

Analysis of Influential Factors on High School Students' Participation in Public Welfare Activities

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Abstract: With the progress of society and the continuous improvement of people's understanding of social responsibility, public welfare activities play an increasingly important role in modern society. As high school students, the youth of the new era has the obligation and responsibility to participate in public welfare activities, but in reality, not all high school students are willing to participate in public welfare activities, in order to cultivate high school students to participate in public welfare interaction awareness for the development of China's public welfare to cultivate more young people, this paper through the questionnaire, to obtain high school students to participate in the public welfare activities of the current situation of the data, through the rosette regression on the participation of high school students in public welfare activities, to analyze the influence factors, and finally get the results of high school students to participate in public welfare activities. This paper analyzes the influence factors of high school students' participation in public welfare activities by means of Rollover regression, and finally obtains four significant variables, which are divided into gender, participation in public welfare clubs, personal emotional factors and public welfare activities themselves, among which the most influential factor on high school students' participation in public welfare activities is whether they participate in public welfare clubs, followed by personal emotional factors, again public welfare activities themselves, and lastly, gender.

Keywords: Public welfare activities; high school students; logistic regression.

1. Background

Public welfare activities refer to voluntary services and actions for the benefit and well-being of the public in society. High school students are the future and hope of the society, actively participating in public welfare activities not only can bring substantial help to others and the community, but also helps to cultivate students' sense of social responsibility and teamwork ability. In recent years, with the rapid development of society and the improvement of people's living standards, more and more high school students have begun to pay attention to and participate in public welfare activities. Behind this phenomenon, it is both driven by society and closely related to the growth needs of high school students. From the social background, the role of public welfare activities is becoming more and more prominent in modern society. On the one hand, the government and social organizations strongly advocate citizens to participate in public welfare and make contributions to society, forming a positive public welfare cultural atmosphere. On the other hand, with the increasing prominence of environmental and social problems, the public has become increasingly aware of the need to solve these problems through public welfare actions. This atmosphere has a subtle influence on high school students, making them more willing to participate in public welfare activities to serve the community and develop their own sense of social responsibility. At the same time, the personal growth of high school students is also an important reason that drives them to participate in public welfare activities. High school is a critical period for individuals to form their outlook on life and values. By participating in public welfare activities, high school students can personally experience the joy of helping others, feel the value of their own behavior, and then develop a positive attitude towards life. In addition, public welfare activities can also exercise high school students' organizational and coordination skills,

communication skills, etc., laying a solid foundation for their future development.

2. Purpose and Significance of The Study

The purpose of studying the influencing factors of high school students' participation in public welfare activities is to deeply understand the motivation and driving force of high school students' participation in public welfare activities, to explore how to more effectively stimulate their enthusiasm and enthusiasm for public welfare, and to use this as a basis to promote the sustainable development of public welfare. First of all, through in-depth study of the influencing factors of high school students' participation in public welfare activities, we can more accurately grasp the changes in high school students' psychological characteristics, value orientation and sense of social responsibility. These factors play a key role in the attitudes and behaviors of high school students' participation in public welfare activities. By understanding these factors, we can provide more targeted guidance and suggestions for high school students' public welfare education, help them establish a correct concept of public welfare, and enhance their sense of social responsibility and mission. Second, studying the factors influencing high school students' participation in public welfare activities helps to identify the barriers and challenges affecting high school students' participation in public welfare activities. These barriers may include academic pressure, family, environment, social cognition and other factors. By studying these factors in depth, we can propose appropriate solutions and strategies to create better conditions and environments for high school students' participation in public welfare activities. Finally, the study of factors influencing high school students' participation in public welfare activities is of great significance in promoting the sustainable

development of public welfare. As the future pillars of society, high school students' participation is crucial to the development of public welfare. By stimulating the enthusiasm and enthusiasm of high school students for public welfare and cultivating their sense of social responsibility and mission, we can inject new vitality and power into the development of public welfare, and promote the society to be more harmonious, progress and development.

