

Research on Fire Safety Education for College Students

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Abstract: Fire safety education is the top priority of college safety work. In this paper, a questionnaire survey was conducted among 317 college students in Chongqing. It was found that 38.83% of the students had never participated in fire training and drills, and some students would not use fire extinguishers and other fire equipment. Even about 10% of the students think that they can take the elevator to escape when a fire occurs. The signs show that current college students are seriously lacking in fire safety knowledge and extremely weak in fire safety awareness. Therefore, in the future fire safety education, colleges and universities should further increase fire safety training, let more students participate in fire drills, strengthen the learning of fire knowledge and the learning of fire equipment use skills.

1. Introduction

With the continuous development of society, people pay more and more attention to safety, and safety education is also an eternal topic in college education. In recent years, frequent fire accidents have caused huge losses to people's lives and property. Laboratories, student dormitories and other personnel-intensive places are the key parts of the investigation of fire safety hazards in colleges and universities. The weak awareness of fire safety and the lack of fire safety knowledge of college students bring great pressure to the fire safety of colleges and universities. Therefore, colleges and universities should take certain measures to warn students of safety knowledge and fire prevention and control knowledge. Fire safety education is an important part of comprehensive evaluation of campus safety in colleges and universities, including theoretical teaching and practical teaching. It can not only help students realize the harm of fire, but also cultivate students' ability to prevent fire and the ability of emergency avoidance.

2. Subjects and Methods

In order to understand the current situation of fire safety awareness and fire safety education of college students, this study adopts the methods of literature, questionnaire and data analysis. A total of 20 questions were designed through the questionnaire star platform, 18 questions on campus fire safety education and students' fire safety awareness, and 2 questions on basic information (including gender and grade). The questionnaire was distributed to college students in some universities in Chongqing. A total of 320 questionnaires were distributed and 320 were recovered,

of which 317 were valid. There were 173 boys and 144 girls.

3. Research Results and Analysis

3.1. Behavioral Analysis of Influencing College Students' fire Safety

3.1.1. Illegal Use of High-power Electrical Appliances

In 2010, the Ministry of Education and the Ministry of Public Security jointly signed the "Regulations on Fire Safety Management in Colleges and Universities", which clearly stipulated that students' dormitories, auditoriums, classrooms and other crowded places are prohibited from using high-power electrical appliances [1]. Generally, electrical appliances with power above 1500 w are called high-power electrical appliances [2]. Common high-power electrical appliances include 'Heat faster, Electric cooker, Induction cooker, hairdryer, etc.' The main harm brought by high-power electrical appliances is the risk of fire. According to relevant news reports, many fires are caused by improper use of high-power electrical appliances. In October 2020, a college student in Hunan Province tripped due to the use of a hairdryer. Later, the boy contacted the dormitory to go to class after the power was restored, causing the hairdryer to stay open and cause the bed to catch fire.

According to the feedback of the questionnaire, 73% of the students have never used high-power electrical appliances in the dormitory, 15% of the students use them occasionally, and 12% of the students use them frequently. It can be seen that many students have a weak sense of fire safety. From the perspective of school management, many colleges and universities have issued relevant policies and documents, explicitly prohibiting students from using high-power electrical appliances, and will occasionally conduct surprise inspections of student dormitories. Once found, they will be confiscated, followed by corresponding criticism and education, and no punishment. Although the school has taken certain measures, it has been repeatedly banned. Fundamentally speaking, the students' awareness of fire safety is weak, and the school's punishment is not enough.

3.1.2. Disordered Wires

It is also a great safety hazard in fire protection work. It not only has the risk of electric shock caused by leakage, but also is the main cause of fire. From the results of the questionnaire survey, there are some students in the student dormitory electricity in the presence of private pull disorderly wiring. In order to ensure students' sleep and urge students to develop the habit of going to bed early and getting up early, many colleges and universities will carry out nighttime power outages in student dormitories, and only keep the night lighting of corridors and stairs. For the purpose of charging mobile phones and playing computer games, some students connect the lighting electricity in the corridor to the dormitory by pulling wires privately [3]. In September 2019, a worker in Qinzhou, Guangxi, in the construction process, indiscriminately connected and pulled power lines, due to improper operation, resulting in short circuit of the circuit and causing fire; in March 2020, a citizen of Nanjing parked an electric vehicle in the corridor, pulled a wire from his home to charge the electric vehicle, and finally caused a fire. The citizen was also punished accordingly.

