

The Value of Music

The Effects of Music in the Workplace: A Review of the Psychological Evidence



A Study by Dr Adrian C. North
Summary by Claire Wells
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Introduction

This is a summary of the report published by Dr Adrian North of University of Leicester on the effect music has in the workplace. The report is based on evidence that was collected by Dr North from published academic journals from 1922 to 1997.

The research indicates that there are numerous instances where music has benefits for people within the workplace. They are to:

- improve productivity in jobs that are repetitive, mundane or undemanding
- improve performance in physically-demanding jobs
- raise employee morale
- improve employees' physical health (thus potentially reducing absenteeism)
- improve employees' willingness to co-operate with one another and be helpful.

The state of a mood is defined by what the person has been subjected to and whether this has made them in a better or worse mood. A way in which this can be measured is by using a mood board. The person can plot where their mood is on the scale before the experiment and then plot how they feel after. This shows whether the experiment has affected the mood of the person.

Task Performance

A study undertaken within a British high street bank demonstrates that repetitive, mundane or undemanding tasks will generate a better level of performance if fast music is played to the workers.

At the cheque clearing centre 72 workers were played fast, slow, and no music, over three weeks. Fast music led to 12.5% more cheques being cleared than did no music and to 22.3% more cheques being cleared than did slow music. This shows that fast music aids performance of tasks as it increases the arousal levels of the workers.

(North, A.C. & Hargreaves, D.J. (1999). Musical tempo, productivity, and morale. *Unpublished manuscript*)

Music and Physical Labour

24 female undergraduates rode exercise bikes with either light moderate or heavy physical workloads (producing a heart rate of either 60%, 75%, or 85% of maximum heart rate). While doing this they were placed in the following conditions:

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- music - favourite music heard through earphones
- deprivation – background noise blocked out by wearing opaque goggles and ear plugs
- control – no music heard and no sensory deprivation.

The heart rates did not differ between these three conditions. When cycling at a low workload, music led to perceived levels of exertion that were 3% lower than in the deprivation condition. When cycling at a moderate workload, the music led to lower perceived levels of exertion than did the control condition. In other words, music made the cycling seem less difficult. The music also had a positive effect on participants' moods: when cycling at both moderate and heavy workloads, music led to mood ratings that were about 5% - 10% better than in a deprived condition.

(Boutcher, S.H. & Trenske, M. (1990). The effects of sensory deprivation on perceived exertion and affect during exercise. *Journal of Sport and Exercise Psychology*, 12 167-176.)

Music and Morale

The main conclusion from the research in this category was that music helps people to have job satisfaction. Music helps raise workers' moods by arousing and stimulating their minds.

Workers who are in good moods in the workplace report more job satisfaction than do workers who are in bad moods. Between 10% and 25% of variations in job satisfaction are attributable just to variations in workers' moods.

In short, this means that if businesses use music to put workers in a good mood then job satisfaction will improve: if music puts workers in a bad mood then job satisfaction will worsen.

(Connolly, J.J. & Viswesvaran, C. (2000). The role of affectivity in job satisfaction: A meta-analysis. *Personality and Individual Differences*, 29, 265-281.)

Music and Health

These studies all show that music can have various health-related benefits, particularly with respect to the ability of the body to fight off illness. They imply that music in the workplace ought to reduce absenteeism through illness. Much of this research was completed only very recently, so psychologists are still not certain why the effects come about. The most favoured explanation is the ability of music to induce a good mood and reduce stress. When music does this it also stimulates the body into producing various health-promoting enzymes.

41 students and staff at a British university were played 30 minutes of music to put them into either a sad or happy mood. The rate of secretion of salivary IgA (an indicator of the strength of the immune system) was measured before and after the music was heard. The results showed that the measurements rose by 20% after hearing the music. It did not matter if the music was designed to put them in a sad or happy mood, either way caused an increase in the measurement of secretion of IgA.

(Hucklebridge, F., Lambert, S., Clow, A., Warburton, D.M., Evans, P.D. & Sherwood, N. (2000) Modulation of secretory immunoglobulin A in saliva; response to manipulation of mood. *Biological Psychology*, 53, 25-35.)

Another study looked at 182 inpatients in Beijing who had malignant tumours. 54 participants received only radiotherapy/chemotherapy, whilst 86 participants

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received only music therapy. The remaining participants received both music therapy and chemotherapy/radiotherapy.

Participants receiving music therapy heard specially selected Chinese music played quietly for 30 minutes per day over 15 days. The researchers took various measures of anxiety/depression as well as physiological measures of "subgroups of T lymphocytes and activity of natural killer cells" before and after treatment. The physiological measures effectively tell us how able the body was to fight the cancer. The participants who received music therapy were better than the 'chemotherapy/radiotherapy only' group on all the measures taken. In short, music therapy was effective in dealing with the psychological and physiological symptoms of cancer.

(Cai, G., Qiao, Y., Li, P., Jiao, L & Lu, L. (2001). Music therapy in treatment of cancer patients. *Chinese Mental Health Journal*, 15, 179-181)

Music, Mood and Social Pro-Behaviour

Research has shown that people tend to be more helpful when they are in an excited mood or when they are sad and the opposite when they are feeling aggressive or stressed. Research has also shown that using music to manipulate people's mood can influence how helpful they can be.

'Music that is happy, exciting or stress-reducing can be used to increase the extent to which employees cooperate with one another'

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So, using music in your workplace may prove beneficial to your employees' cooperation and, in turn, your productivity.

This study took place in a university gym using 256 participants. While they worked out, half heard music to induce happiness and the other half heard music to induce aggression. On leaving the gym they were asked to hand out flyers in the city centre on behalf of a disabled athlete association.

55 people were willing to hand out the flyers for the happy music group, than 23 in the aggressive music group.

This suggests that happy music makes people more co-operative than aggressive music.

(North, A.C., Tarrant, M. & Hargreaves, D.J (2002). Music and helping behaviour in a gymnasium.)

Conclusion

These various studies demonstrate that music is a significant factor in determining how people operate. Choosing the correct style, tempo and volume of music will help create the image and working environment that best suits you, whether it be:

- music and task performance
- music and physical labour
- music and morale
- music and health
- music, mood and social pro-behaviour.

Music is a powerful tool that if used advantageously can help raise productivity and in turn help your business.

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Other research in 'The Value of Music' series that may be of interest to you is Music and On-Hold Waiting Time.

This is a summary of the report written and researched by Dr Adrian North, David Hargreaves and Jennifer McKendrick (1999) from the University of Leicester on behalf of the Performing Right Society (PRS) and Phonographic Performance Ltd (PPL).

The report details the effect that music on hold has on peoples waiting time.

It discusses:

- The relationship between how music affects time perception.
- The environment that music creates in relation to audience reaction.
- How appropriate the music's suitability is for the audience and their perception of it.

In summary the findings were conclusive:

- Callers who were exposed to the music stayed on hold 20% longer than the callers who were exposed to verbal messages.
- Callers related their image of the company to the on-hold recording.

If you would like to see a copy of the above summary or a full copy of any other report in the series please contact PRS for Music Marketing on 020 7592 3718.