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Analysis on the Influencing Factors of Sense of Security of Local College Students

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Abstract: With the expansion and establishment of colleges and universities in China, the problem of campus safety management has become increasingly prominent. Therefore, in order to study the factors that affect the sense of security of college students, this paper takes a local university as an example and uses SPSS 25.0 to process and analyze the factors that affect the sense of security of college students, and analyzes the four dimensions of traffic safety, diet safety, safety awareness and the evaluation of security personnel. Finally, it is found that the insecurity of college students on campus mainly comes from the unsafe factors around the campus, and the safety awareness of college students is very high. Therefore, this paper also puts forward some safety management suggestions based on the found factors, hoping to contribute to the safety education in universities.

1. Introduction

A sense of security is a subjective feeling of people, an inner prediction of external risks, and an inner need for safety and stability. As an important concept of psychology, security originated from the late 19th century to the early 20th century, and it first appeared in the psychoanalytic theory[1] of Austrian psychologist Freud. After the theoretical basis of security was proposed and improved in the early years, the research on the application of security has been concentrated in recent years, including the security of occupation, the security of foreign students, attachment security and so on[2]. However, the safety problems of university campus are emerging in endlessly, such as food safety, traffic safety, security safety and other issues. Therefore, this paper carries out a survey on the factors affecting college students' sense of security. Based on Maslow's hierarchy of needs theory, this study constructs the "Affecting College students' sense of security Scale" from five perspectives of traffic safety, food safety, security safety, safety awareness, and the evaluation of security personnel's work, so as to find the origin of college students' insecurity factors and its main factors. And to research the influence factors of the survey analysis, Suggestions and countermeasures are put forward. This study only studies the personal safety factors of college students, and does not study the emotional safety and attachment safety.

2. Literature Review

Foreign research on the security of colleges and universities started early, as early as the middle of

the 20th century, foreign countries have paid attention to the problem of school safety. The research results are relatively rich, and the interdisciplinary field trend is obvious, so far has included several social disciplines[3] such as management science, sociology, education, law and so on. Scholars from various countries carry out their research work according to their national conditions, with a large research scale, advanced research models, advanced research theoretical systems, advanced research mechanisms, and feasible [4]suggestions. Therefore, foreign research on university security issues is very worthy of reference. Philip Combs, an American scholar, believes that students with strong psychological resilience are more likely to maintain a stable psychological state in the face of academic and life pressure, thus improving their sense of security.

The research on college students' sense of security and college students' safety education in China started late, and the research scale and research results are at a weak stage compared with foreign countries. Domestic scholars usually explore the security issues of colleges and universities in the new era through field research, structural interview, questionnaire distribution, data analysis and other methods. Xiong Lina proposed in the article "Thinking on the Construction of a New Campus Safety Prevention and Control System" that the influencing factors of campus safety are divided into subjective factors and objective factors[5]. Qiong Zhou, Yaping Xu, Yingchun CAI pointed out in the article "Thinking about Further Strengthening Campus Safety" that the external security environment and safety precautions are the main factors [6]affecting campus safety. Scholars Wang Chunying, Miao Hanyu and Wen Fangfang put forward to mobilize all sides of the campus to establish and improve the campus security co-construction mechanism [7]in the Investigation and Enlightenment of the current Situation of campus security management in the United States.

3. Descriptive Analysis

The survey objects were students from a university in Zhanjiang City. Through the combination of offline questionnaire and online questionnaire, 352 questionnaires were randomly distributed, and 349 questionnaires were actually recovered. Waste recycling questionnaire, after completing a job commence work volume, will be blank, fill in the time is too short, too much of the same problems such as the answer options questionnaire, finally get effective questionnaire 346, as shown in table 1 the boy proportion accounted for 47.11%, women accounted for 52.89%.

Table 1: Sample composition

Variables	Categories	Number of people	Percentage (%)
Gender	male	163	47.11
	female	183	52.89
Year level	Freshman	93	26.88
	Sophomore year	86	24.86
	Junior year	122	35.26
	Senior year	45	13.00

4. Correlation analysis and model construction

4.1 Basic Assumptions

The self-written "College Students' Sense of Security Questionnaire" was used in this survey. The questionnaire was compiled from five dimensions: traffic safety, food safety, security safety, safety awareness, and evaluation of security personnel.