3.1.3. Improper Use of Fire

Improper use of fire is the direct cause of fire. Laboratory and dormitory are the focus of campus fire safety management. In June 2021, a fire broke out in the dormitory of a military school in Zhecheng, Henan Province, causing 18 deaths and 16 serious injuries. Later, it was found that the cause of the fire was caused by the careless use of mosquito incense to ignite the carton. The fire

was caused by university laboratories are also the key places for fire safety hazards. Some laboratories contain flammable and explosive chemicals such as alcohol. From the domestic reports of university laboratory fires, most of them are not caused by experimental operations as required. According to the results of the questionnaire, 56.45% of boys and 13.16% of girls have the habit of smoking, and the proportion of college students smoking is rising, which has a bad impact on the campus atmosphere of colleges and universities, and also lays hidden dangers to campus fire safety. Therefore, in the fire safety education of colleges and universities, we should also strengthen the education of students' smoking behavior, inform students of the harm caused by smoking, guide them to reduce smoking and seriously complete their studies, so as to facilitate the physical and mental health development of students.

3.2. Insufficient Ability to Use Fire-fighting Equipment

Our common fire-fighting equipment include fire extinguisher, fire hydrant, fire axe, fire alarm, fire filter respirator, fire hose, fire detector, etc. Our country attaches great importance to fire safety. Production, operation, storage, transportation and other places must check and prevent fires and equip fire facilities according to relevant regulations. At the same time, they will also carry out corresponding fire safety knowledge publicity. However, in our real life, many people do not use fire equipment. In the design of the questionnaire, we set a separate question of "whether you will use fire extinguishing equipment (Fire extinguisher/Fire hydrant)". The results showed that 84.13% of boys and 69.23% of girls said they will use fire extinguishing equipment, and 15.87% of boys and 30.77% of girls will not use fire extinguishing equipment. Obviously, the proportion of college students who will not use fire extinguishing equipment is still very high, and the proportion of girls who will not use fire extinguishing equipment is much higher than that of boys.

3.3. Lack of Fire Safety Training and Drills

Fire safety training and drills are the most direct means to improve fire safety capabilities. However, there are still some people around us who have not received fire safety training and drills. In our questionnaire survey, only 61.17% of the students reflect that the school has carried out fire safety training and exercises, and 38.83% of the students reflect that the school has not carried out fire safety training and exercises. Through consulting the security department of the university involved in the investigation, the school conducts corresponding safety training and drills every year. However, such a high proportion of students report that they have not carried out fire safety training and drills. The main reason may be that the frequency of fire safety training in schools is insufficient, the coverage is not wide, and students do not pay enough attention to fire safety.

3.4. The Fire Safety Awareness Needs to Be Improved

There are various channels for college students to obtain information. Today's college students lack of fire knowledge, largely because of the weak awareness of fire safety, did not actively participate in fire safety education. Some colleges and universities to carry out fire safety training and drills have neither forced students to participate, nor included in the special course teaching, resulting in many students do not want to participate, lax thinking, not enough attention to fire safety, that fire prevention and disaster prevention has nothing to do with themselves, just put yourself in control. In our survey, we found that 38.83% of the students did not participate in fire safety training and drills, 70.87% of the students know the use of fire extinguishers, 53.4% of the students know the school's emergency call, 54.22% of the students will pay attention to the location of the emergency channel when they go to a new place, 64.08% of the students know that foam fire

extinguishers can't be used for electrical fire extinguishing, and 10% of the students do not know that when a fire occurs, they can't take the elevator, and 13.59% of the students think that college fire safety education is optional. The question in the survey is 'What do you do when there is a fire?' 19.45% of the students choose to escape directly, 43.69% of the students will choose to observe whether there is a fire extinguishing device around and rescue, 36.89% of the students choose to escape directly and give an alarm, and some students choose to take away valuable property. Behind such data, it shows that our college students not only have a weak awareness of fire safety, but also lack a sense of social responsibility, which requires schools and society to jointly strengthen publicity, training and education.

4. Measures to Improve College Students' fire Safety Education

4.1. Strengthen Fire Safety Propaganda

From the results of the questionnaire, more students tend to strengthen the propaganda of fire safety so that more students and staff to obtain fire knowledge, to improve the fire safety of the campus.

First, increase the frequency of publicity. At present, most colleges and universities only carry out fire safety publicity at important time nodes such as freshmen enrollment, which is far from enough. Fire safety publicity should be normalized, lasting and comprehensive, and implanted into every aspect of campus life.

