

# The Motivation and Sense of Meaning of College Student Volunteers in Nanjing Medical College Research on the Relationship with the Persistence of Voluntary Behavior

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**Abstract.** College student volunteers are an important part of China's volunteers, and medical college student volunteers play an indispensable role in earthquake relief, health assistance and other volunteer activities due to their medical professional knowledge and background. As of 2021, the number of medical students volunteers in China has reached 37,000, and while the team is growing, the team construction of volunteers is also facing a series of problems, such as the lack of sustainability of volunteer behavior, which also restricts the sustainable development of volunteer service in China. The study came to the following conclusions: (1) There was a positive correlation between the motivation of medical college students and the sense of meaning of work. (2) There was a positive correlation between the participation motivation of medical college students and the persistence of volunteer behavior. (3) There was a positive correlation between the sense of meaning of work and the persistence of volunteer behavior. (4) The sense of meaning of work of college student volunteers played a mediating role in the relationship between participation motivation and the persistence of volunteer behavior. Based on the research, this paper proposes strategies to boost medical students' service motivation and work meaning, fostering sustainable volunteer behavior and stabilizing the volunteer base.

**Keywords:** Medical colleges, college volunteers, motivation to participate, job satisfaction, persistence of volunteer behavior.

## 1. Introduction

### 1.1. Background

College student volunteers are an important part of China's volunteer composition, but also the backbone of volunteer services. Among them, college student volunteers in medical colleges and universities play an important role in public emergencies such as earthquake relief and community health services because of their medical professional knowledge and study background [1]. As of October 30, 2021, the number of registered volunteers in Chinese colleges and universities reached 217 million, the number of college student volunteers was about 1.66 million, and the number of medical student volunteers was about 37,000 [2].

However, the process of building college student volunteers in medical colleges and universities still faces many problems. For example, many college students belong to the experiential participation, but the sustained participation rate is difficult to maintain. Yang Yinghong pointed out that the persistence of college students' volunteer behavior is influenced by the degree of self-knowledge and social factors [3]. According to Yang Lan, the enthusiasm of college students for volunteering is generally high in the initial stage of participation in volunteering activities, however, this enthusiasm is often difficult to sustain. With the deep integration of volunteering activities and social practice, college students' mentality will go through a series of changes, and the initial curiosity and desire to explore will gradually subside and turn into a daily normalized mentality. If college students devote themselves to volunteer activities for a long time, but lack proper incentives and feedback, this normal mentality may be further transformed into boredom, resulting in poor continuous performance, or even interruptions or temporary change of mind. This not only affects the normal promotion of

volunteering, reduces the effective degree of volunteering activities, but also affects the sustainable development of volunteering.

Therefore, how to improve the sustainability of college students' volunteer behavior is an important issue that can not be ignored. Due to the special nature of their professional and cultural knowledge background, the contribution of college students in medical colleges in health services and rescue and other volunteer services can not be ignored, and how to improve the sustainability of college students' volunteer behavior in medical colleges is one of the key issues in improving the quality of volunteer services.

Existing research has found that volunteers' sustained participation behavior is closely related to their intrinsic motivation and their sense of significance for volunteer work. However, the current research focuses mainly on exploring the isolated or two-by-two relationship between these two variables, such as how volunteers' motivation affects their sense of significance of volunteering, how the sense of significance of volunteering contributes to the persistence of volunteering behavior, and how motivation directly contributes to the persistence of volunteering behavior. In addition, in-depth research on the specific group of college student volunteers in medical colleges is still insufficient, and this area of exploration needs to be filled. Between volunteer behavior persistence and participation motivation, some studies have shown that volunteer motivation is crucial in the process of volunteering, and likewise determines subsequent participation in volunteering [4]. Despite this observation, there is currently a lack of academic research on the interplay between motivation to participate, sense of meaning of the work, and persistence of volunteering behavior, especially in the specific group of college student volunteers in medical colleges and universities [3]. Therefore, it is necessary for future research to explore in depth the intrinsic mechanisms between these factors in order to promote the sustainable development of volunteering activities.

In summary, this study focuses on the influence of volunteer participation motivation on the sustainability of volunteer behavior and further discusses the moderating effect of the sense of work significance in the above relationship, so as to provide references and suggestions for future studies related to volunteerism among medical students.

## **1.2. Research significance**

Studying the participation motivation, sense of work significance and volunteer behavior continuity of college student volunteers in medical colleges not only enriches the theory of volunteerism and provides literature reference for normalization and continuity, but also provides insight into the participation motivation and internal mechanism of medical volunteers. Practically, the study helps to optimize the volunteer service system, improve service quality, and promote college students to internalize socialist core values in volunteer service, providing new ideas for higher quality volunteer service and further promoting the harmonious development of society.