Hypothesis 1: The factors of traffic safety were negatively correlated with students' sense of security;

Hypothesis 2: the factors of diet safety were negatively correlated with students' sense of security.

Hypothesis 3: the factors of safety awareness were negatively correlated with students' sense of security;

Hypothesis 4: the job evaluation of security personnel is positively correlated with students' sense of security.

4.2 Reliability and validity analysis

Table 2: Index system of the scale

Dimensions	Number	Questions	Cronbach's α
Traffic safety	Q1	Take a carpool or black car near your school	0.77
	Q2	Electric cars within the school	
	Q3	A ring school bus in the school	
	Q4	On the school road	
Eating safe	Q5	Tableware hygiene issues in on-campus canteens	0.843
	Q6	Environmental problems in the campus canteen	
	Q7	The hygiene of food materials in the catering shops around the school	
	Q8	Environmental problems of food and beverage outlets around the school	
Safety awareness	Q9	Whether to lock the door when going out	0.611
	Q10	Whether to use high-powered appliances in the dormitory	
	Q11	Travel together when out of school at night	
Comment on the work of security personnel	Q12	Questions about the daily service of on-campus security or off-campus police	0.864
	Q13	Security or police work has improved compared to last year	

The reverse problem needs to be done first. Before analyzing the factors, this study also needs to analyze the reliability and validity of the indicator system to test whether the scale has good reliability and validity. The reliability and validity are both low, so factor analysis cannot be carried out. In this study, Cronbach's α value, KMO and Bartlett spherical test were performed on the scale data using SPSS25.0 software. The Cronbach's α value test shown in Table 2 showed that the Cronbach's α values of the four dimensions were 0.77, 0.843, 0.611, and 0.864, respectively. Safety awareness was used for the first time and greater than 0.6 was a desirable indicator, and the other coefficients were greater than 0.7, so the reliability of the sample data was high. The KMO test result of the scale data was 0.718, and the Bartlett spherical test showed that the probability was less than 0.05, indicating that the scale had good construct validity and was suitable for factor analysis.

4.3 Factor analysis of college students' sense of security

As shown in Table 3, for the eigenvalues and eigenvectors of the correlation matrix, there are only four factors whose eigenvalues are greater than 1, and the cumulative variance contribution rate is 67.036% (see Table 3), which means that these four factors have strong representation.

Table 3: Total variance explanation

Ingredients	Initial eigenvalues			Sum of squared rotational loads		
	Total	% of variable	Cumulative %	Total	% of variable	Cumulative %
1	3.880	29.844	29.844	2.775	21.349	21.349
2	2.076	15.966	45.811	2.320	17.844	39.193
3	1.598	12.293	58.103	1.837	14.133	53.325
4	1.161	8.933	67.036	1.782	13.711	67.036
5	0.850	6.542	73.578			
6	0.697	5.360	78.938			
7	0.649	4.991	83.929			
8	0.545	4.192	88.121			
9	0.493	3.790	91.911			
10	0.387	2.976	94.887			
11	0.308	2.366	97.253			
12	0.216	1.663	98.916			
13	0.141	1.084	100.000			
Extraction method: principal component analysis.						

Table 4: Factor loading matrix after variables are rotated

Numbering	Ingredients			
	1	2	3	4
Q1	0.241	0.633	0.384	0.050
Q2	0.077	0.821	0.053	0.049
Q3	0.144	0.718	-0.023	-0.006
Q4	0.211	0.760	0.129	0.171
Q5	0.754	0.146	-0.032	0.087
Q6	0.797	0.109	0.013	0.121
Q7	0.853	0.143	0.121	-0.058
Q8	0.818	0.214	0.133	0.071
Q9	0.090	0.097	0.717	-0.062
Q10	0.113	-0.022	0.788	-0.090
Q11	-0.058	0.159	0.696	-0.031
Q12	0.146	0.107	-0.099	0.912
Q13	0.031	0.072	-0.086	0.935

