

# Influence of Qigong training on reduction of harmful computer habits and their danger for students with weak health

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## Abstract

**Purpose:** to show influence of health related Qigong training of reduction of harmful computer habit and their danger for students with weak health.

**Material:** 1st-3rd year students of Krasnoyarsk were the object of the research (n=1158). Students were trained by discipline "Physical culture" for main health group (no health problems). Students with weak health were trained by Qigong program (n=129).

**Results:** Qigong training reduces total time of students, which they spent for computer habits. The most frequent of all students is internet. The spread of this habit in students of all tested groups does not change noticeably in the course of study. Qigong training reduces the quantity of students, who spend dangerously much time every of three computer habits.

**Conclusions:** Qigong training of reduction of harmful computer habit and their danger for students with weak health. It is more effective in reduction of time, spent for all harmful habits than typical physical culture trainings.

**Keywords:** students, Qigong training, computer habits, internet, computer games, physical culture, healthy life style.

## Introduction

We call "computer" the habit (CH) connected with long term interaction of person with notebooks and other gadgets. They include three the most frequent habits: internet search of contacts in social nets, computer games, watching anime. They threat the level of education; lead to loss of concentration on most important life directions [22]. Modern students have net to spend time in nets. [4]. Young generation understands internet as the main mean of education and personal communication [30]. Increase of students' age internet users, working out of new high speed programs of communication and virtual interaction resulted in rising of internet addiction and mass computer game addiction [5]. It is necessary to take measures for resistance students' computer habits [23].

Important tasks are the following: studying of harmful computer spread among students [16]; creation of educational technologies, which would weaken computer habits and resistance to computer addictions [21]; creation of preconditions for formation of ideas about life quality [3, 9]; motivation for physical activity [13, 28]; monitoring and control over motor activity [12, 32].

Important criterion of computer habits is time, which is spent for them during day. If contact with computer is more than 2 hours without break, it becomes dangerous for human health. If student spend more than four hours a day for computer habit there is high probability of emersion of harmful for health addiction.

Many students have weak health. Way of life plays main role in preservation and strengthening of health. Life style as subjective characteristic to large extent depends on a person [14, 27]. Organizing life activity, person makes it more ordered, using some firm structural components. It can be certain day regime, when student goes to bed, do exercises, uses hardening procedures in one and the

same time [6, 11]. Students' unhealthy life style results in bent to diseases [31, 33]. Thus, development of socially significant demands in students is one of the most important tasks of formation of full fledged healthy personality. Such personality naturally combines spiritual wealth, moral purity and physical perfection [10, 15].

The health is recognized as high and global value by the most of students. However, conscious formation of own life style of health's strengthening and perfection is achieved not by all students [29, 30].

We regard as relatively healthy students (RHS) those, who attend physical culture lessons (PC) for main group. For students with weak health, in our HEE PC specialization "Health related Qigong training" (QT) is practicing. QT program includes relaxation and joint warming up, Chinese gymnastic Qigong and psychological training [17]. Such trainings are directed at improvement of students' physical and psychic health [19].

It is very important to comprehensively study the status of scientific problems on formation of principles of students' healthy life style practicing. As per data of M. Argile, health level is closely connected with the following factors: presence of great number of social connections and friendly contacts; strong family and presence of children in it; interesting work, bringing moral satisfaction; active practicing of physical exercises in the fresh air; special features of personality, characterized by perception of life difficulties as a source of personal progress, belief in high ideals and religiosity, making people supporters of moderate way of life without harmful habits [1]. It is very probable that determining factor of human health is his way of life. Way of life is rather complex, multi facet and dynamic phenomenon. Its forms to large extent are preconditioned by personal qualities [7, 8] and social-cultural medium [24, 25], in which realization of personal values and interests of definite man take place [34].

Study of QT effectiveness is shown in different

works [18, 20]. The authors delivered results of QT on monitor [17] (including computer) habits of students with weakened health [16]. In these researches there was used insufficient volume of students' sample, which was trained by QT program. That is why, conclusions of such researches are rather preliminary.

*The purpose of the research* is to show influence of health related Qigong training of reduction of harmful computer habit and their danger for students with weak health.

*The tasks of the research* is to make comparative analysis of students' time expenditures for CH of main health group and groups QT.

