Exploring the Impact of the Motivations to Volunteer for Science Popularization on Work Performance —Taking the representative science popularization base in the Yangtze River Delta region of China as an example

Hui Li[1,a] , Yaoyao Zhu[1,b], Qiang Li[1,c], Yiting Wu[2,d] , Zhonghai Yu[3,e*]

{lihui@stiei.edu.cn[a], zhuyaoyao@stiei.edu.cn[b], liqiang@stiei.edu.cn[c], stella_wuyiting@163.com[d],865100682@qq.com[e]}

Shanghai Technical Institute of Electronics & Information, No. 3098, Wahong Road, Fengxian District, Shanghai, China[1]
Shanghai Science and Technology Daily, No. 53 Nanchang Road, Huangpu District, Shanghai, China[2]
Shanghai Society of Mechanical Engineering, No. 388 ,Shuiyun Road, Pudong New Area, Shanghai, China[3]

Abstract. The quality of science popularization volunteer services plays an important role in popularizing scientific knowledge, improving citizen scientific literacy, and strengthening scientific and technological service capabilities. There is diversity and uncertainty in individual differences in the motivation of science popularization volunteers. This study focuses on the relationship between the motivation of science popularization volunteers and job performance, and explores the impact of science popularization volunteer service motivation on social support, prosocial behavior, and volunteer service performance.From the Yangtze River Delta region of China, 260 science popularization volunteers were chosen for empirical research, and it was determined that the motivation of these volunteers to volunteer had a positive effect on social support, prosocial behavior, and volunteer work performance. Moreover, social support and prosocial behavior were found to have a moderating effect on job performance.Proposals for targeted measures and suggestions to boost the service motivation of science popularization volunteers, foster their value expression, learning, understanding, social interaction, career development, self-protection, and self-enhancement, and effectively enhance their performance are based on this. This should serve as a guide for the formation of volunteer service teams and the advancement of science popularization.

Keywords: Science popularization volunteers; The Motivations to Volunteer; Social support; Prosocial behavior.

1 Introduction

The Chinese People's Action Plan for Scientific Literacy (2021-2035) emphasizes that scientific and technological innovation and scientific popularization are the two main forces for creative growth, and that scientific popularization should be given the same importance as scientific and technological innovation[1].In the Opinions on Further Strengthening Science

PMBDA 2023, December 15-17, Nanjing, People's Republic of China

DOI 10.4108/eai.15-12-2023.2345381

and Technology Popularization in the New Era issued by China in 2022, it is explicitly required that the role of science popularization services in innovative development should be significantly enhanced by 2025, and a system of equal importance between science popularization and technological innovation should be basically formed. The proportion of citizens with scientific literacy should exceed 15%. Science popularization volunteers, as an important force in science popularization work, play a positive role in carrying out science education dissemination and popularization activities such as science popularization publicity, policy consultation, technical training, science popularization in communities, and on campus. Reviewing existing literature, it has been found that the development of science popularization volunteer teams has problems such as short time, small scale, and low level. The service level of science popularization volunteers needs to be improved, and the corresponding institutional mechanisms need to be improved. There is a gap between the performance of science popularization volunteers and the expectations of the general public. This article is based on existing research, combined with the work characteristics of science popularization volunteers, to explore the problems that science popularization volunteers face in service, explore how to enhance the impact of science popularization volunteer service motivation on work performance, incorporate social support and prosocial behavior into the research model, and propose corresponding countermeasures and suggestions based on the research conclusion, in order to strengthen the organization and team construction of science popularization volunteer services, and enrich and improve the research connotation of science popularization volunteer services in China.

2 Theory and research hypotheses

2.1 Science popularization volunteers

Science popularization volunteers are different from general volunteers in that they need to have high comprehensive qualities, especially basic standardized professional knowledge and the ability to formulate basic standards. Science popularization volunteers are a team that provides services to the public for science popularization activities, and they receive appropriate subsidies and volunteer service certificates. Previous studies have mostly focused on summarizing the experience and methods of building a science popularization volunteer team. There is relatively little research on the service motivation of science popularization volunteer groups. This article attempts to explore improvement measures to enhance the work performance of science popularization volunteers from this perspective.

2.2 The Motivations to Volunteer

Volunteer service motivation is the intrinsic motivation of volunteers to provide services, which motivates and maintains individuals to engage in volunteer service activities for a long time (Anderson & Moore, 1978)[2]. The volunteer service behavior is an external manifestation of service motivation, and its cognitive level, endogenous motivation, and guarantee measures are the starting points that affect volunteer service behavior. Therefore, researchers need to pay more attention to the existence of individual characteristics while grasping the overall characteristics. It can be seen that the motivation for volunteer service is influenced by both

internal and external factors of individuals. Therefore, this study fully considered the mediating factors of prosocial behavior and social support when selecting indicators.

