

The Effect of Exposure to High Noise Level on the Performance and Rate of Error in Manual Activities

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Abstract : Background: Unwanted sound, as one of the most important physical factors in the majority of production units, imposes a great number of problems on the industrial workers. Sound is one of the environmental factors which can cause physical as well as psychological damages and also affects the individuals' performance and productivity. Therefore, the present study aimed to determine the effect of noise exposure on human performance. Methods: The present study assessed the effect of noise on the performance of 50 students of Shiraz University of Medical Sciences (25 males and 25 females) at the sound pressures of 70, 90, and 110 dB by using two factors of physical features and the creation of different conditions of sound pressure source as well as applying Two-Arm coordination Test. Results: The results of the present study revealed no significant difference between male and female subjects as well as different conditions of creating sound pressure regarding the length of performance ($p > 0.05$). In addition, as the sound pressure increased, the length of performance increased, as well. According to the results, no significant difference was found between the performance at 70 and 90 dB. On the other hand, the performance at 110 dB was significantly different from the performance at 70 and 90 dB ($p < 0.05$ and $p < 0.001$). Conclusion: In general, as the sound pressure increases, the performance decreases which results in a considerable increase in the individuals' rate of error.

Keywords : physical factors, two-arm coordination test, Shiraz University of Medical Sciences, noise

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