### Material and methods

*Participants:* 1<sup>st</sup>-3<sup>rd</sup> year students of Krasnoyarsk were the object of the research (n=1158). Students were trained by discipline "Physical culture" for main health group (no health problems). Students with weak health were trained by Qigong program (n=129). The students were divided into experimental group (students with weak health, trained by QT program) and control group, trained by academic program of Physical culture.

*Organization of the research:* in our research we used the following methods:

1. Pedagogic experiment. In the course of experiment we registered time expenditures of experimental and control groups' students for every computer habit at the beginning (October, November) and at the end of academic year. Analysis of difference between the received data for one group of students permits to make conclusions about influence of studying at HEE on appropriate parameters. Comparison of the received data will witness about effectiveness of trainings on reduction of danger of computer addictions.

2. Self-assessment. This method is very wide spread in psychological-pedagogic researches. Concept of self assessment is directly connected with human estimation of own qualities. In the process of self assessment personality learns reality, to which his/her activity is directed. Personality also assesses own potentials and

own qualities, ensuring fulfillment of this activity. Self-assessment is a result of these two lines of cognition [2].

As N.V. Liashchenko noted, formation of adequate self-assessment is rather complex process [26]. That is why it is necessary to carefully and objectively study personality, which will help to find his/her abilities and form adequate self-assessment. Such self-assessment will facilitate more effective training and competition process.

In the works of V.V. Tsybulskaya it is shown that students with high self-assessment rarely have motivation for physical culture practicing [35].

We intentionally limited the sample of our research by students, who are able to consciously assess distribution of their lives' time. We were interested in students, who in the nearest 10-20 year can become managers of different levels and will influence on progress in our country. The method of self assessment is subjective and not accurate. We reduced to minimum the influence of such factors: increased samples of control and experimental groups; students were offered convenient for them self-assessment scales. Students were offered to relate to different time ranges duration of their computer habits during day.

*Statistical analysis:* processing of the received experimental data included: co; counting of mean quantity of girls' and boys; computer habits; counting of different percentage for every group; calculation of mean values, relating to every CH; assessment of confidence of differences by Student's t-test (level of significance less than 0,05). The received data were processed with statistical functions of Microsoft Excel program.

### Results

The main results of students' questioning data processing are presented in tables 1-3. In these tables we give results of mean time calculation (hours/day), spent by boy students (b) and girl students (g) of every year for each CH at the beginning of studying at HEE and at the end. Besides, we give percentage of students, who have no CH and students, who spend regulated time for CH.

Percentage was calculated by relation to the quantity

**Table 1.** Students' distribution by time expenditures (hours/day) for habit to spend time in internet

Group	N	Mean time, hrs/day	No., %	< 1, %	1-2, %	> 2, %	> 4 %
B, beginning	217	2,4 ± 0,1	5	18	34	44	20
G, beginning	185	3,0 ± 0,1	4	7	27	62	29
QB, beginning	22	2,8 ± 0,5	0	32	18	50	32
QG, beginning	29	2,6 ± 0,4	7	21	21	52	24
B	285	2,8 ± 0,1	2	18	31	50	29
G	180	3,2 ± 0,1	3	9	21	67	32
QB	36	2,4 ± 0,3	3	11	44	42	19
QG	82	2,7 ± 0,2	0	15	32	54	22

Notes: N – total volume of sample; "No" – students, having no CH; B (boys, group MHG) G – (girls, group MHG); QB – boys, Qigong group; QG – girls, Qigong group; "beginning" – beginning of studying in HEE.

**Table 2.** Students' distribution by time expenditures (hours/day) for habit to spend time for computer games

Group	Mean time, hrs/day	No,%	< 1, %	1–2, %	> 2, %	> 4 %
B, beginning	1,8 ± 0,1	20	24	23	34	11
G, beginning	0,5 ± 0,1	69	16	8	8	3
QB, beginning	2,7 ± 0,6	14	27	18	41	41
QG, beginning	1,0 ± 0,4	48	31	3	17	10
B	1,7 ± 0,1	22	24	21	32	13
G	0,4 ± 0,1	72	16	7	6	2
QB	2,0 ± 0,3	17	28	11	44	17
QG	0,6 ± 0,1	52	29	11	7	5

**Table 3.** Students' distribution by time expenditures (hours/day) for habit to spend time for anime

Group	Mean time, hrs/day	No, %	< 1, %	1–2, %	> 2, %	> 4 %
B, beginning	0,3 ± 0,1	83	8	5	4	1
G, beginning	0,2 ± 0,1	90	5	1	4	0
QB, beginning	0,8 ± 0,4	68	18	0	14	9
QG, beginning	0,9 ± 0,4	72	7	10	10	10
B	0,4 ± 0,1	81	6	5	8	4
G	0,3 ± 0,1	87	4	3	6	3
QB	0,3 ± 0,2	81	8	6	6	3
QG	0,4 ± 0,1	76	12	7	5	2

Notes: legend of table 2 and 3 – see table 1

of the questioned students of appropriate group.

