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Classical (cult) piano music, a factor for increasing the intrinsic quality of the workplace and decreasing stress in the information technology (IT) field

Corina IBĂNESCU[1]

Abstract: *In the multidimensional concept of quality of work is contained the intrinsic quality of the workplace - a factor which helps to increase employee performance. Stress in the workplace results in decreased employee satisfaction and work productivity, with negative consequences especially in professions that require creativity, such as employees in the IT (Information Technology) industry. Classical music has a beneficial effect on the human psyche known and valued from ancient times. We believe that in people who accuse fatigue, irritability, decreased creativity, low emotional intelligence, long-term complaints disappear after listening to classical piano music at the workplace. The quality of life is inextricably linked to the environment in which people live, the environment also including the workplace. Listening to musical pieces from the classical piano repertoire, will help to create a pleasant environment and extra harmony in different organizations, and will be reducing psycho-emotional indicators of stress, increasing employees' individual efficiency and improving socio-human relations. The expected long-term impact of music is to increase employee satisfaction and attachment to his workplace and improve socio-professional relations within IT firms. Classical (cult) piano music will support social development and improve the quality of life of employees, ensuring in this way, the economic growth on IT companies and in other workplaces where stress and lack of communication have an impact on the intrinsic quality of the workplace.*

Key-words: *Music, workplace, decreasing stress, quality, information technology*

1. Introduction

In the multidimensional concept of quality of work is contained the intrinsic quality of the workplace - a factor which helps to increase employee performance. The reports based on the European Working Conditions Survey indicates the importance of ensuring the welfare of employees and encourage action to reduce

[1] Transilvania University of Braşov, i_corina@unitbv.ro

stress at work. (http://www.eurofound.europa.eu/publications/htmlfiles/ef1228.htm).

According to the Reports of the European Agency for Safety and Health at Work, in the European Union, work-related stress is the second issue of work-related health, affecting over 28% of EU employees. In everyday language, the term *stres*s is often experienced as an event in which a person or body faces situations or requirements that are perceived as painful, difficult (Ibănescu, 2010).

Stress in the workplace results in decreased employee satisfaction and work productivity due to mental disorders including anxiety and depression, burnout syndrome, alcohol abuse, chronic fatigue and accidents (Tennant, 2001).

These events have important negative consequences especially in professions that require creativity, such as employees in the IT (Information Technology) industry. Fujigaki (1993) finds that stress is present in almost all phases of software development for systems development. He found that 42 percent of software design errors could be directly attributed to the stress suffered by the programmer. Some common effects occurring in those working more than 3 hours per day on the computer are the decline of creativity, communication difficulties and insomnia. It has been shown (Levitin 2010, 249–275). that the screen light blocks the secretion of melatonin, the sleep hormone, thereby preventing repose. This symptom results in increased nervousness and fatigue. On the other hand, software development (programming, testing) involves a high level of abstraction, the risk being the loss of contact with reality and lack of communication between employees (Roco 2001, 45–48). In terms of emotional intelligence, studies conducted on employees of leading companies show (Roco, 2001). that this is doubly important in achieving performance at work that IQ plus technical skills.

Classical music has a beneficial effect on the human psyche, known and valued in ancient times. Romanian scientist George Constantinescu, from a mathematical theory basis of musical chords came to consolidate (early twentieth century) the theory of Sonics. He predicted long ago the therapeutic effects of sound on humans, foreseeing countless areas of application of sound energy, of the favourable action of music on the body (Caesar, 2003). First, he says, music acts on the psyche, inducing a deep state of relaxation, stimulating indirectly the optimal functioning of the body.

2. Classical (cult) piano music, a factor for increasing the intrinsic quality of the workplace and decreasing stress in the information technology (IT) field

Nowadays, scientists have noticed that the music we listen to, makes us relax and trigger a good mood, relieves stress, relieves pain, and induces a good mental state

(Ibanescu, 2008). We believe that in people who accuse fatigue, irritability, decreased creativity, low emotional intelligence, long-term complaints disappear after listening to classical piano music at the workplace. Multiple studies and experiments in the last years have shown that pleasant auditory stimuli (music) induce a positive effect and raise the level of reactivity of the auditor and that this leads to increased performance related tasks.

One of the factors that triggered this conclusion was the effect of *Mozart*, the history of this phenomenon since around 1950, when Dr. Alfred Tomatis conducted auditory stimulation research using Mozart's music and concluding that it contains the best audition components for brain stimulation, relaxing the body and cognitive organization (Thompson, Schellenberg, Husain, 2001).

The Mozart effect idea arose in 1993 from the University of California, Irvine, where Shaw and Rauscher (Thompson, et al., 2001), studied the effects of listening to the first 10 minutes of the Sonata for Two Pianos in D Major (KV.448) by Mozart on dozens of college students, showing that exposure to Mozart improves spatial thinking and memory in humans. From the investigations hitherto known it was observed that Mozart music increases spatial-temporal abilities of subjects undergoing experiments, develop skills to observe subtleties, and attenuates until reduction attention and communication defects, stress, anxiety (Rauscher, Shaw, and Ky, 1993).

