HEALTH PROBLEMS WITH THE USE OF INFORMATION TECHNOLOGIES

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ABSTRACT

The rapid and correct performance of computers, when accompanied by human skills, will lead to greater gains in productivity. This study focuses on the possible risks of computer use in terms of human health, rather than on the countless beneficial effects of its use on the issue of health. Health problems caused by inappropriate or inadequate use of computers or by using it at no time are mentioned under two headings: psychological problems (fear of technology, computer anxiety, dependence on the internet and so on) and physical problems (repetitive strain injury, carpal tunnel syndrome, computer vision syndrome, electronic waves, sleep disorders and so on). Considering the results of previous studies, this study discusses the precautions necessary to be taken for each of the psychological and physical problems likely to be caused by the use of computers.

Keywords: Information Technologies, Health Problems, Modern Maladies, Illnesses Threatening the BT Users.

INTRODUCTION

In this age, knowlodge base have increased very rapidly.

- Knowledge base doubles every two or three years.
- 7,000 scientific and technical articles are published every day.
- Satellites orbiting the globe send enough data to fill 19 million volumes every two weeks
- Today high school graduates have been exposed to more information than grandparents were in a lifetime.
- Only fifteen percent of jobs will require college education, but nearly all jobs will require the equivalent knowledge of a college education.
- There will be as much change in the next three decades as there was in the last three centuries (National School Board Association, 2007).

Rapid developments in science and technology have caused these terms to come into our daily lives. The increasing functions of computers as well as the decrease in their cost have also made these technological devices be used in our homes. The fact that the use of computers has become compulsory in many business areas causes people to face these technologies in their professional lives as well. If we consider that a person using a computer for an average of 3 hours a day will use it for 64 years, it appears that he or she will spend 8 years in his or her life in front of a computer. It is certain that this period of time is much longer for computer programmers and operators, researchers and other individuals working in the industry of information technologies. The inappropriate use of information technologies (IT) is likely to cause various illnesses for individuals and great loss of work and financial disadvantages for institutions.

The contribution of IT to individuals and institutions is undeniably big. Moreover, its frequently-criticized negative effects on humans are even much fewer in number than its benefits. It is known that such daily activities are quite dangerous for human health as going out of home for a job meeting, being exposed to weather pollution, having a risk of losing life and property in traffic, and sitting in unhygienic vehicles and environments. This situation is also a great loss of time for individuals and institutions. However, with the use computer and internet technologies, video-conferences could be held, which would help individuals avoid vocational trips.

On the other hand, there also occur problems resulting from over-use of or inappropriate use of IT, which makes it possible to reach unlimited information faster and more economically. Scientific research has also proved that such situations might bear certain risks for human health. This study focuses not on the countless benefits of computer use for human health, but on the possible risks of its use for human health. It shouldn't be forgotten that the possible illnesses will decrease to the minimal level if computers are used according to their principles of operation. Staying away from computers due to the possible health-problems that computers are likely to cause is like staying home for fear of a traffic accident. Using computers in the way suggested by scientific findings will help us avoid possible risks.

The increasing use of computers is accompanied by new health problems. One of the reasons for computer-based health problems is lacking information about the ergonomic use of computers and underestimating the problems encountered. Bugün, Yardımcı, Ertemel, Öğün and Dinçses (2006) carried out their study on 710 university level students, called "Knowledge, Attitudes and Related Health Problems about the University Students' Use of Computers." As a conclusion of the study, the researchers observed that the participants did not have enough information about the ergonomic use of a computer and that they were not aware of the importance of this situation. Today, those working in front of a computer suffer from various physical and psychological problems, yet they think do not need any treatment as they are not aware of how

serious the situation is. The same study also revealed that the rate of those who saw a doctor for their computer-based illnesses was only 8%.

The illnesses likely to be caused by inappropriate use of and poor use of computers can be grouped under two headings. These are physical problems and psychological problems:

Physical Problems:

Mbaye, *Fall, Sagnon* and *Sow(1998)*, in their study, stated that the problem encountered by computer users most was related to muscles and the skeleton. These problems were reported mostly to be back-ache and pain in the neck and shoulders. Bugün et. al (2006) stated that 94% of those who reported long-term unhealthy use of computer suffered from pain in the neck and from defect in vision and that 77% had head-ache.