Table 5: Factor score coefficient matrix table

No.	**1**	**2**	**3**	**4**
Q1	-0.023	0.249	0.139	-0.001
Q2	-0.104	0.428	-0.085	-0.056
Q3	-0.051	0.378	-0.129	-0.094
Q4	-0.049	0.349	-0.021	0.027
Q5	0.301	-0.045	-0.074	-0.015
Q6	0.32	-0.082	-0.039	0.014
Q7	0.344	-0.069	-0.003	-0.089
Q8	0.309	-0.04	0.013	-0.014
Q9	-0.014	-0.059	0.417	0.042
Q10	0.012	-0.136	0.474	0.046
Q11	-0.09	-0.002	0.409	0.062
Q12	-0.006	-0.048	0.038	0.529
Q13	-0.053	-0.054	0.061	0.556

As can be seen from Table 4, dietary safety is the main factor, and Q5, Q6, Q7, and Q8 have large factor loadings; Traffic safety was the main factor, and Q1, Q2, Q3 and Q4 had large factor loadings. Safety awareness was the main factor, and Q9, Q10 and Q11 had large factor loadings. Mainly on the evaluation of security personnel work, Q12 and Q13 had large factor loading.

$$F1 = 0.023 * Q2\ Q1\text{-}0.104\text{-}0.051 * Q3\text{-}0.049 * Q4 * Q6\ Q5 + 0.320 + 0.301 + 0.344\ x\ Q7 * Q9\ Q8\text{-}0.014 + 0.309 + 0.012\ x\ Q10\text{-}0.090 * Q12\ Q11\text{-}0.006\text{-}0.053\ \times Q13$$

$$F2 = 0.249\ x\ Q1 * Q3\ Q2 + 0.378 + 0.428 + 0.349 * Q5\ Q4\text{-}0.045\text{-}0.082 * Q7\ Q6\text{-}0.069\text{-}0.040 * Q9\ Q8\text{-}0.059\text{-}0.136 * Q12\ Q10\text{-}0.002\ x\ Q11\text{-}0.048\text{-}0.054\ x\ Q13$$

$$F3 = 0.139 * Q2\ Q1\text{-}0.085\text{-}0.129 * Q4\ Q3\text{-}0.021\text{-}0.074 * Q6\ Q5\text{-}0.039\text{-}0.003\ x\ Q7 * Q9\ Q8 + 0.417 + 0.013 + 0.474\ x\ Q10 * Q12\ Q11 + 0.038 + 0.409 + 0.061\ x\ Q13$$

$$F4 = 0.001 * Q2\ Q1\text{-}0.056\text{-}0.094\ x\ Q3 * Q5\ Q4\text{-}0.015 + 0.014 + 0.027 * Q7\ Q6\text{-}0.089\text{-}0.014 * Q9\ Q8 + 0.042 + 0.046\ x\ Q10 * Q12\ Q11 + 0.529 + 0.556 + 0.062)\ \times Q13$$

Among them, Q1, Q2, Q3,..., Q11, Q12, Q13 are the 13 indicators obtained from the data processing of the local college students' sense of security questionnaire. Then, according to the proportion of the variance contribution rate of the four factors to the cumulative variance contribution rate as the weight, the weighted sum is carried out, so that the comprehensive score of the college students' security coefficient of M university can be obtained, which is recorded as CAI. The calculation formula of the comprehensive score is as follows:

$$CAI = 0.29844 \times F1 + 0.15966 \times F2 + 0.12293 \times F3 + 0.08933 \times F4$$

4.4 Overall description and analysis

It can be seen that the students in M university have: (1) high safety awareness, and are alert to the public security problems around the school; (2) They were dissatisfied with the food environment around the school and the school bus.

As shown in Table 5, the average scores of the four factors of traffic safety, food safety, safety awareness and the evaluation of security personnel were 3.59, 3.74, 3.86 and 2.84. It can be seen that students are dissatisfied with the food safety on campus and around campus and feel unsafe for this reason. Although the students are generally satisfied with the work of the security staff, the score of safety awareness is very high. Therefore, we can assume that although the students are not satisfied with the security staff, they are dissatisfied with the security around the campus, and can not help but improve the safety awareness to prevent accidents.

