beats (25%), Tinnitus (25%), other (9%).



### 3.13. Physiological Health Problems

While considering the psychological health issues among respondents, it was noticed that, 46% respondents had lose their concentration during work due to traffic noise, while 42% were having irritation problem as well as 7% respondents faced memory loss and remaining 1% and 4% respondents had depression and other psychological problems respectively.



### 3.14. Psychological Health Problems

## 4. Conclusions

The present study was conducted from such areas to know about various health impacts due to traffic Q9' noise on road side respondent. As any kind of noise is an undesirable sound hence its accountability is more towards adverse impacts regarding to the human health and other issues. The present study shows the various health problems like psychological, physiological, disturbances in communication and on sleep disruption and working efficiency of respondents.

The present study includes the usage of personal protective equipment's as well as the need of PPE's from respondents to minimize the exposure of unwanted noise from traffic. People have also suggested their opinion regarding to road transportation, unwanted honking should be



prevented as well as government should have to take strict action against traffic rule breakers, apart from this social awareness must be carried out to know the seriousness about the impact of noise on health.

## 5. References

- [i] Ahire, K. D., and Bhalerao, S. M., " Assessment of Occupational Health Hazards Faced by Sanitary Workers in Kolhapur City ", *International Journal of Scientific Research*, 06, 8, 2017, pp. 246-247-121.
- [ii] Dasarathy, A. K. and Thandavamoorthy T.S., " FIE Pollution due to noise from selected places ", *IOSR J. Mechan. Civil Engineer*, 10, 3, 2013, pp. 12-16.
- [iii] Ouis, D. , Annoyance from road traffic noise: a review, *Journal of Environmental Psychology*, 21, 2001, 101-120.
- [iv] Savale, P. A., " Effect of Noise Pollution on Human Being : Its Prevention and Control ", *Journal of Environmental Research And Development*, 08, 4, 2014, pp. 1027-1036.
- [v] Sharp, B.H., and Donovan P.R, Motor vehicle noise, In. *Handbook of Noise Control* (2nd ed.). Haris, C.M., New York: McGraw-Hill Book Company, Chapter 32, 1979.