

# *Survey of Internet Overuse Status of College Students and Its Influencing Factors*

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**Abstract**—This paper investigated medical students' Internet overuse status and influencing factors related. A stratified cluster sampling method was used to investigate undergraduates from Mudanjiang Medical University. The unconditional logistic regression was adopted to analyze related factors of affecting Internet overuse of medical students. The factors influence the Internet overuse of medical students included grade, family income, parents' divorce and family help. Grade, family income and parents' divorce are risk factors for Internet overuse while family help is a protective factor.

**Keywords**—Internet; overuse; college students; regression

The Thirty-second China Internet Development Statistics Report showed that the number of Chinese Internet users reached 591 million by the end of June, 2013. Students among Internet users are the largest occupational population, accounting for 26.8%<sup>[1]</sup>. The internet has become an important tool of learning entertainment, making friends and work, meanwhile, as a "double sword", negative effects which were brought by Internet also deserve our vigilance and attention. Due to overuse the Internet, some students are absent from school, delay their studies, even indulge in the Internet and seriously affect their physical and mental health. In this study, 420 students from Mudanjiang Medical University were investigated, in order to understand the Internet overuse (Internet overuse, IOU) status of medical students, discuss the related factors that influence the Internet overuse of medical students and provide related departments references to carry out healthy use of the Internet of medical students.

## I. SUBJECTS AND METHODS

### A. Participates

The stratified cluster sampling method was used to stratify first-year to fifth-year medical undergraduates in Mudanjiang Medical University by grade, grade was stratified according to different professions, and then each layer was randomly sampled for one class, all students were participates in the classes which were sampled. In this survey, 420 questionnaires were distributed and recovered, including 399 valid questionnaires. Qualification rate of questionnaires is 95.0%.

### B. Questionnaire

Unified questionnaires were adopted, the reliability and validity of questionnaires conformed to the requirements through the preliminary investigation. Contents of the research included gender, grade, profession, family income, performance ranking, work, professional interest, collective activity, and Internet usage status, etc.

### C. Definition of Internet overuse

College students' online time within 3 hours daily or 20 hours weekly is the security period on the Internet<sup>[2]</sup>. Therefore, using the Internet without learning more than 3 hours daily on the average can be defined as Internet overuse.

### D. Survey on implementation

Investigation was conducted and questionnaires were distributed uniformly by unified training investigators, the questionnaires were field by participates independently and anonymously under the guidance of investigators, by whom the questionnaires were recovered uniformly on the spot.

### E. Statistical Analysis

Questionnaires with overmuch leak were eliminated, and then the Epidata database was used for the bilateral entry of data and the review of logical errors. The statistical software SPSS 17 was used to carry on the unconditional logistic regression analysis, the multivariate logistic regression analysis was used for research projects whose  $P < 0.05$  by single factor analysis to calculate the OR value and the OR value 95% confidence intervals (CI).

## II. RESULTS

### A. Basic status

This survey completed a total of 399 valid questionnaires, in which there were 194 male students and 205 female students. Participates are 32.4% from rural area while 67.6% from cities; the online time on the average of 94 people is more than 3 hours, the rate of Internet overuse is 23.6%.

### B. Single factor logistic regression analysis of Internet overuse of medical students

The results of single factor logistic regression analysis showed that influencing factors of Internet overuse of medical students included grade (OR=4.596), source of urban and rural

areas (OR=0.204), family income(OR=1.375), the only child(OR=0.531), parents' divorce(OR=-2.916), parents'

quarrel(OR=1.718), collective activities (OR=0.312), family help(OR=0.512).The results are shown in the TABLE I.

