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Impacts of Leisure Activity Noise Levels, Revised (A Case Study)

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Abstract: A 1991 article published in International Journal of Industrial Ergonomics discussed the effects of leisure noise levels on workers' hearing loss. With an observed change in noise level preferences, this study examined measured observations to determine that leisure noise levels were consistent with the data collected in 1990. However, in some indoor leisure environments levels have increased. This study's purposes was to document current leisure activities and to determine if the leisure noise level preferences and tolerances are indeed higher than Occupational Health and Safety Administration (OSHA) and International Standards Organization (ISO) guidelines. Industries have taken steps to comply with OSHA and ISO guidelines; however, churches, bars, movie theaters, and sporting events examined are not subject to the guidelines. Noise samples using a Quest SPL (2800) calibrated dosimeter were collected. Average peak levels were as follows: churches (115.24 dB (σ = 5.06 dB)), bars (114.08 dB (σ = 8.3 dB)), and athletic events (117.57 dB (σ = 5.6 dB)). Any noise level above 115.00 dB for any exposure time exceeds the OSHA and ISO allowances. Working adults exposed to these levels after a day's work in OSHA-controlled environments are exceeding allowable exposure. Thus the risk of permanent threshold shift is increased. It was observed that many small children under 4 years old were present with their parents during these high peak levels in athletic events, bars, and churches. Although a child's auditory system is fully developed at birth, early exposure to noise levels that exceed the health and safety standards put them at higher risk of permanent threshold shift at an earlier age than their parents.

Keywords: Leisure noise levels, permanent threshold shift, noise levels