## **2. Literature Review**

### **2.1. Participation Motivation and Sense of Job Meaning**

Job significance is not only a personal understanding and evaluation of the value of the employee's work, but also a core internal motivation to drive the employee's behavioral performance. Foreign scholars Oldham's work characteristics model emphasizes the interconnection of meaning and motivation, establishing the meaning of work experience as an important psychological state required for the development of internal work motivation. Recovering the meaning of work is regarded as one of the ways to develop employees' work motivation and attachment [5]. Meaningfulness of work is an important aspect of intrinsic work motivation, and employees' work reinvention can increase the individual's sense of control and competence at work and form a positive self-concept at work [6]. And according to the self-determination theory, the support of intrinsic motivation mainly relies on the fulfillment of three basic human psychological needs: competence, autonomy and relationship. And the realization and enhancement of the sense of meaning at work can satisfy the human needs of

autonomy, relationship and competence [7], thus stimulating and sustaining the intrinsic motivation of volunteers to participate in voluntary activities.

## **2.2. Participation Motivation and Volunteer Behavior Persistence**

Motivation is an important influence on the occurrence of volunteer behavior, and volunteer motivation can inspire individuals to produce volunteer behavior [8]. Current scholars generally believe that the sense of meaning of the activity is an important motivation for individuals to participate in volunteer behavior [9]. Motivation plays an important role in predicting whether or not people commit to volunteering and whether or not they can maintain sustained enthusiasm and commitment in the process.

It has been shown that volunteer motivation not only directly influences the decision to participate in volunteering, but is also a key factor in subsequent sustained participation in volunteering. Therefore, in-depth understanding and analysis of volunteer motivation is of great significance to the promotion and sustainable development of volunteerism. As scholars Wang Tianjiao to college student volunteers as the object of study, the investigation and analysis of this group, the results show that the higher the volunteer motivation score of college student volunteers, the higher the score of their tendency to volunteer behavior [10]. Occupational motivation, altruistic motivation, learning motivation, social support motivation and other motivations in volunteer service motivation all have a positive impact on the willingness to continue volunteering. Research has shown that when volunteers' professional motivation, altruistic motivation, learning motivation and social support motivation are satisfied in the process of volunteering, volunteers' willingness to participate in volunteering in the future will increase [4]. The stronger the volunteers' initial motivation to participate in volunteering, the more positively and diligently the volunteers will provide volunteering services, which will also make it more likely that they will have a satisfactory volunteering experience and a higher level of satisfaction with their volunteering work [11].

## **2.3. Sense of work meaning and volunteer behavior continuity**

At present, there are scholars at home and abroad to study the relationship between sense of work meaning and volunteer behavior continuity. The acquisition of a sense of job significance helps employees invest more energy in work content they like and find meaningful, thus improving job significance [12], which in turn increases volunteers' motivation to participate in volunteer services and the number of times they do so, leading to further sustainability of volunteer behavior. Scholar Wei Lizhen found that factors such as the degree of volunteers' investment in their volunteering work, such as time and energy, and their satisfaction with their volunteering work affect the willingness to participate in volunteering on a continuous basis, and have a positive impact on the enhancement of the willingness to volunteer on a continuous basis [13], and the acquisition of a sense of meaning of the work will incline volunteers to invest more time and energy in volunteering.

## **2.4. Participation Motivation, Sense of Work Meaning and Sustainability of Volunteer Behavior**

Currently, there are relatively few in-depth studies at home and abroad on the three variables of participation motivation, volunteers' sense of job significance and volunteer behavior continuity, and most of the studies tend to independently explore the interactions and influences between two or two of these variables, especially the lack of sufficient exploration of the mediating role played by the sense of job significance. However, these scattered studies have hinted at the existence of interconnections among the three. Therefore this study will model the mediation of sense of job meaning between the two factors by examining the influential relationship between the three.

## **2.5. Literature Review**

In summary, past studies have fully revealed the significant predictive effect of volunteer motivation and sense of job significance on volunteer persistence, and also pointed out that there is a

significant positive correlation between motivation to participate and sense of volunteer job significance, and all these findings indicate that there exists a close correlation among the three variables, namely motivation to participate, sense of job significance, and persistence in volunteering behaviors.

However, there are still shortcomings in previous studies: first, there is a lack of in-depth exploration of college volunteers, especially college students in medical colleges. As an important force in volunteer activities, college volunteers, especially those from medical colleges, are not only rich in medical knowledge, but also an indispensable resource in volunteer activities. However, studies have shown that the persistence of their volunteer behavior is relatively low, a phenomenon that deserves attention and in-depth analysis in order to take appropriate measures to improve it. Second, regarding the relationship between motivation, sense of meaning, and persistence of volunteering behavior, the existing literature mostly focuses on the analysis of the two variables, and few studies have directly explored the combined effects of the three. In recent years, more and more scholars have pointed out that the persistence of volunteer behavior is not only affected by participation motivation and sense of work significance individually, but the interaction between the two may also affect the persistence of volunteer behavior through the mediating role of sense of work significance.