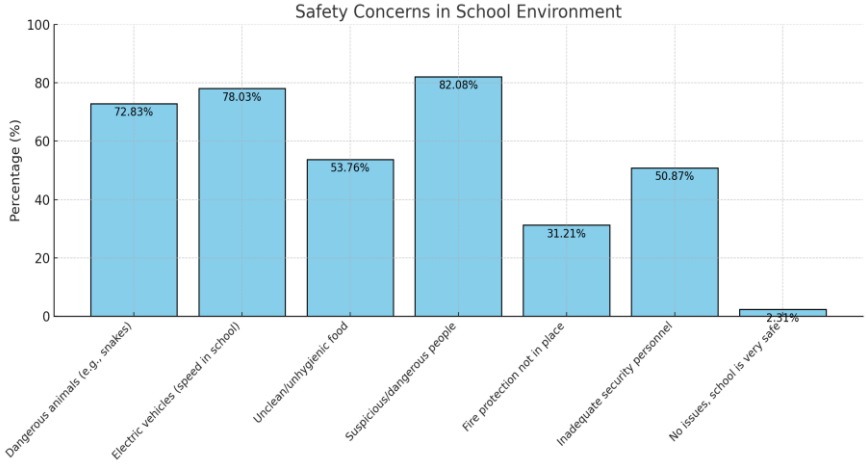

Figure 1: Bar chart of reasons for insecurity on campus

As can be seen from Figure 1, 82.08% of the students think that the reason for unsafe campus lies in the presence of suspicious dangerous personnel; 78.03% of the students thought that the reason for the unsafe campus was that the speed of electric cars and ring buses was too fast; And 72.83% of the students thought that the reason for the unsafe campus was the existence of snakes and other animals that could threaten personal safety. As for the campus area, 88.44% of the students thought that the reason for the insecurity of the campus area was the remote location; 87.28% of the students thought that the reason of campus insecurity was the complex personnel; And 73.99% of the students thought that the reason of insecurity around the campus was the lack of security facilities. Only 2.31% of the students thought that the campus and its surroundings were very safe.

4.5 Comparative analysis of gender differences

The results of independent sample t-test in Table 6 show that girls have higher scores than boys in the four dimensions of overall sense of security, traffic safety, food safety, safety awareness, and evaluation of security personnel work, indicating that girls are more insecure than boys in campus life. There were significant differences in the overall sense of security, food safety, safety awareness, and the evaluation of security personnel, among which the safety awareness was significantly different from the overall sense of security. It shows that girls pay more attention to dietary safety and safety awareness than boys, and their evaluation of security personnel is lower. The side shows that the campus is more dangerous for girls, and the probability of girls encountering danger around the campus is greater than that of boys. Therefore, girls should try to avoid acting alone when they are active around the school, and it is best to travel together. In addition, there is no significant difference between male and female in terms of traffic safety factors. It can also be seen from the side that both men and women believe that there are potential traffic hazards in and around the campus, thus reducing their sense of security.

Table 6: Gender difference test of students' security

Gender	Total score	Traffic safety	Food safety	Safety awareness	Evaluation of security personnel's work
male	44.49±1.36	13.87±0.60	14.18±0.64	10.96±0.46	5.49±0.37
female	47.91±0.82	14.66±0.41	15.49±0.40	11.97±0.31	5.80±0.26
Sig (significant)	0.000 * *	0.150	0.014 *	0.010 * *	0.029 *

Note: Sig<0.05 is marked as *, Sig<0.01 is marked as **

5. Suggestions on How to Improve College Students' Sense of Security

From the above investigation and analysis, it is easy to conclude that M university has a great sense of insecurity about the traffic safety on campus and the food safety on and off campus. However, the overall score of campus safety and the total score of the scale are very different, and the students' safety awareness and the evaluation of the security personnel are also very different.

Whether it is traffic safety or food safety, it is an "old" problem of college. Students rated the overall sense of safety on campus as 2.73, and the total score of the scale was 3.57. The overall score of students' campus security is displayed with the overall score of students' security around the campus. Students will not consciously compare the safety inside the campus with that outside the campus, so the relative safety and relative danger will be formed. The three highest scores of students are Q9, Q8 and Q3, and the most number of reasons for insecurity on campus is that there will be suspicious and dangerous people coming in and out. It can be seen that students think that a large part

of the reasons for insecurity on campus are from the surrounding campus. Therefore, in order to change students' insecurity on campus, the public security management around campus is very important.