Second, increase publicity means. The traditional way of propaganda is generally to use leaflets, billboards, posters, exhibition boards, electronic display screens and so on. However, with the rapid development of information technology, new media platforms such as WeChat, Weibo and Tik Tok have gradually become the main channels for contemporary college students to obtain information, social learning, entertainment and leisure. Obviously, the traditional way of publicity alone can no longer attract the attention of college students. The new media has quickly won the favor of college students with its diverse content, rapid spread and convenient viewing. The new media provides a good environment and opportunity for college students' fire safety education. Colleges and universities should make full use of traditional means and new media means to create a strong propaganda atmosphere for the campus.

The third is to mobilize enthusiasm through knowledge competition. Colleges and universities can set up college students' fire safety knowledge competition, fire-fighting skills competition and other activities, to fully mobilize the enthusiasm of college students, starting from their own, to form a good atmosphere of 'everyone involved in fire-fighting, everyone concerned about fire-fighting', to enhance students' awareness of fire safety laws and regulations, to mobilize the enthusiasm of students to learn fire safety knowledge and fire safety skills [4].

4.2. The Fire Safety Knowledge into the University Curriculum System

Through the research, it was found that the main reason why many college students lack fire knowledge and fire awareness is that they have few opportunities to participate in fire training and learning. In many colleges and universities, few schools take safety education as a separate course, often only through a simple training lecture, interspersed with fire safety training, go through the motions and get the job done, which caused a lot of students did not really learn the knowledge of fire safety. In order to further improve the students' fire safety ability, we must make greater efforts to do a good job in relevant preparations, incorporate fire safety education into the students' curriculum assessment system, give certain credits, and stimulate students' learning motivation. Similarly, the first step to incorporate fire safety into the curriculum is to train teachers. At this stage,

there is still a shortage of teachers in colleges and universities; after completing the teacher training, the students are trained and studied according to the corresponding class hours, and the theoretical knowledge is assessed, so that every student can master the theoretical knowledge of fire safety and be familiar with the use of fire equipment.

4.3. Increase the Coverage of Fire Drills and Improve the Effect of Fire Practice

In the survey, it was found that the proportion of college students participating in school fire drills was not high, and 38.83% of students believed that the school had not carried out fire drills. It can be seen that the coverage of school fire training and drills is not high. In fact, there are still many students who want to carry out practical operations through fire drills and learn to use fire extinguishing equipment. The security department of colleges and universities organizes fire drills every year when freshmen enter school, but the coverage is often low. Only student representatives such as class cadres and bedroom directors participate, but not everyone involved. Moreover, fire drills often pay attention to the form and do not care about the results. Even if many college students participate in fire drills, they do not really master the operation skills of various fire facilities and equipment. Colleges and universities should assess college students after the end of fire drills. If the fire protection facilities and equipment operation skills do not pass the assessment, they must participate in the next round of training until the assessment passes.

4.4. Using VR Technology to Help Fire Safety Education

Fire escape is not only a physical challenge, but also a psychological challenge. Even if a person has mastered enough fire safety knowledge, learned a variety of fire safety skills, if you don't experience it, in the first real face of fire, you will be 'frozen' on the spot. Contemporary college students are generally over-protected, and they are easily over-stressed and overwhelmed in case of emergencies. In the special environment of the fire field, the possibility of successful escape of college students is greatly reduced. Coupled with the lack of escape experience, it is nothing but worse for college students in the fire field. Using VR technology to simulate the real fire environment, under the premise of safety, let college students immersive feel the various emergencies that may be encountered in the fire, after repeated training in order to achieve the degree of calm. Using VR technology to simulate is not only the consolidation of fire safety knowledge, but also the further improvement of fire safety skills, and the combination of theory and practice. Fire safety education has always been aimed at prevention. VR technology is used to help fire safety education, aiming to enhance the experimenter's ability to detect hidden dangers when a fire does not occur and the ability to extinguish and escape when a fire occurs. This technology is of great significance to improve the quality of fire safety [5].

4.5. Give Full Play to the Main Role of College Student Fire Volunteers

According to the implementation opinions of China's fire volunteer action, colleges and universities should strengthen fire safety education and set up college student fire volunteer team [6]. The college security department is responsible for the fire safety knowledge training and fire skills training for volunteers. After the training is qualified, the volunteer team is responsible for the fire propaganda and self-rescue and mutual rescue skills training of college students. Regularly carry out fire safety inspections on key parts of the main units of the school, and regularly carry out hidden dangers in student dormitories, thus becoming an important backbone force to protect campus safety and spread campus culture.

5. Conclusion

To improve the awareness of fire safety and master the skills of fire safety, college students are responsible for themselves and society. Colleges and universities should give full play to their functions as the main position of education, constantly grasp the work of fire safety, take fire safety education as the focus of education, and cultivate college students who are educated, skilled and responsible in the new era.

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