Studies conducted in various research institutes in the world have shown the importance of listening to classical music to induce positive emotions in determining the state of calm and relaxation. (Levitin, 2010).

Also in Romania, Prof. Iamandescu (2004, 1115-127 studied at the Faculty of Medicine Carol Davila in Bucharest the influence of Baroque music type and concluded that it contributes to increasing brain activity and improving memory, providing the setup of memorising conditions – of super-memory – as well as to the balance of cerebral hemispheres. The author demonstrated by studies made that listening to classical music (Bach, Teleman, Haendel, Mozart, Beethoven) has effects in inducing a state of relaxation, but also to increase optimism and is therefore used in music therapy “on Baroque music, neurons acquire a rhythm specific to geniuses”.

Relevant to the community of software programmers is the study by Lesiuk (Lesiuk, T., 2000) that found low levels of anxiety when appealing to music before and throughout the development of the software. Seventy-two students attending an introductory programming course listened to music before, during or before, and during the resolution of two issues. The results showed a positive, statistically significant, of listening to music on anxiety levels measured.

The group that made most musical auditions achieved the largest average scores on both topics. Following a comparison of five different types of music,

Zalanowski and Stratton (Stratton, Zalanowski, 1984) reported a significant correlation between the degree of relaxation and music preference. Thaut (Thaut, 1989) also stressed the importance of preference by a study measuring subjective physiological and psychological reactions to favourite, relaxing music. Different types of music selected by the subjects were effective in reducing anxiety. Numerous previous studies had shown the beneficial effects of music on labor productivity (Fox, 1971; Kirkpatrick, 1943; Wokoun, 1969).

3. Improvements in the quality of the workplace due to classical (cult) piano music

The effect of music listening on work performance (Lesiuk, 2005) measured the effect of music listening on the positive effect state, the quality of work and time required to perform the tasks for system design programmers. Effects of music on work performance in the field of software design can be explained by increasing the positive effect. The survey shows that the positive effect state increased from pre-listening to after listening, in each of the three weeks of listening to music ($p > .01$).

Furthermore, the findings showed that the positive affective state incrementally increased from the baseline to the first and second week of the music listening period. It then decreased in week 4 when music was stopped but increased again in Week 5 when music was introduced again.

So far it has been found that both listening to, and interpreting music has beneficial effects on both the mental health and the physical one. This finding is the result of hundreds of research papers about the neurochemistry of music and shows that music can enhance the immune system, reducing stress levels. As mentioned, the more important is that the researchers were able to document the neurochemical mechanisms through which music is beneficial in managing mood, stress, immunity and in supporting social relationships.

Listening to musical pieces from the classical piano repertoire, helps creating a pleasant environment and extra harmony in different organizations, and reducing psycho-emotional indicators of stress, increasing employees' individual efficiency and improving socio-human relations.

We believe that further trans-disciplinary research in the musical, psycho-social, and information technology field, will enable the development and implementation of a work model aspiring to highlight the interaction between Classical piano music and workplace quality, also having implications for organizational practices.

4. Conclusions

The quality of life is inextricably linked to the environment in which people live, the environment also including the workplace. According to a study conducted by the Institute for Quality-of-Life Research, entitled "*Quality of life in Romania: Present and Perspectives*", one of the support elements for people that shows a high quality of life is the profession and the intrinsic quality of the workplace. A high quality job involves continuous staff development, both personal and professional, and superior organizational culture is a key element in sustaining performance.

We aim to arouse the interest of researchers in developing and implementing an innovative program to increase the intrinsic quality of the workplace, based on the effects of listening to classical piano music, because of reducing stress at work and increasing emotional IQ, resulting in increased performance and improved communications between employees within information technology/software field. Stimulate private sector spending in research and development, to create and produce a new product with economic potential, based on the benefits of classical piano music in reducing stress in the workplace and increasing the emotional IQ, allowing improvement of the intrinsic quality of the workplace in IT companies and other organizations.

The result of such a product could contribute to increasing individual performance and improving socio-human relations, i.e. to generate an economic impact on IT companies. Thus, increasing intrinsic workplace quality will be achieved, namely the identification of feasible technical and scientific solutions that support social development and improved quality of life**.**

The expected long-term impact of music is to increase employee satisfaction and attachment to his workplace and improve socio-professional relations within IT firms. Classical (cult) piano music will support social development and improve the quality of life of employees, ensuring in this way, the economic growth on IT companies and in other workplaces where stress and lack of communication have an impact on the intrinsic quality of the workplace.

We believe that a solution, is to increase the competitiveness of research - development in the musical field by developing solutions to problems of socio-economic interest - such as reducing stress and improving workplace performance, solutions embodied in innovative products in partnership with IT company. So far, in Romania, there are methods that are applied to improve the intrinsic quality of the workplace. Similar methods are used with a therapeutic role (music therapy) in cases with a certain pathogenic potential, applied individually without major psychological testing, respectively without adapting the musical content to the individual personality. Such a product could contribute to increasing individual performance and improving socio-human quality.

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