2.3 Job performance

According to Loan (2020), firstly, job performance refers to the degree of satisfaction with work output. To improve work efficiency, it is necessary to clarify the job attributes of employees; secondly, job performance refers to the behavioral performance of employees during the work process[3]. The achievement of goals and tasks depends on the completion of behaviors, and positive and negative behaviors affect the achievement of employees' sense of self achievement; Finally, job performance is a skill requirement that includes employee cognitive function. Based on the research objectives, this article divides the performance of science popularization volunteers into three dimensions: task performance, interpersonal facilitation, and work dedication (Davidescu et al.,2020)[4]. Task performance refers to the work tasks generated by science popularization volunteers themselves and assigned by relevant leaders, resulting in quantifiable work outcomes, including the efficiency and standards of task completion. Interpersonal promotion refers to the interpersonal communication or cooperation between science popularization volunteers and visitors, other science popularization volunteers, and various administrative personnel at higher levels when completing work tasks . Work dedication refers to the work attitude of science popularization volunteers in completing work tasks, including self-sacrifice and self-discipline, such as adhering to work discipline, voluntary overtime, serious work, and overcoming difficulties.

Scholars at home and abroad have established models to study volunteer service motivation as an independent variable and job performance as a dependent variable. The earliest research on volunteer organizations was by Garner & Garner (2011) who found that volunteer service motivation has a positive impact on job performance[5]. Later, many Western scholars joined the research camp, and Vandenabeele and Kim respectively used civil servants as research samples and Okun MA, Barr A and Herzog A, on the other hand, reached the same conclusion by investigating American volunteer department employees. With the introduction of the theory of motivation for volunteer service, Kumari, et al. (2021) also found that higher motivation for volunteer service directly promotes the improvement of individual work performance[6].

Due to the lack of research on the relationship between work motivation and work performance of science popularization volunteers, and the lack of evidence to prove the impact of science popularization volunteer service motivation on social support, prosocial behavior, and work performance, this article proposes the following hypotheses:

H1: Motivation for science popularization volunteer service has a positive correlation with job performance

2.4 Prosocial behavior

Prosocial behavior refers to behaviors that meet social expectations and are beneficial to other individuals, groups, and society (Bar Tal, 1976)[7]. Research suggests that prosocial behavior can be divided into two main types: (1) altruistic behavior, which is the conscious act of helping others without seeking anything in return, and the result of the behavior is that the person being helped benefits (Thielmann, et al., 2020)[8]; (2) The act of helping or benefiting

others. That prosocial behavior refers to the act of a person gaining a sense of closeness, such as friendship, by helping others in interpersonal communication (Pfattheicher, et al., 2022)[9]. However, some scholars have suggested that prosocial behavior should not only focus on specific individuals or groups, but also on the benefits to the entire society (Baldassarri & Abascal, 2020)[10]. Therefore, a widely accepted prosocial behavior refers to behavior that is accepted and encouraged by society, including both completely altruistic behavior and behavior carried out for self-interest.

Berman &Silver (2022) argue that when individuals have higher motivation for volunteer service, they are more likely to exhibit pro social or altruistic tendencies, which leads to a strong passion and interest in the public interest or volunteer work, promoting job performance[11]. Kanwal, et al. (2020) found through literature analysis in both Chinese and English that volunteer motivation effectively promotes job performance[12], and also found mediating variables that can regulate the relationship between the two, such as cultural background, prosocial behavior, performance evaluation criteria, and research design (Labrague & De los Santos, 2020)[13]. The relationship between motivation for science popularization volunteer service, prosocial behavior, and job performance has not been clarified in existing research. Therefore, this article proposes the following hypotheses:

H2: Motivation for science popularization volunteer service has a positive correlation with prosocial behavior

H3: Prosocial behavior of science popularization volunteers has a positive correlation with work performance

H4: Prosocial behavior plays a positive mediating role between motivation for science popularization volunteer service and job performance

2.5 Social support

At present, there are several definitions of social support in the academic community: social support is a social interaction relationship between people, the behavior generated when helping each other, the way individuals exchange social resources with other groups through social networks, and a systematic psychological activity involving behavior, cognition, emotion, spirit, and other aspects (Cohen, & Syme, 1985)[15]. According to the ideas of some foreign scholars and early Chinese scholars, social support for volunteers is usually divided into formal support and informal support from the perspective of support providers. Formal support refers to a collective term used by formal organizations to provide a series of assistance to those in need, such as national, provincial and municipal governments, grassroots organizations, social institutions, etc; and informal support is mainly provided by groups such as family, neighbors, friends, etc. Compared to formal support, informal support is more uncertain and lacks policy and legal constraints. Schwarzer, Knoll, & Rieckmann (2004) argue that social support can be divided into three main categories based on the content it provides: economic support, life support, and psychological and emotional support[15]. According to the above definition, this article divides social support into formal support and informal support from the perspective of suppliers. Among them, formal support includes a series of job guarantees provided by the government for science popularization volunteers, such as social recognition, job subsidies, etc; informal support includes intergenerational family support and social interaction support. The intergenerational family support mentioned in this article refers

to economic support, life care, and spiritual comfort provided by family members. Social interaction support refers to science popularization volunteers contacting, meeting, chatting with family and friends, and seeking help.