Therefore, this study takes medical student volunteers participating in volunteer services as the research object, tries to establish a model with sense of work meaning as a moderated mediator, explores the mechanism of the link between motivation to participate in volunteer services and the persistence of volunteer behaviors, and further clarifies the moderating role of sense of work meaning, so as to provide references and suggestions for the future research related to medical student volunteer services.

### **3. Research Design**

#### **3.1. Research hypothesis**

In order to explore in depth, the mechanism of the influence of college student volunteers' participation motivation and sense of work meaning on the persistence of their volunteer behavior, and the key role played by the sense of work meaning in it. Existing studies have pointed out that there is a significant positive correlation between participation motivation and sense of meaning of volunteer work, and these findings indicate that there is a close relationship between the three variables of participation motivation, sense of meaning of work and sustainability of volunteer behavior. The following research hypotheses are proposed to address the association between motivation to participate, sense of meaning of work and continuity of volunteer behavior among college student volunteers:

H1: There is a positive correlation between the motivation to participate and the sense of work significance of college student volunteers in medical colleges and universities;

H2: There is a positive correlation between motivation for participation and volunteer behavior continuity among college student volunteers in medical colleges and universities;

H3: There is a positive correlation between the sense of work meaning and volunteer behavior persistence among college student volunteers in medical colleges and universities;

H4: The sense of work significance of college student volunteers in medical colleges and universities mediates the relationship between motivation to participate and volunteer behavior persistence.

##### **3.1.1 Volunteer Action Kinetic Motivation Questionnaire.**

The Volunteer Action Kinetic Motivation Questionnaire constructed by Clary et al. was used. The scale adopts a 7-point Likert scale, and a higher score means a stronger motivation of volunteers to serve. After statistical analysis, the Cronbach's  $\alpha$  coefficient of this scale in this study is 0.954, showing a very high internal consistency.

### 3.1.2 Comprehensive Meaningfulness of Work Scale (CMWS)

The Comprehensive Meaningful Sense of Work Scale developed by Lips-Wiersma and Sarah Wright was used. The scale also adopts a 7-point scale format, covering multiple dimensions such as solidarity with others, service to others, fulfillment of self-potential, personal growth and achievement, acceptance of reality, feelings of motivation, and stress management. Considering the differences in job content between college student volunteers and corporate employees, the textual expressions in the scale were appropriately adjusted to better fit the actual situation of college student volunteers. The Cronbach's  $\alpha$  coefficient of the scale in this study is 0.92, reflecting good reliability.

### 3.1.3 Minnesota Job Satisfaction Questionnaire (MSQ) short-form scale

The Minnesota Job Satisfaction Questionnaire (MSQ) short-form scale developed by Weiss, Dawis et al. was used, which is divided into two dimensions, intrinsic satisfaction and extrinsic satisfaction, with a total of 20 assessment items. The scale is in the form of a 5-point scale, with higher scores indicating higher satisfaction of volunteers. On the basis of combining the adaptations of other scholars, the scale was appropriately adjusted to better suit the object of this study. The results of statistical analysis show that the scale has high reliability in this study, with a Cronbach's alpha coefficient of 0.946.

## 3.2. Data sources

This study took college student volunteers in Nanjing medical colleges as the main research object, and was conducted by distributing the questionnaire online. The questionnaire mainly covered the basic demographic characteristics of college student volunteers in medical colleges, their motivation to participate in volunteering, their perception of the significance of their work, and the persistence of their volunteer behavior. A total of 282 questionnaires were distributed in this study, and 282 were returned with a 100% recovery rate. In addition, this study deleted 61 invalid questionnaires by setting 2 specified option questions and the situation of answering patterns, and 221 valid questionnaires were recovered, with an effective recovery rate of 78.37%.

Questionnaire was used in this study. The first part of the questionnaire included demographic variables statistics. The second part included three formal questionnaires. The formal questionnaires were mainly based on Likert's five-point scale.

## 3.3. Methodology

In this paper, reliability analysis is used to test the reliability of the survey data, descriptive statistics are used to analyze the sample situation, and independent samples t-tests are used to understand whether there are differences in the three variables of gender, whether they are medical majors, and whether they have joined a voluntary organization; and one-way ANOVA is used to analyze the five variables of the grade of study, political profile, monthly living expenses, service hours and service frequency. Pearson correlation analysis was used to analyze the relationship between motivation to participate, sense of meaning of work and persistence of volunteer behavior among college student volunteers in medical colleges and universities, and regression analysis was used to further test the relationship among variables. A structural model was established to analyze the relationship among motivation to participate, sense of meaning of work and persistence of volunteer behavior among college student volunteers in medical colleges and universities, and mediation effect analysis was conducted with the help of Bootstrap.

