

Describe what psychologists have found out about the adverse effects of the physical environment and temporal conditions at work.

Psychologists have done a lot of research into adverse effects of working conditions. It is an area of particular interest for employers as a lot of money is lost each year as a result of these effects.

Noise can be a major cause of stress in the work place. Noise is defined as any unwanted sound. Cohen et al (1980) carried out a natural experiment into the effects of noise in a school on a busy flight path in Los Angeles- he compared these findings to 3 other schools not directly on flight paths. He found using physiological and behavioural measures that the flight path children were most stressed and irritable, more lessons were cancelled and the concentration and motivation were affected. The source of the noise can also have an effect on the levels of stress that are caused. Nemecsek (1973) did a survey on noise in the workplace. He found that 46% of workers said the most annoying source of noise was from conversation of others. 26% disliked the sound of office machinery, 19% disliked noise from telephones. Noise has also been correlated to worker dissatisfaction and accidents (Cohen 1981).

Psychologists have done some research into lighting to try to find the best levels of lighting. Mayo et al conducted a natural experiment to try to suggest the best level of lighting for worker productivity. He wanted to see how physical aspects of the work environment would effect productivity. He found that the wrong levels of lighting can cause visual fatigue caused by glare. Work has also been conducted into the use of VDU screens and the effects of continually working with the glare from them. Often eye strain and visual fatigue results. It is due to the large amounts of time focusing on small illuminated characters. (Dainoff et al 1981)

Temperature is another condition that must be monitored by employers. Temperature can have a detrimental effect on both manual and cognitive performances (Kobrick and Fine 1983). A study by Badddeley on divers in 1975, showed that low temperatures affects the performance of tasks such as thinking and mental reasoning. Sanders and McCormick found that in general hot humid conditions tend to increase the demands of physical work, causing excessive fatigue and reducing output, Prolonged exposure to heat can in extreme cases lead to serious injuries and even death. There is also evidence to show that prolonged periods of exposure to less extreme temperatures may effect task performance adversely (Enander 1984)

The use of space in an office situation can also have effect on the productivity of workers. Joiner 1971 states that desks give status but also act as barrier. Sundstrom 1980 found that open plan offices can cause problem regarding privacy which affect satisfaction at work. Oldhan 1987 carried out a correlation study on workplace characteristics and job satisfaction. He found a link between darkness, overcrowding and fewer partitions and high staff turn over and dissatisfaction.

The times at which employees work can also have a negative effect on their productivity. Shift work- scheduling in which groups of employees alternate working times can cause disruption to natural sleep patterns, this can lead to errors and stress. There has also been found a high job dissatisfaction, and it takes time to become accustomed to a new schedule. A compressed working week in which the numbers of working days are decreased means that the hours per day are increased, this means it is difficult to find child care. Also because of the longer hours employees are more prone to fatigue causing decreased productivity. Flexi- time in which workers are committed

to a certain number of hours per week means they could become in debt in the number of hours worked.

Evaluate what psychologists have found out about the adverse effects of the physical environment and temporal conditions at work.

How reliable the results of a study are depends on how the data is collected and analysed. Cohen used a natural experiment to collect his data. This means that the independent variable is changed by natural occurrence, and the researcher just records the effect on the dependent variable. There is great ecological validity since the natural change is not caused by the experimenter, but occurs naturally. There is very little bias from sampling or demand characteristics, although this is only true if the subjects are unaware of the observation or the aim of the study. It is hard to infer cause and effect due to little control over the extraneous variables and no direct manipulation of the independent variable. It is also virtually impossible to replicate exactly. Also there is a lot of potential for bias if the subjects are aware they are being studied. There are also ethical problems regarding deception because children were used and invasion of privacy. Baddely's field experiment showing divers in cold conditions has greater ecological validity than a laboratory experiment. There is also less bias from sampling and demand characteristics. There is however more bias likely from extraneous variables, due to greater difficulties of controlling all aspects of the experiment. It is harder to replicate, and more difficult to record data.

