Psychological MEDICINE

MONOGRAPH SUPPLEMENT 22

Noise, noise sensitivity and psychiatric disorder: epidemiological and psychophysiological studies

by Stephen A. Stansfeld

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Noise, noise sensitivity and psychiatric disorder: epidemiological and psychophysiological studies

The examination of the effects of noise on health is at the forefront of the investigation of the impact of environmental stressors. Environmental noise has potent effects on sleep, performance and in causing emotional reactions such as annoyance. However, the evidence that noise causes psychiatric disorder in the general population is scanty. Noise sensitivity which is a measure of attitudes to noise in general is also a predictor of annoyance responses to noise. Noise sensitivity is also associated with psychiatric disorder. This raises two questions. Are people who are sensitive to noise especially vulnerable to the effects of noise? Might noise sensitivity be an indicator of vulnerability to psychiatric disorder caused by noise?

In a 6-year follow-up study of 77 high and low noise sensitive women identified from the West London Survey around London's Heathrow airport noise sensitivity was associated with neuroticism and psychiatric disorder, was stable over time and was a powerful predictor of noise annoyance responses. It was not clear from this survey whether noise sensitivity preceded psychiatric disorder or was a consequence of psychiatric disorder. To attempt to answer this, noise sensitivity was examined in a further study of 123 depressed hospital in-patients and out-patients in relation to recovery over a 4-month period. Depressed patients became less noise sensitive as they recovered but in general they remained highly noise sensitive compared to a group of 82 age- and sex-matched non-depressed control subjects. The 'subjective' psychological measurements were complemented by 'objective' psychophysiological laboratory investigation of reactions to noise in a subsample of depressed patients. Noise sensitive people tended to have higher levels of tonic physiological arousal, more phobic and defence/startle responses and lower habituation to noise.

It is argued that noise sensitive people attend more readily to noise, perceive more threat from noise and may react more to noise than less sensitive people. Noise sensitivity appears to be a self-perceived indicator of vulnerability to stressors in general not only noise, linked to perception of environmental threat and lack of environmental control combined with a tendency to negative affectivity.

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