5.1 Improve the safety literacy of drivers and students, and increase the traffic travel routes

In terms of traffic safety, students are most disturbed by the fast speed of the ring school bus and taking carpools or black cars near the school. For the school ring school bus speed is too fast, the reason is that the school does not have any severe punishment for the speeding of the campus ring school bus, the number of campus electric cars is huge, the number of students is large, so no worry about speeding, is a serious harm to campus safety. Therefore, the improvement of the circle line school bus should be from the inside out. Colleges and universities regularly carry out safety quality training for bus drivers on the Ring line, and those who fail to pass the training are not allowed to take up their posts. Colleges and universities strictly supervise the speed of school buses on the ring, install cameras on the main roads that are most prone to speeding, record every school bus on the ring and every school bus driver on the ring, and execute the speeding times according to traffic laws and regulations [8].

M university is located in the middle of nowhere, students go out in demand, but can supply less transportation, so there are a large number of carpool, black car drivers near the school. To this end, the university should start to improve from the following aspects: (1) cooperate with the bus company to increase the number of buses and bus routes; (2) Increase investment in school buses, carry out questionnaire survey to students, open more school buses that students often travel, and can achieve balance of income and expenditure through appropriate charges for students; (3) Regularly carry out the publicity of traffic laws and safety awareness to college students, and warn them by cases[9].

5.2 Strengthen the supervision of food hygiene inside and outside the school, and do a good job in the health examination of faculty and staff

In terms of campus food safety, no matter which country, which region, which school is the most concerned about the safety management problem. M University once ranked first in the sales list of Ele. Me university takeout in 2024, and takeout has long become the main food source for M university students. According to the survey, a large proportion of students who were admitted to the university hospital due to gastroenteritis and food poisoning were caused by eating takeout or eating off-campus. Therefore, for the food safety of the school, we should not only consider the safety and health of the canteen and supermarket, but also consider the food safety around the school. The school should start to improve from the following aspects: (1) the school should start to investigate the health problems of the store, and publish the name of the store to the students, warn the students, and report to the relevant departments, requiring rectification of such food and beverage stores and regular inspection. (2) Strengthen the health inspection of staff related to food in the school, and prevent school staff from carrying the virus into the school outside the school[10].

5.3 Integration of community and campus security teams, centralized training and management

In the survey of campus insecurity reasons conducted on students, two of the top three reasons on campus are related to public security issues, and the top three reasons outside campus are related to public security issues. It can be seen that students' insecurity about campus security occupies the first place of students' overall insecurity. In fact, many reasons can be summarized as three factors: (1) remote location; (2) Complex personnel around the campus; (3) There are dangerous animals[11].

For this reason, the campus public security management starts from the following aspects: (1) improve students' awareness of safety prevention, remind students to go as little as possible at night or not to the distance from the school, the road is darker, and go together at night. (2) Straighten out the public security management system in colleges and universities and accelerate the construction of security teams in colleges and universities. Although there is a school security department usually shoulder the campus security work, but due to the openness of the university itself, the internal environment and external environment of the campus are intertwined, resulting in the public security management around the university and the public security management of the university are closely related, the public security management around the university and the internal university is separated, too fine, obviously impractical. With the increasing openness of the campus, the external factors affecting campus security are also positively related. In such a "multi-head management" mode, it is very likely to lead to the situation of "ignoring each other". Therefore, this paper believes that campus public security and campus surrounding public security should be integrated, centralized management, or based on the university security department to build a public security team, or based on the public security department to build M university public security brigade. (3) Increase the prevention of dangerous animals such as snakes, and use the winter and summer vacation to carry out snake removal operations. (4) Strengthen the system construction and personnel training of the security team in the school.

6. Conclusion

University safety management is not only a simple campus safety problem, but also a social security problem. Since 1999, based on the education reform policy of expanding the enrollment of ordinary colleges and universities to solve economic and employment problems, the enrollment of colleges and universities has been expanding in recent years. The population density of colleges and universities is high, and the number of families involved is large. A careless accident will cause a crisis event that endangers social security and social stability.

The safety management of colleges and universities is a long-term continuous system engineering. Studying university safety management is helpful to create a safe and secure educational environment for students. It has been proved that without a good campus safety environment, the personal safety of college students can not be effectively guaranteed, and college students can not devote themselves to learning, which directly affects the acquisition of scientific knowledge and the perfection of personality of college students, and affects the realization of higher education goals and the demand for high-quality talents for socialist construction.

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