## 4. Results and Analysis

### 4.1. Descriptive statistical analysis

Among the 221 questionnaires effectively recovered (see Table 1), there were 54 male subjects, accounting for 24.4% of the total sample, and 167 female subjects, accounting for 75.6%. In terms of grade level, there were 136 students from freshmen, accounting for 61.5%; 61 students from

sophomores, accounting for 27.6%; 15 students from juniors, accounting for 6.8%; and fewer from seniors, juniors, and master's degree holders and above. In terms of majors, there were 191 college student volunteers from medical colleges and universities majoring in medicine, accounting for 86.4%; and 30 college student volunteers from medical colleges and universities majoring in non-medicine majors, accounting for 13.6%. There were 8 college student volunteers whose monthly living expenses were less than 1,000 yuan, accounting for 3.6%, and 61 college student volunteers whose monthly living expenses were between 1,000 and 1,500 yuan (including 1,500), accounting for 27.6%.

**Table 1.** Descriptive statistical results of volunteer participation of college students (N=221)

Variable	Type	Sample size	Percentage
Gender	Male	54	24.4%
	Female	167	75.6%
Grade level	Freshman year	136	61.5%
	Sophomore	61	27.6%
	Junior	15	6.8%
	Senior	4	1.8%
	Freshman	1	0.5%
Political Affiliation	Master's degree and above	4	1.8%
	CPC members (including reserve members)	3	1.4%
	Members of the Communist Youth League	152	68.8%
	Masses	66	29.9%
Specialties	Other	0	0.0%
	Medicine	191	86.4%
Current monthly living expenses	Non-medical	30	13.6%
	about 1000 RMB and below	8	3.6%
	1,000-1,500 RMB (including 1,500)	61	27.6%
	1500-2000 RMB (including 2000)	98	44.3%
	2,000-3,000 RMB (including 3,000)	48	21.7%
Whether to join voluntary service organizations	More than RMB 3,000	6	2.7%
	No	139	62.9%
Frequency of participation in volunteer activities in the past year	Yes	82	37.1%
	Less than twice	10	4.5%
Duration of participation in volunteering	Three times or five times	124	56.1%
	Six times or eight times	79	35.7%
	More than nine times	5	2.3%
	1 month and less	168	76.0%
	2-4 Months	31	14.0%
	4-6 months	8	3.6%
	More than 6 months	14	6.3%

In terms of volunteer service-related situations, among the 221 subjects, a total of 168 volunteers, or 76.0%, volunteered for 1 month and less; 31 volunteers, or 14.0%, volunteered for 2-4 months; 31 volunteers, or 3.6%, volunteered for 4-6 months; and 31 volunteers, or 3.6%, volunteered for 4-6 months. accounting for 3.6%; 82 college student volunteers from medical colleges and universities who joined volunteer service organizations, accounting for 37.1%; and 139 college student volunteers from medical colleges and universities who did not join volunteer service organizations, accounting for 62.9%.

Based on the above demographic characteristics, most of the volunteers in this sample were college student volunteers from medical colleges and universities who were enrolled in their freshman to junior year of medical majors, and the number of females was significantly higher than that of males.

#### 4.2. Participation Motivation, Sense of Meaningfulness of Work and Continuity of Volunteer Behavior

When exploring the participation motivation of college student volunteers, the average score of college student volunteers participating in the survey was 5.86 (please see Table 2), with a standard deviation of 1.07; further analysis of their sense of significance of their work in volunteering showed that the average sense of significance score was 3.97, with a standard deviation of 0.79, and when evaluating the continuity of college student volunteers' volunteer behavior, the mean value of the continuity score was found to be 3.37, with a standard deviation was 0.88.

**Table 2.** Descriptive statistical results of college student volunteers' volunteer participation (N=221)

Category	Mean	Standard deviation
Motivation for participation	5.86	1.07
Sense of meaning of work	3.97	0.79
Persistence of volunteer behavior	3.37	0.88

#### 4.3. Relationship between motivation to participate, sense of job significance and persistence of volunteer behavior among college student volunteers in medical colleges and universities

##### 4.3.1 Regression Analysis of Participation Motivation of College Student Volunteers in Medical Colleges and Universities on Sense of Meaning at Work

**Table 3.** Motivation for volunteer participation on sense of job significance among university students in medical colleges (n=221)