Some of the problems caused by inappropriate use of computers are as follows:

Repetitive Strain Injury: Since people constantly and repeatedly do certain movements in front a computer, they have the risk of RSI. İnandı and Akyol (2001) report that the symptoms of RSI are pain and malfunction, that pain occurs with exhaustion in the beginning and disappears with the cease of work, that in later time, the pain still exists even when resting and that the lightest work becomes hard to do.

A number of breaks should be given while working in front of a computer to have a rest and to stretch out the body. During these breaks, doing the correct exercises with hands, wrists, arms, neck, legs and shoulders will be beneficial for the body health. We shouldn't grip the mouse much. It is necessary to keep the arms and hands warm. The reason is that cold muscles have a higher risk of injuries that result from overuse of computers. Unnecessary use of computer should be decreased to the least. Sound-recognition systems can be used instead of a keyboard and a mouse (Marxhausen, Grady and Ives, 2007).

Carpal Tunnel Syndrome: This is an illness caused by injuries that occur due to force on the median nerve found in the wrist. Its symptoms can occur as tingling in hands and fingers and the feeling of lethargy, sudden pain in wrists and arms and sometimes even in shoulders, neck and in the body or in legs, and difficulty in making a fist or holding small objects. In the end, it might result in being unable to grasp objects, evident impotence and weakness in the muscles controlled by the median nerve (BSM, 2007).

The most commonly-made wrong movement while typing something on the computer is stretching the hands for the combination of keys. The correct movement is using the two hands when pressing two keys together. The hands should be parallel to the keyboard without twisting. While typing, there shouldn't be any pressure on the wrists or on the forearm. For the correct position, hands should be over the keyboard resting on anything. We shouldn't use the wrist-supports while typing. These are designed for use while resting. The wrist-supports should be at the same level as the spacebar. If our wrists are touching these supports, then it means our wrists have started to fall down. Another faulty movement is twisting and raising the fingers while typing. We should avoid such positions and movements. In order to press the function keys on the keyboard, it is better to move the whole hand instead of stretching the fingers. Rather than pressing the keys by force, we should slightly touch them (harvard.edu, 2007).

Computer Vision Syndrome: Experts stated that people blink their eyes more frequently while using a computer than they do at other times and that they face some problems related to this situation. In order to avoid these problems, it could be beneficial to rest their eyes by giving a break and to blink their eyes frequently consciously. Situations such as over-working in front of a computer, looking at the screen improperly or using a screen of a poor quality are likely to cause some illnesses like headache, seeing double, eye strain, itching in eyes and bleary eyes. Therefore, while working in front of a computer, one should avoid looking at a certain point all the time and should use non-pulsating screens.

Radiation: Computer screens produce radiations of various types. There have always been doubts that Individuals will have illnesses such as headaches and inattentiveness if they are exposed to a high rate of radiation for a long time. It is hence important to use products of a good quality.

Sleeping Disorders and Decrease in Productivity: Overuse of Computer Technologies is also likely to cause sleeping disorders. A computer-addicted person, who intends to sit in front of a computer for a short time, ends up with a long period of time and stays awake late at night. This situation causes the person both to have sleeping disorders and to influence his or her performance at school or at work negatively.

Loss of Attention and Stress: There is always noise pollution in rooms and offices where there are computers and printers connected to these computers. Although this noise pollution doesn't lead to any hearing loss, it causes inattentiveness and stress. In order to avoid noise, computer users should prefer silently-working technologies.

Problems Due to Inactivity: Experts believe that sitting in front of a computer without doing any movement might cause the lung veins to be congested, an illness called pulmonary embolism. Kara, Hatun, Aydoğan, Babaoğlu and Gökalp (2003), in their study on high school students, concluded that activities like computer use, which leads to inactivity, are common among students. In recent years, it has been revealed that inactivity might also contribute to obesity in childhood.

Psychological Problems:

Inappropriate use of computer technologies, affecting the psychological developments and social relationships of individuals, might decrease their level of academic achievements. Individuals spending a lot of time on computers can not get socialized because they become introvert and don't have any relationships with others. Some of the problems caused by inappropriate use of these technologies are as follows:

Fear of technology: Developments in technology and its use in daily life inevitably cause individuals to show psychological reactions. One of these reactions is the fear of technology. Those with such fears fail to achieve their goals both in their educational lives and in their professional lives as they are unable to use technology. This failure causes these individuals to have negative opinions about those who use technology effectively. Therefore, technology-disabled individuals are likely to have psychological problems since they themselves feel depressed.