Nemeczek's correlation surveys give a precise information on the degree of relationship between variables it is also available in the form of the correlation coefficient. It can readily quantify observational data. No manipulation of the behaviour is necessary. Strong significant correlations can suggest ideas for experimental studies to determine cause and effect, because no cause and effect can be inferred by simply looking at the correlations. The results must be plotted on a scattergram to illustrate the true results.

The questionnaires by Beers into shift work collected large amounts of standardised data relatively quickly and conveniently. They are highly replicable and easy to score - unless open ended answers. Generally questionnaires lack flexibility, are based on self report data and are biased by motivational levels. Baddely's experiments into temperature on divers shows the effects on temperature but does not account for individual differences. Individual differences show that two humans are not the same, the effects of any external factor can have a different effect on them. This is true with temperature, two humans may feel a different temperature is suitable for different activities, depending on personal feelings. Therefore Baddely's experiment may be true for the divers used but other people who are of different ages or are of different nationalities and therefore used to different temperatures it would not have the same effect.

Ethnocentrism is being unable to conceptualise or imagine ideas, social beliefs, or the world from any other viewpoint other than that of one's own particular culture or social group. The belief that one's own ethnic group, nation or religion is superior to all others. Cohen's 1980 study on noise was only carried out on Americans this makes it ethnocentric because they have tried to say that this is true for all other cultures which may not be true. For this same reason it is not generalisable because only American school children were used so the effects may only be so detrimental on them, and there may be less severe or no effects on the rest of the population.

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Opportunity sampling was used to select participants for most of the experiments. Opportunity sampling simply involves selecting those subjects that are around and available at the time. An effort may be made to not be biased in selecting particular types of subject. It is quick, convenient and often the most economical method of sampling. However it gives very unrepresentative sample and is sometime biased. Mayo's study on illumination suffered badly from demand characteristics. It showed that whether the light was increased or decreased the productivity increased. The productivity didn't increase as a result of the lighting change but it was shown that it was because of the extra attention given to the workers. Although this did highlight the importance of making an experiment free from demand characteristics. Mayo's study although it suffered from demand characteristics it was ecologically valid because it was conducted in the place of work. So it was a much more real experiment than if it was conducted in a lab.

Suggest how shift work may be organised to minimise its potentially adverse effects.

Around 17% of all employees in the UK, some 4.1m people, work shifts be this evenings, nights or weekends. Some industries such as the medical profession and security work have always been associated with shift work, but the advent of 24 hour banking and shopping has led to an increase in the number of people who work shifts.

Unfortunately, our bodies weren't designed to be awake at night and asleep during the day. So it can be difficult for shift workers to adjust to working different hours. According to Simon Folkard, professor of psychology at the University of Wales, Swansea: "People working shifts can make adjustments to ensure that they can cope with working nights, particularly during the early hours of the morning when people are most likely to fall asleep."

He advises: "It's important during these twilight hours at around two or three in the morning for night workers to make sure that they have enough stimulating work to do. Also simple, basic things like not being too warm or comfortable and having plenty of light all help to maintain alertness."

Staying awake and alert is what night workers find most difficult. But relying on stimulants such as caffeine to keep awake is not the answer.

"While it's true that drinking lots of cups of coffee will keep you awake, it will also prevent you from going to sleep in the morning. The key to adjusting to night work is for people to take their time off work seriously; and make sure that they get enough sleep during the day so that they remain physically and mentally healthy," explains Alexander Wedderburn, a retired psychology professor.

So, if you have to work night shifts how can you make sure that you stay awake, alert and stimulated?

Don't eat big meals at night, this will only make you feel sleepy and sluggish.

It's not a good idea to go out before a night shift; this will make you feel tired especially if you have had alcohol.

Doing some form of exercise before your night shift will give you energy and keep you alert.

Try to keep busy - saving demanding tasks for the early hours of the morning will ensure that you have to stay alert.

Don't rely on stimulants to keep you awake if you're feeling sleepy. Go out for a walk and get some fresh air.

Make sure that it isn't too quiet - put the radio on.

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A certain shift should also be kept for at least three months, this gives the body a chance to get used to the new hours. If shifts are changed too frequently it will disrupt sleep and lead to decreased productivity and fatigue.