	Unstandardized coefficient		Standardized coefficient	t	P	VIF	R <sup>2</sup>	F
	B	standard error	Beta					
Constant	1.35	0.386	-	3.497	0.001***	-		
Sense of job significance	1.095	0.056	0.81	19.559	0.000***	1.114		
Gender	0.123	0.074	0.069	1.654	0.100*	1.125		
Grade Level	-0.045	0.033	-0.055	-1.357	0.176	1.079		
Politics	-0.006	0.065	-0.004	-0.091	0.928	1.064		
Major	0.042	0.089	0.019	0.473	0.637	1.031		
Monthly living expenses	-0.012	0.037	-0.013	-0.317	0.752	1.094	0.675	F=48.678 P=0.000***
Length of volunteer service	-0.019	0.037	-0.02	-0.505	0.614	1.05		
Frequency of volunteering	0.013	0.052	0.01	0.241	0.81	1.197		
Whether to join a volunteer organization	0.005	0.066	0.003	0.077	0.939	1.127		

Dependent variable: motivation to participate

Regression analysis (see Table 3) was used to further explore whether the motivation of college student volunteers in medical colleges and universities has a significant predictive effect on the sense of meaning at work. The R-square value of the model was 0.675, and motivation to participate

explained 67.5% of the variation in sense of job meaningfulness. The F-test of the model was found to pass the F-test ( $F=48.678, p=0.000<0.05$ ), indicating that the model construction was meaningful, i.e., it indicated that motivation to participate would have a significant positive relationship on the sense of job meaningfulness. The research hypothesis H1 is valid.

### 4.3.2 Regression Analysis of Participation Motivation of College Student Volunteers in Pharmaceutical Colleges and Universities on the Persistence of Volunteer Behavior

Regression analysis (Table 4) was used to further explore whether the motivation of college student volunteers in medical colleges and universities to participate had a significant predictive effect on the sense of meaning of work. The R-square value of the model is 0.376, which means that motivation explains 37.6% of the variation in the sense of job meaningfulness. The F-test of the model was found to pass the F-test ( $F=14.107, p=0.000<0.05$ ), which indicates that the model construction is meaningful, i.e., it means that motivation to participate will have a significant positive relationship on the sense of job meaningfulness. The research hypothesis H2 was established.

**Table 4.** Volunteer participation motivation on persistence of volunteer behavior among college students in medical colleges and universities (n=221)

	Unstandardized coefficient		Standardized coefficient	t	P	VIF	R <sup>2</sup>	F
	B	Standard error	Beta					
Constant	2.831	0.54	-	5.245	0.000***	-		
Sense of job significance	0.868	0.088	0.583	9.902	0.000***	1.172		
Gender	0.095	0.103	0.053	0.927	0.355	1.124		
Grade Level	-0.077	0.045	-0.095	-1.686	0.093*	1.074		
Politics	-0.067	0.09	-0.042	-0.747	0.456	1.063		
Major	0.009	0.124	0.004	0.074	0.941	1.031		
Monthly living expenses	0.012	0.051	0.013	0.235	0.814	1.093	0.376	F=14.107 P=0.000***
Length of volunteer service	0.02	0.051	0.022	0.394	0.694	1.044		
Frequency of volunteering	0.011	0.074	0.009	0.153	0.878	1.246		
Whether to join a volunteer organization	0.07	0.092	0.044	0.759	0.448	1.131		

Dependent variable: Persistence of volunteer behavior

### 4.3.3 Regression Analysis of Sense of Meaningfulness of Volunteer Work on Persistence of Volunteer Behavior among College Students in Pharmaceutical Colleges and Universities

The R-square value of the model was 0.484 (Table 5). meaning that motivation to participate could explain 48.4% of the variation in volunteer behavior persistence. The F-test of the model found that the model passed the F-test ( $F=22.011, p=0.000<0.05$ ), implying that the sense of job significance would have a significant positive influence relationship on volunteer behavior persistence. Research hypothesis H3 was established.



**Table 5.** Volunteer Work on Persistence of Volunteer Behavior among College Students in Pharmaceutical Institutions (n=221)

	Unstandardized coefficient		Standardized coefficient	t	P	VIF	R <sup>2</sup>	F
	B	Standard error	Beta					
Constant	1.59	0.363	-	4.381	0.000***	-		
Sense of job significance	0.737	0.059	0.669	12.495	0.000***	1.172		
Gender	-0.026	0.069	-0.02	-0.377	0.707	1.124		
Grade Level	-0.032	0.031	-0.054	-1.057	0.292	1.074		
Politics	-0.064	0.06	-0.055	-1.07	0.286	1.063		
Major	-0.029	0.083	-0.018	-0.349	0.728	1.031		
Monthly living expenses	0.025	0.034	0.038	0.733	0.465	1.093	0.484	F=22.011 P=0.000***
Length of volunteer service	0.037	0.034	0.054	1.071	0.285	1.044		
Frequency of volunteering	-0.014	0.05	-0.016	-0.289	0.773	1.246		
Whether to join a volunteer organization	0.055	0.062	0.047	0.897	0.371	1.131		