3. Data Collection and Organization

3.1. Data Collection

This paper for the research problem of our school in the high school students questionnaire survey, in addition to investigating the basic information (gender, grade, participate in the school public welfare clubs), this paper also investigated the influence of high school students to participate in public welfare activities factors three levels (social value level, personal emotional level, public welfare itself level), but also on high school students whether to participate in public welfare activities, the survey content of the following table:

Table 1. Influences on high school students' participation in public service activities

variable	nicknames
1.Social value factors	A
Participation in public service activities is due to ethical constraints	A_1
I participated in the charity program because it was required by my school.	A_2
2.Personal emotional factors	B
Participating in charity events is about enjoying the feeling of helping others	B_1
Want to help others because they have been helped themselves	B_2
3.Pro bono activities themselves	C
Scale Evaluation Factors	C_1
Evaluations of previous similar events can influence my participation in the program.	C_{1-1}
The more people attending the event, the more it will affect my participation plan.	C_{1-2}
I would not participate in an event with fewer participants and fewer evaluations.	C_{1-3}
Factors in the type of pro bono	C_2
Whether or not I participate in a public service campaign depends on who it's aimed at.	C_{2-1}
Whether or not I participate in a public service activity depends on the target audience.	C_{2-2}
Publicity factor	C_3
A well-publicized event attracts me and makes me want to participate.	C_{3-1}
Even if the event is well publicized, it will not affect my decision to participate.	C_{3-2}

The answers to the questions in Table 1 above are on a 5-point scale where 1 stands for very non-compliant, 2 stands for non-compliant, 3 stands for average, 4 stands for compliant, and 5 stands for very compliant.

Question D of this questionnaire is whether or not they

have participated in public welfare activities, and the answers to the questions are on a dichotomous scale, where 1 stands for yes and 0 stands for no. A D of 1 means that the high school student has participated in public welfare activities.

3.2. Questionnaire organization and reliability test

In this paper, a total of 220 questionnaires were issued, of which 3 people were considered invalid questionnaires because they chose to have no online shopping experience, and 217 valid questionnaires were left after the invalid questionnaires were eliminated, and for the sake of research convenience, this paper only selected 200 questionnaires as the samples to be analyzed. First of all, the use of spss on these 200 questionnaires in the A, B, C of the 16 topics for the reliability analysis, get the reliability analysis of the Cronbach coefficient of 0.784 is greater than 0.7, so this paper believes that the questionnaire has credibility.

4. Descriptive Statistics Analysis

4.1. Descriptive statistics

In this paper, through the statistics of the collected questionnaires, we get the following table 2:

Table 2. Impact factors

causality	classification	number of people	percentage (%)
Gender	Male	93	46.5%
	Female	107	53.5 %
Grades	Senior	70	35.0%
	Sophomore	80	40.0%
Participation in school charity clubs	Senior	50	25.0%
	YES	119	59.5%
	No	81	40.5%

4.2. Significance analysis of differences between variable classifications

Next, we analyzed whether there is a difference between gender and grade on college students' online shopping impulsive type, and we obtained the results of the gender test by using one-way ANOVA through spss as shown in Table 3 below:

Table 3. Results of one-way ANOVA for gender

	Sum of squares	Degrees of freedom	Mean Square	F	Significance
intergroup	10.944	1	10.944	58.171	.000
within a group	37.251	198	.188		
total	48.195	198			

Based on the results of the one-way ANOVA in Table 3 above, it can be seen that the p-value is less than 0.05 therefore there is confidence that there is a significant difference between the genders of high school students. The statistics for question D revealed that the number of female high school students participating in public service activities accounted for 81.3% of the total number of female high school students while the number of male high school

students participating in public service activities accounted for 34.4% of the total number of male college students.

This paper then used the same analysis to conduct a one-way ANOVA on grade level and participation in school public service clubs to explore whether there was a significant difference between grade level and participation in school public service clubs in terms of high school students' participation in public service activities. It was ultimately found that there was a significant difference in participation in school high school clubs.

