Mental strain at work and neuroenhancement

Results of an empirical study with employees

BAUA-REPORT COMPACT

Neuroenhancement refers to the use of drugs by healthy individuals attempting to enhance their cognitive abilities and mental well-being. These individuals use or abuse psychotropic prescription drugs without any medical indication. The effect of occupation on consumption has for some time now been given considerable attention in the public discussion. To date however there is still a lack of systematic research carried out with representative data. The BAuA study on neuroenhancement asks whether demanding working conditions and the resulting mental strain are linked to consumption.

In searching for the causes of this phenomenon, public discussion assumes first of all that healthy individuals turn to psychotropic drugs in order to better meet job-related and psychosocial demands. The research project "Effects of mental strain at work on neuroenhancement" carried out by the Federal Institute for Occupational Safety and Health (BAuA)[1] takes a more differentiated approach. The project focuses on the working conditions of the employees, the demands placed on them and personality traits as preconditions for potential use.

Who took part in the survey? – The random sample

The study surveyed four occupational groups characterised by high levels of stress: employed physicians, programmers, advertising specialists and publishers. The employees of these occupational groups were compared to a representative random sample (S-MGA)[2] of more than 4,500 employees. The findings indicate that job demands in each of these occupations are actually higher than for the German working population. Physicians in particular are exposed to a high workload due to long working hours (see Fig. 1), shift work, time pressure and activities requiring a high level of concentration and attention. The cognitive and psychosocial demands made on this group are particularly high. Above and beyond this they report limited decision latitudes at work and leadership deficits.

MEAN VALUE OF ACTUAL WORKING HOURS PER WEEK

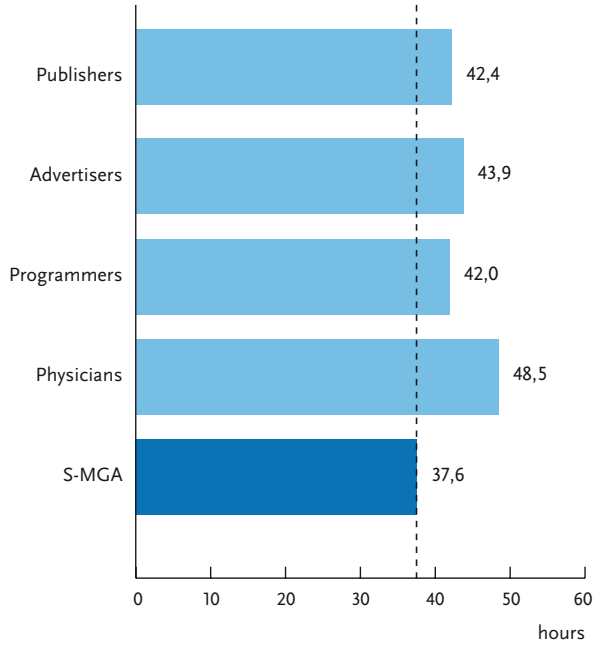

Fig. 1 The occupational groups work on average significantly more hours per week than the average of the working population (S-MGA).

How did we conduct the survey? – The methodology

Scientists conducted a three-stage study to investigate the neuroenhancement behaviour of employees in the context of stressful workload. This design comprised face-to-face-interviews, employee diaries, and in-depth interviews.
In the one hour face-to-face interviews the employees

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responded to questions on their working conditions, health and drug consumption. In the second stage of the study, persons who use neuroenhancing substances then recorded their daily workload and intake behaviour in a diary. The aim was to find out whether there is a temporal relationship between workload and the consumption of medication.
The third stage consisted of in-depth interviews carried out by trained psychological therapists in order to gain further information on the motivation for and effects of neuroenhancement.

The influence of work – The findings

The findings indicate that workload is linked to neuroenhancement. Especially regular shift work is shown to be particularly relevant for consumption. Neuroenhancing drugs are not taken regularly but rather in circumstances related to heavier workloads. This was predominantly done not to enhance performance but rather to simply cope with the actual workloads. This implies that maintaining a minimum of performance standards is the primary cause of self-medication. Furthermore, it became evident that those using neuroenhancing drugs were found to have more problems with their mental health. They are more frequently stressed, exhausted and depressive (see Fig. 2). Certain personality traits are relevant as well. Those persons who have problems detaching from work and those over-committed to work have a higher risk of taking neuroenhancing drugs.

How prevalent is neuroenhancement?

High workload does not necessarily lead to the use of neuroenhancing substances. About 13 in 1,000 employees take neuroenhancing drugs at least once in the four weeks prior to the interview (four-week prevalence). About 28 in 1,000 interviewees did so at least once during the last year (annual prevalence) and 83 of 1,000 interviewees at least once (lifetime prevalence). This study thus provides evidence that neuroenhancement is not as common as it often seems according to media reports.

Supporting persons affected by neuroenhancement in the workplace

Neuroenhancement, though, still remains a serious problem, even when the number of employees affected is lower than anticipated. Employers should find ways to organise work and design working conditions such that the employees do not compensate workload by using neuroenhancing substances. The use of neuroenhancing drugs clearly has to be considered a maladaptive coping behaviour. The practitioners of occupational health and safety should focus on raising awareness of this issue and should also be integrated into current substance abuse prevention measures. The use of neuroenhancing drugs is inappropriate for coping with high workloads, instead the causes ought to be addressed. Preventive action should primarily include health promotion at work and suitable coping strategies for dealing with excessive mental strain.

COGNITIVE STRESS SYMPTOMS

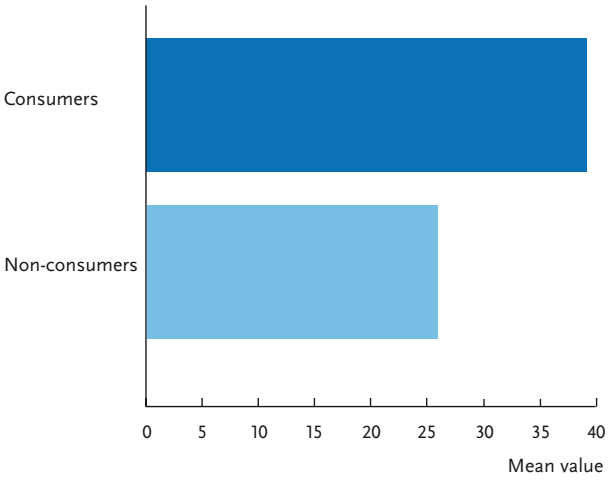

Fig. 2 Mean values of the intensity of cognitive stress symptoms on a scale of 0 to 100 for those who consume neuroenhancing drugs and those who do not. Symptoms include concentration problems and low decision latitudes.

Would you like to know more?

1 Schröder, H., Köhler, T., Knerr, P., Kühne, S. und Moesgen, D., Klein, M.: Einfluss psychischer Belastungen am Arbeitsplatz auf das Neuroenhancement – empirische Untersuchungen an Erwerbstätigen. Dortmund, Berlin, Dresden 2015
2 Schröder, H., Schiel, St., Schulz, S., Kleudgen, M.: Mentale Gesundheit bei der Arbeit (S-MGA). Methodenbericht zur Repräsentativerhebung an Erwerbstätigen in Deutschland. Dortmund, Berlin, Dresden 2015

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