Dependent variable: Sense of meaning of work

**4.4. Analysis of the mediating effect of job satisfaction**

**Table 6.** Table of path coefficients

Path	Unstandardized coefficient	Standard Error	z-value	P-value	Significant judgment	Lower limit of confidence interval	Upper confidence interval	Standardized coefficient β
Sense of meaning in work ← Motivation to work	1.599	-0.139	11.546	0.001	***	1.328	1.871	0.848
Volunteer continuity ← Motivation	0.003	-0.156	0.016	0.987		-0.304	0.309	0.002
Volunteering continuity ← Sense of job significance	0.595	-0.096	6.174	0.001	***	0.406	0.784	0.746

Amos 26.0 software was used for structural equation modeling to test the mediating effect of sense of job significance in the relationship between motivation to volunteer and persistence of volunteer behavior (Table 6). Job motivation has a significant positive effect on sense of job significance (path coefficient is greater than 0), with a coefficient of 0.848, P-value = 0.001; Job motivation has a non-significant effect on volunteering persistence, with a P-value = 0.987), which is greater than 0.05; Sense of job significance has a significant positive effect on volunteering persistence (path coefficient is greater than 0), with a coefficient of 0.746, P-value = 0.001.

The mediating effect is a common concept in statistics and psychology that describes how one variable can have an effect on a third variable by influencing another variable. In actual research, mediating effects are determined through statistical tests, usually involving regression analysis. The researcher will test the effect of the independent variable on the mediating variable and the effect of the mediating variable on the dependent variable. If both of these effects are significant, then it can be assumed that there is a mediating effect. In this paper, the following analysis is derived from the modeling and analysis of the data.

**Table 7.** Mediating analysis of the persistence of sense of meaning at work between motivation to participate and volunteering behavior Table

	Effect value	Standard deviation	Z	P	Significance	LLCI	ULCI
Regression Paths:							
Sense of meaning in work← Motivation to work (a)	0.604	-0.029	21.023	< .001	***	0.547	0.66
Volunteer continuity← Motivation to work (c)	0.078	-0.056	1.392	0.164		-0.032	0.189
Volunteering continuity ← Sense of job significance (b)	0.538	-0.076	7.06	< .001	***	0.388	0.687
Defined Effects:							
Intermediary effect	0.325	-0.048	6.693	< .001	***	0.23	0.42
Direct effect	0.078	-0.056	1.392	0.164		-0.032	0.189
Total effect	0.403	-0.036	11.177	< .001	***	0.332	0.474

Bootstrap method constructs many equally sized samples from the data set through a large number of re-sampling (usually thousands or more), and then calculates the mediation effect in each sample, from which the approximate sampling distribution of the mediation effect is constructed. Therefore, this paper uses Bootstrap method to test the mediation effect, LLCI and ULCI denote confidence intervals, according to the results shown in the Table 7, the following conclusions can be drawn: the size of the mediation effect is 0.325 and its P value is less than 0.001, indicating that this effect is significant, while the value of the direct effect is 0.078, but the P value of 0.164, which means that the effect is not significant. In addition, the total effect value was 0.403 with the same p-value less than 0.001 indicating that the total effect was significant. Based on these findings, it can be concluded that the sense of meaning of work plays a fully mediating role between motivation to participate and persistence in volunteering. Therefore, it can be confirmed that hypothesis H4 is valid.

## 5. Analysis and Discussion

### 5.1. Demographic variables and differences in each variable

In examining the motivation of college student volunteers in medical colleges and universities to participate, this study found that freshmen and sophomores demonstrated stronger motivation to participate in volunteering compared to juniors and seniors. This finding coincides with Zhang Netcheng's conclusion in his study of Chinese citizens' volunteer behavior that freshman and sophomore volunteers are more inclined to actively participate in volunteer service activities.

In terms of the political profile of college student volunteers in medical colleges and universities, college student volunteers whose political identities were party members or members of the Communist Youth League gained a stronger sense of meaning in their work and continuity of their volunteer behaviors in their volunteer activities than their classmates who were members of the general public. This is related to the role position and purpose consciousness of party members. Party members have a high degree of political awareness and sense of purpose. They always keep in mind the fundamental purpose of serving the people. This role orientation and sense of purpose gives them a stronger sense of responsibility and mission in volunteering, which enables them to gain a stronger sense of meaning in their work and sustain their participation in volunteering activities.

In exploring the relationship between frequency of volunteering participation and motivation, this study found that students who participated in volunteering activities with a higher frequency in the last year had stronger motivation for volunteering participation, a stronger sense of job significance, and persistence in volunteering behavior. This is consistent with the findings of Li Hu, who concluded that college students' motivation to participate in volunteering is related to the frequency of their participation in volunteering. The total motivation scores of college students who actually participated frequently and those who wished to participate frequently were significantly higher than those who actually participated occasionally and those who wished to participate occasionally, respectively [14]. Volunteers gradually enhanced their sense of social responsibility, accumulated experience and

satisfaction, established interpersonal relationships and social networks, developed habits, as well as recognition and love of the activities are related to some of the factors, and the combined effect of some of these factors motivated them to be more determined to continuously participate in volunteering activities.