5. Establishment of Logistic Regression Model

5.1. Data Preprocessing

In order to explore the factors affecting high school students' participation in public welfare activities, this paper uses logistic regression to model the data and seek evidence, first of all, data preprocessing, the calculation steps are as

follows equation

$$A = \frac{A_1 + A_2}{2}$$

$$B = \frac{B_1 + B_2}{2}$$

$$C = \frac{C_1 + C_2 + C_3}{7}$$

where $C_1 = C_{1-1} + C_{1-2} + C_{1-3}$, $C_2 = C_{2-1} + C_{2-2}$, $C_3 = C_{3-1} + C_{3-2}$ three new variables A, B and C were finally obtained to represent the three social factors, personal factors, and the public welfare activities themselves, respectively. Then 70% of the data were randomly selected as training data, 30% of the data as test data using spss for modeling and analysis of the dependent variable is the problem D, which is a 0,1 binary variable, so the binary logistic model is used.

Using forward LR method to output logistic results as follows Table 4 (using forward LR model output 6 results, because the last model is the final result, so only the final results are listed here, the other 5 steps of the model is omitted):

Table 4. logistic regression coefficient

variant	ratio	significance	Exp(B)
Gender	1.028	.001	2.795
Involvement in school charity clubs	2.747	.000	15.596
Personal Emotional Factor B	2.292	.000	9.893
Self-activity factor C	1.916	.000	6.794
Constant	-10.617	.000	.000

The above table shows the variables retained in the equation and it can be seen that the p-values corresponding to the coefficients are less than 0.05, thus indicating that the coefficients are statistically significant, i.e., they have an impact on the prediction of the dependent variable. Based on the direction of the coefficients, it can be known that female high school students are more willing to participate in public service activities compared to male high school students. Those who participate in school charity clubs are more likely to participate in charity activities compared to those who do not participate in school charity clubs. For the personal emotion factor, it can be seen that the personal emotion factor can motivate high school students to participate in public welfare activities, and high school students are often willing to participate in public welfare activities because they like to help others or have been helped themselves. In order to attract high school students to participate in public service activities, public service activities should be well publicized and provide appropriate public service types for all high school students,

according to the public service activities' own factors.

We can also compare the size of Exp(B) to determine which factors have a greater impact on the participation of high school students in public welfare activities, we can see that the greatest impact on the participation of high school students is whether to participate in the school public welfare clubs, and the smallest impact is gender.

5.2. Logistic regression model accuracy test

Whether the model can be applied also needs to verify its precision, so the precision test is carried out by applying 30% of the samples taken before. The predicted values are retained, but since the predicted results are probability values, the predicted results are processed, and the predicted results greater than 0.5 are 1 (participation in public welfare activities), and the predicted results less than 0.5 are 0 (for participation in public welfare activities). Finally, the prediction results are compared with the original results to obtain the confusion matrix as shown in the table below:

Table 5. Confusion matrix

		projected value		total
		0 (Negative)	1 (Positive)	
real value	0 (Negative)	23	4	27
	1 (Positive)	7	26	33
	total	30	30	60

The accuracy of the model is 81.67% greater than 80% as obtained from the confusion matrix in Table 5, the model has a relatively high prediction accuracy and therefore it is considered reliable.

6. Conclusion and Recommendations

According to the logistic regression model, four significant variables were retained, which were categorized into gender, participation in public welfare clubs, personal emotional factors and public welfare activities' own factors, of which the

greatest influence on high school students' participation in public welfare activities was whether they participated in public welfare clubs or not, followed by personal emotional factors, then public welfare activities' own factors, and lastly, gender. In addition to the impact of high school students' own gender and their own experience, in order to promote the active participation of high school students in public welfare activities, you can choose some suitable public welfare activities for high school students, so that they feel the joy of helping people in public welfare interactions, but also for the participation of high school students in public welfare activities to issue a number of certificates to actively encourage their participation in them, while the public welfare activities organized by the department to do a good job in publicizing public welfare interactions, so that more and more high school students understand the public welfare activities and participate in public welfare activities. At the same time, the organizers of public welfare activities should do a good job of publicity, so that more and more high school students understand public welfare activities and participate in them.

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