Computer anxiety: Namlu and Ceyhan (2002) define computer anxiety as feelings of fear and worry that occur while using a computer. Computer anxiety causes individuals to become introvert and makes them stay away from places where there are computers. Therefore, the society ends up with unsocial individuals. In this information era, in order to decrease computer anxiety of individuals, they can be given more computer lessons during their education (Gündüz, Namlu, and Topaloğlu, 2006).

Internet addiction: The internet, connecting computer systems together, has countless benefits, yet it still has potential risks in terms of security. A study by Greenfield (1999) revealed that the internet influences the psychology of about 30% of its users negatively. There are some risks of the internet especially due to the web sites with harmful content for children (adult sites, sites of racism and terrorism, sites for drug and arm brokers, sites including secret or incorrect information). The internet also has some other potential risks in terms of communication (meeting foreign people) and of trade (misuse of information about bank accounts and credit cards, illegal online shopping). Odabaşı (2005) mentions that parents are not aware of these security issues, that they regard the internet as an economical environment, that they believe the internet increases academic achievement and that they consider the internet as a necessity in modern life. Parents should take certain basic internet security measures to have their children stay safe when they are online.

Yıldız and Bölükbaş (2003) define internet addiction as being unable to avoid the desire to use the internet and as being aggressive if precluded from the internet. Webb (2005) states that a person with most of the following characteristic features is likely to be an internet addict:

- Using the internet as a means of getting rid of problems such as depression, anxiety, responsibilities and desperation,

- Endangering or losing his or her relationships, job, education or career opportunities due to overuse of the internet,

- Frequently thinking about his or her previous internet connection and looking forward to the next internet connection,

- Feeling himself or herself uncomfortable, bad-tempered, joyless or aggressive,

- Staying online for longer time than he or she has planned, or telling lies about his or her actual duration of internet connection time.

An internet-addicted individual spends most of his or her time using the internet, which he or she would normally spend with his or her friends and family. The individual starts to put off his or her duties at home or at work. This situation causes him or her to stay away from his or her own real living environment and to dream of the virtual world. The individual becomes an introvert person, which decreases his or her productivity. When the individual is offline, he or she feels himself or herself unhappy and behaves angrily to others. An internet-addicted person isolates himself or herself from the society and feels depressed. Addiction to the internet also damages his or her relationships with friends and the society.

The craziness of the internet use all around the world has changed the daily life thoroughly, yet it causes the internet users to suffer from certain internet-based illnesses. Fisher (2006) said that the internet, which makes millions of people sit in front of a computer, invites interesting illnesses such as ego surfing, blog disclosure, youtube narcissism and wikipedializm.

- *Egosurfing:* An illness of regularly searching for one's own name on the web and checking what information is available about one's own on the net.

- *Infornography*: The word, derived from pornography and information, describes the state of "trying to soothe hunger for information on the net."
- *Blog streaking*: A desire to spread information online that shouldn't be known by everybody.
- *Youtube-Narcissism*: Constantly uploading one's own videos in order to introduce and make himself or herself known to others.
- *Myspace Impersonation*: A desire to behave as if he or she is somebody else or to have a different role on the net.
- *Google-Stalking*: Trying to get information about all his or her relatives or acquaintances in the web.

- *Cyberchondria*: In the case of a smallest sign of illness, searching for ways of treatment in the web rather than seeing doctor.
- *Photolurking:* Looking at the photo albums of others' on the net.
- *Wikipediholism*: Contributing to the internet encyclopedia, Wikipedia, sending some one's own writings, and revising the present texts.

CONCLUSION

Today, computer technologies provide people with many benefits; educational activities can be designed; online shopping is available; it is possible to get in touch with people overseas and to chat with them; it is possible to search for anything; and sometimes, it is even possible to do one's job at home without going to his or her office. If these technologies, which dominate our lives more each passing day, are not used carefully, it is inevitable for people to end up with certain illnesses. In order to avoid these problems, one should learn how to use these technologies without experiencing any problem rather than avoiding using them. Some of the users of computer technologies are not even aware of their health-related problems that they have. Some of those who are aware of their illnesses see a doctor for various reasons. Users of computer technologies should immediately take education on the healthy use of these technologies. If the necessary precautions are not taken about this issue, individuals may have serious health problems, and the institutions may face a serious decrease in work force as well as financial losses. *In order to decrease the health problems of BT users, they educated with regard to healthy BT usage.*

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