In terms of whether or not they joined a volunteer organization, university student volunteers in medical colleges who added a volunteer organization had greater volunteer continuity, and the results were significant. This is the same as the results of Zhang Lian's study. College students' participation in volunteer activities is usually carried out by using the school's volunteer organization [3]. In addition, volunteer organizations usually have a more complete organization and management mechanism, which can provide systematic training, management and support for volunteers, and provide opportunities and platforms for volunteers to continuously participate in activities.

In addition, this study explored the effects of factors such as gender, political appearance, length of volunteer service, monthly living expenses, and majors studied on the motivation of college student volunteers in medical colleges and universities to participate. These factors did not have a significant impact on the related behaviors and feelings of volunteers.

## **5.2. Analysis of the relationship between participation motivation, sense of work significance and persistence of volunteering behavior**

### **5.2.1 Relationship Analysis between Participation Motivation and Sense of Work Significance**

According to the results in the study, there is a significant positive correlation between participation motivation and sense of work significance. Scholars such as Wang Zhen Song Meng pointed out that work meaning is an important work characteristic of the sense of work mission and an important aspect of the employee's intrinsic work motivation [15], while work engagement is a direct reflection of work meaning [16]. Li Hu et al. found that "the primary motivation of college students' volunteering is "altruism", feeling that volunteering is meaningful and can help people in need, and it is a way to return to society and fulfill the responsibility of citizens" [14]. The achievement of volunteers' motivation is closely related to the acquisition of volunteers' sense of meaning in their work. First, there is congruence between motivation and behavior, and volunteers are more likely to feel fulfilled and meaningful when their motivation is congruent with the actual content and context of their work. For example, if a volunteer's motivation is to help others, and their work does provide substantial help to the community, their motivation is fulfilled, which enhances their sense of meaning in their work. Second, the degree of motivational fulfillment. The higher the level of motivational fulfillment of volunteers, the greater their sense of meaning in their work. This satisfaction may come from completing tasks, seeing positive results, being recognized and appreciated by others, and so on. When volunteers' motivation is fully satisfied, they will feel that their work is valuable, thus enhancing their sense of work significance. Finally, the strength and durability of motivation. Strong motivation can drive volunteers to work more devotedly and continuously for the realization of goals. This intensity and persistence will make volunteers more resilient in the face of difficulties and challenges, thus increasing their sense of meaning in their work. At the same time, persistent motivation also means that volunteers are more willing to participate in volunteering for a longer period of time, thus experiencing the significance of their work in a deeper way.

### **5.2.2 Analysis of the Relationship between Participation Motivation and Persistence of Volunteer Behavior**

According to the results in the study, it can be seen that there is a significant positive correlation between participation motivation and volunteer behavior persistence. As pointed out by Chen Meiling scholars, college student volunteers with stronger motivation for participation also have stronger willingness to volunteer continuity. First, when volunteers' motivation is satisfied, such as when they see that their efforts have had a positive social impact or when they have received recognition and appreciation from others, they will feel satisfied and have a sense of accomplishment. This sense of

fulfillment will motivate them to continue to participate in volunteering because they want to continue to experience this positive emotion. Second, one of the motivations for volunteers to participate in service is the pursuit of self-actualization and growth. When their motivations are fulfilled, such as when they have upgraded their skills, gained new knowledge, or understood social issues through volunteering, they are more motivated to stay involved because they see their own growth and progress in volunteering. In addition, volunteering is a way to build social connections and a sense of belonging. When volunteers' motivations are fulfilled, such as when they feel part of the community or when they develop strong friendships with the volunteer team, they are more motivated to stay involved because they value this social connection and sense of belonging.

### **5.2.3 Analysis of the Relationship between Sense of Meaningfulness of Work and Persistence of Volunteer Behavior**

Based on the results in the study, it can be seen that there is a significant positive correlation between the sense of work meaning and volunteer behavior persistence. Starting from the theoretical aspect, according to the motivation function theory when volunteers find volunteering valuable, positive to their development and help them to realize their own goals, volunteers will maintain the choice of participating in volunteering. By participating in service activities, volunteers can realize their self-worth and feel the value of their existence to society and others. This sense of value will make them cherish and value their volunteer work more, and thus be more motivated to sustain their participation. In addition, they will receive social recognition and respect, skill enhancement and personal growth, from which their sense of social identity and personal enhancement will make them cherish and value their volunteering opportunities more, and be more willing to continue to engage in volunteering.