Analysis of time expenditures for computer habits shoes the following:

1. Ordinary students of any group spend for all computer habits in total 4-5 hours a day. In QT group this time noticeably reduced, while in control group – increased.

2. The habit to spend time in internet is the most wide spread in experimental and control groups The spread of this habit in all groups does not change significantly in the course of studying (difference between values in column “No”, table 1 is insignificant. At the end of academic year, in QT group the quantity of students, who pay CH dangerously much time (more than 4 hours) – reduced. Besides, the quantity of QT students, who spend more than 2 hours a day also reduced. In group MHG (boys and girls) the quantity of students, paying more than 2 hours in internet, increased. More over, the quantity of boys, who spend in internet more than 4 hours, increased.

3. Computer games are more spread among boys than among girls (differences between values in column “No”, table 2 for girls and boys of both groups are confident). At the end of academic year QT students spent for this habit much less time than at the beginning. In MHG average time losses for this habit did not change. In QT group the quantity of students, playing computer games more than 4 hours a day, significantly and rather noticeably changed. In MHG group these data did not change significantly. In QT group the quantity of girls, who play computer games more than 2 hours noticeably changed.

4. The less spread habit of students is habit to watch anime, mangu and so on. For QT boys the spread of this

habit noticeably reduced during studying at HEE (see table 3); the quantity of students (boys and girls) of QT group, who spend 2 or 4 hours a day, significantly reduced. In MHG group the quantity of boys, spending time for anime more than 2 or 4 hours increased. The MHG girls' indicators significantly did not change.

### Discussion

The authors of this research again attract attention of society and scientific workers to formation of students' healthy life style. However, many students have quite unhealthy way of life [23]. It is connected with young people's excessive involvement in internet [21] and computer games addictions [22]. Correction of such situation is possible only with interesting for young people measures, non traditional kinds of physical culture [33]. Qigong can be related to such kinds [18]. Young people shall see other values [27]. Only in this case youth's self-assessment can be raised [26].

The authors agree with affirmation that it is necessary to create preconditions of formation of society's demand in healthy life style [34]. Besides, it is necessary to actively realize them in students' physical education [10]. Qigong training helps to receive positive feelings and emotions from physical culture and distract from “sitting at computer” [17]. In some cases QT can be very important factor of prophylaxis, for example alcohol addiction, among students [20].

The authors of the article proved that Qigong training facilitates weakening of students' harmful computer habits. It is especially important for special health group students, who already have health problems. In this

connection they simply have no right to cause further, complete worsening of health because of excessive involvement in computer habits. Such students are not recommended to practice computer games as well [19].

The present study is confirmed by results of other scientists, who work out the most modern approaches to students' health preservation by physical education means [11]. These authors underline the necessity in health related Qigong gymnastic training as dynamic factor of development of healthy life style's personality's component [18].

Owing to healthy life style young generation can change own views and habits to physical culture and sports practicing. Such youth can raise communication level and erudition without internet addiction [4].

Thus, we affirm that it is possible to reduce computer habits and inevitable influence of modern education on computer addictions. Harmful habits and their danger for students with weak health can be overcome in modern

society with the help of Qigong training. It agrees with scientific concept of the authors of the present article and other scientists.

### Conclusions

1. Most of students have 2-3 computer habits and pay to them much time. It negatively reflects on their health. Qigong trainings are the factor reducing time for these habits.

2. QT is more effective in weakening of spread and time losses than PC lessons for MHG.

3. Analysis of time losses, connected with computer habits does not permit to directly assess QT effectiveness in reduction of students' computer addictions. On this problem additional study was conducted, results of which would be presented in future publication.

### Conflict of interests

The authors declare that there is no conflict of interests.

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