TABLE I. THE RESULTS OF SINGLE FACTOR LOGISTIC REGRESSION ANALYSIS OF MEDICAL STUDENTS' INTERNET OVERUSE

Relative factors	$\beta$	Wald $\chi^2$	P value	OR value	95% confidence intervals(CI)
grade	1.525	26.324	0.000	4.596	2.566-8.229
source of urban and rural area	-1.59	15.528	0.000	0.204	0.092-0.450
family income	0.551	8.300	0.004	1.735	1.193-2.524
only child	-0.633	4.180	0.041	0.531	0.289-0.974
parents' divorce	1.07	5.308	0.021	2.916	1.173-7.246
parents' quarrel	0.541	6.005	0.014	1.718	1.114-2.649
collective activity	-1.164	12.234	0.000	0.312	0.163-0.599
family help	-0.669	9.510	0.002	0.512	0.335-0.784

*C. Multivariate logistic regression analysis*

The results of multivariate logistic regression analysis showed that the influencing factors of Internet overuse of medical students included grade (OR=4.414), family income

(OR=1.530), parents' divorce (OR=3.795), family help (OR=0.594). Results are shown in the TABLE II.

TABLE II. THE RESULTS OF MULTIVARIATE LOGISTIC REGRESSION ANALYSIS OF INTERNET OVERUSE OF MEDICAL STUDENTS

Relative factors	$\beta$	Wald $\chi^2$	P value	OR value	95% confidence intervals(CI)
grade	1.485	21.66	0	4.414	2.362-8.248
family income	0.425	3.392	0.027	1.53	1.005-3.230
parents' divorce	1.334	6.518	0.011	3.795	1.363-10.565
family help	-0.52	4.467	0.035	0.594	0.367-0.963

III. DISCUSSIONS

The concept of Internet overuse refers to the time of individuals' Internet usage over the normal limits and leads to a series of negative effects. The rate of Internet overuse of medical students has reached 23.6%, which is higher than the level of Internet addiction rate(7.1-15.8%)of college students at home and abroad<sup>[3]</sup>. Internet overuse is the concept of time, aiming at emphasizing its perniciousness, nevertheless, Internet addiction is inclined to the concept of psychological state<sup>[4]</sup>.Internet overuse is the early stage of Internet addiction, but not all people of Internet overuse will develop into Internet addiction, that is why the rate of Internet overuse is a little higher than Internet addiction.

The results show that grade, family income and parents' divorce are risk factors for Internet overuse, furthermore, the risks will increase with grade, the same as the research results of Dongmei, Zhang<sup>[5]</sup>.When freshman just enter the university campus, they are curious about fresh things outside, full of longing for college life and looking forward to interactions with new students, generally, not addicted to the Internet. While with age, when the feeling of freshness pass, the academic pressure increase further, fail to achieve the expected success in kinds of examinations, matches and activities, their feelings of self-accomplishment and self-confidence will gradually disappear and damage with emergence of a sense of loss and inferiority in their hearts , and thus they need to find ways to ease the pressure and seek temporary psychological comfort, the characteristics(convenience, anonymity and retreat from reality)of Internet can provide an excellent place to vent. Generally, parents are the type of successful careers in high-income families; they provide children good physical conditions, while at the same time, overlook the spiritual environment what children rely on. Children are gradually

pushed into the Internet environment with enough money support rather than parents' constrains, care and love from families. Parents' divorce and family discord can be easy for children to form the eccentric and inferiority character and cause their psychological shadow, such as fear, worry, dread and insecurity, etc. these negative emotions in mind do not disappear, they will be looking forward to support, security and love from anywhere. When he walks into the virtual world on the Internet, he will find that the Internet can meet all his demands, what he asks for eagerly in the Internet world afterwards, getting addicted to the Internet gradually. Getting help from family in time in front of problems is a protective factor of Internet overuse, Internet over users are usually students with less social support and fewer interpersonal , so they expect to expand their social relations and get more emotional support through the Internet.

How to use the Internet properly, to enhance students' ability of judgment and analysis, to improve the ability of use and control, even not to get lost in the complex and diverse Internet and cultural information, all above need parents and schools to develop a variety of intervention strategies, aiming at kinds of related factors of Internet overuse. In favor of students under tension and depressed emotions generated under heavy academic burden to ease, feel warm, relaxed and happy in school family, and reduce excessive dependence on the virtual Internet and addiction.

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