### **5.2.4 The Mediating Role of Sense of Work Meaning in Participation Motivation and Volunteer Behavior Persistence**

After an in-depth study of the structural model of the relationship between participation motivation, job satisfaction and volunteer behavior persistence through Bootstrap analysis, this study reveals the fully mediating role played by the sense of job significance. Participation motivation, as an intrinsic force that drives individuals to commit to specific activities or behaviors, is particularly important in the field of volunteering and has a significant impact on the persistence of volunteer behavior. However, given the diversity of influencing factors, this study may not have been able to comprehensively cover all elements in the selection of variables, and thus there are other potential factors that play a role in the relationship between motivation to participate and the persistence of volunteer behavior.

First, participation motivation directly affects volunteer behavior persistence. Strong participation motivation is an important driving force for volunteers to sustain their participation in service activities. When volunteers have a strong interest and enthusiasm in volunteering activities, or a strong sense of social responsibility and personal mission, they are more likely to participate in volunteering continuously. This kind of motivation can inspire volunteers to maintain a positive attitude in the face of difficulties and challenges, thus sustaining their participation in volunteer service. Second, participation motivation indirectly affects volunteer behavior continuity through the sense of work meaning. Sense of work significance refers to an individual's perception of the value and significance of the work or activity he or she is engaged in. When volunteers perceive that their service activities are valuable to society and others and can bring about positive changes, they will feel that their work is meaningful, thus generating stronger motivation for sustained participation. Volunteers with strong motivation to participate are more likely to experience a sense of meaning in their work because they are more likely to find satisfaction and fulfillment from their service. This sense of meaning will further energize volunteers' intrinsic motivation, making them more willing to participate in volunteer services on a sustained basis.

## **6. Conclusion and recommendations**

### **6.1. Conclusion**

Based on the comprehensive analysis of the questionnaire data, college student volunteers in medical colleges and universities exhibit a moderate level of service behavior persistence, with a mean score of 3.3665, which translates to 67.33 points under the percentage system. This result indicates that the continuity of volunteer service behavior is generally at an average level in the studied sample. Given the unique advantages of the professional and cultural knowledge and background possessed by university students in medical colleges in volunteering services such as health service rescue, how to further enhance the persistence of their volunteer behavior has become a key issue in improving the overall quality of volunteer services.

In addition, this study explored the relationship between volunteer motivation, sense of meaning of work and sustainability of volunteering through the research method of questionnaire survey and data analysis with the help of statistical software SPSS 22.0. The following conclusions were drawn from the study:

H1: A positive correlation is established between motivation to participate and sense of work meaning of college student volunteers in medical colleges;

H2: A positive correlation was established between motivation to participate and persistence of volunteering behavior among college student volunteers in medical colleges and universities;

H3: A positive correlation holds between the sense of work meaning and volunteer behavior continuity of college student volunteers in medical colleges and universities;

H4: The mediating role of college student volunteers' sense of work significance in medical colleges and universities in the relationship between motivation to participate and volunteer behavior persistence is established.

Based on the above research analysis, this study puts forward the following recommendations in a targeted manner, aiming to effectively promote the sustainability of college student volunteer service activities in medical colleges and universities.

### **6.2. Recommendations**

#### **6.2.1 Suggestions from the perspective of enhancing service motivation**

This study found a positive correlation between college student volunteers' motivation to participate and the continuity of volunteer behavior. Volunteer service activities can be targeted to match college student volunteers in medical colleges with relevant volunteer service motivations, and at the same time reasonably utilize and guide volunteer service motivations, so as to further intentionally cultivate their willingness to participate in volunteer service on a continuous basis in the activities. In addition, we can establish a volunteer file database to match activities and volunteers; we can also establish an incentive mechanism to rationally utilize and guide the motivation to transform short-term self-interested motivation into long-term willingness to participate in volunteering activities on a continuous basis, so as to mobilize the motivation of college student volunteers in medical colleges to participate in volunteering activities.

#### **6.2.2 Suggestions from the perspective of enhancing the sense of meaning of work**

In order to enhance the sense of meaning of work and the continuity of volunteering activities of college student volunteers in medical colleges and universities, it is necessary to implement a multi-dimensional and long-term strategy. This mainly includes three key aspects: first, strengthening the cultivation of volunteers' volunteer spirit through training, so that they deeply understand the core values and concepts of volunteering; second, setting up exemplary volunteers' typical examples, and enhancing the volunteers' enthusiasm for service through the motivation and sharing of advanced stories; and lastly, setting up an effective feedback mechanism for volunteering, so that the volunteers can understand their work performance and results in a timely manner, and feel the Finally, an effective volunteer service feedback mechanism is established so that volunteers can know their work

performance and results in time and feel the positive impact of their service, thus enhancing the sense of meaning of work. These measures work together to enhance the continuity of volunteer service and the motivation of college students to participate.

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