Numerous psychological studies have shown that individuals with good social support generally have higher levels of job performance. The study on the relationship between volunteer social support and job performance has gone through two stages. In the first stage, researchers used volunteer social support as the independent variable and volunteer work performance as the dependent variable to investigate the relationship between the two. Stukas, Snyder & Clary (1999) found that social support for middle school teachers partially moderates prosocial behavior and job performance[16], and that social support for middle school teachers positively moderates volunteer job performance. The performance of volunteer work is not only influenced by social factors, but also by the subjectivity of volunteer work performance, and volunteers themselves are important influencing factors of their work performance.Freeman (1997) found through a survey that occupational burnout and social support are important factors affecting volunteer work performance. Specifically, both social support and volunteer service motivation can have an impact on the work performance of university teachers. Social support partially moderates the relationship between volunteer service motivation and volunteer work performance[17].

In the research on science popularization volunteers, the impact of social support on volunteer service motivation and work performance, prosocial behavior and work performance is not yet clear. Therefore, this article proposes the following hypotheses:

H5: Social support has a positive moderating effect on the relationship between motivation for science popularization volunteer service and work performance;

H6: Social support has a positive moderating effect on the relationship between prosocial behavior and job performance.

3 Research design

3.1 Research Model

By studying existing literature and combining theoretical foundations such as volunteer service motivation, prosocial behavior, and social support, a theoretical model based on influencing factors such as volunteer service motivation and prosocial behavior was constructed (Figure 1). The model presents a positive relationship between volunteer service motivation and job performance, and social support and prosocial behavior play a mediating role between volunteer service motivation and job performance.

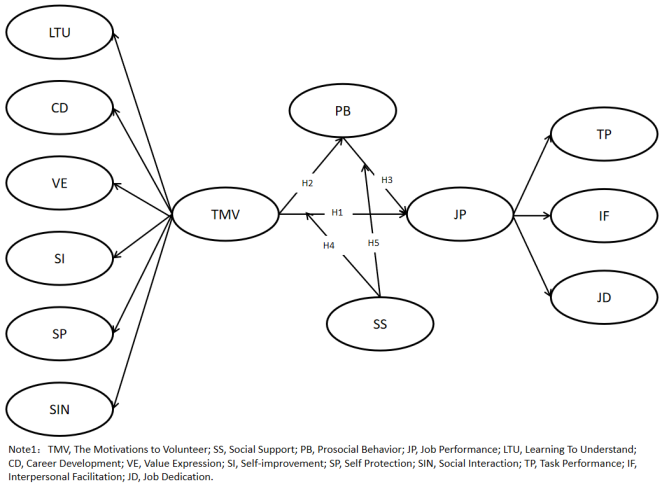

Fig. 1. Conceptual framework.

3.2 Research Design

Based on the above research hypotheses, a scale development was carried out, intending to use a mature 7-scale scale in sociological research to measure user attitudes from 1-7 points, where 1 represents "completely disagree" and 7 represents "completely agree". To ensure the reliability and validity of the scale, existing research scales were adapted, and all questions were referenced from more mature scales. The Volunteer Service Motivation Scale adopts the scale constructed by Ozorak (2003)[18], which is suitable for measuring the volunteer service motivation of young volunteers. It includes six dimensions: learning understanding, career development, value expression, self-improvement, self-protection, and social interaction. The work performance scale adopts the content of the scale constructed by Loan (2020) to measure the work performance of young people, which includes three dimensions: task performance, interpersonal facilitation, and work dedication[19]. Use the Pro Social Behavior Scale (PTM) developed by B é nabou R for pro social behavior; The Social Support Scale was measured using the Social Support Scale developed by Labrague & De los Santos (2020)[20].

4 Empirical results and analysis

4.1 Descriptive statistical analysis

During the period of March to June 2023, according to the Shanghai science and technology committee, science and technology department of Jiangsu province, Zhejiang association for science and technology, Anhui province official science base list of science and technology hall, the Shanghai and the three provinces capital city of 417 science base average sampling, randomly selected 30 science venues 260 science volunteers, through the combination of online to carry out the research. And 11 questionnaires and 11 questionnaires on service motivation, prosocial behavior, work performance and social support..

After a thorough review and screening of the questionnaire's contents, with the exclusion of any contradictory data, 247 effective samples were acquired, resulting in an effective recovery rate of 95% and a total of 260 questionnaires being recovered, with a recovery rate of 100% achieved.Table 1 reveals the results of the analysis of the study data conducted with SPSS 20.0 and Smart PLS 4.0 software. The volunteer group was predominantly composed of college students and those under 40 years old, making up 85.02% and 66.40% respectively. The age range of 18-25 was the most common, with 164 and 148 college students, 74.49% and 46.56%, respectively. Order maintenance and product explanation were the main activities of the volunteers, with 76.11% and 21.05% respectively.

Through the cross-analysis of the current career and popular science volunteer work, it is found that Although college students are the main force of popular science volunteers, However, there are few service times and fewer times, College students' group service is mainly engaged in order maintenance, For 85%, 91.89% of the people engaged in science popularization volunteers for less than one year, The number of services of less than 5 times accounted for 93.92%; At the same time, we also found that among those who have served more than 10 times, Most of them are retirees, active employees and scientific researchers, For 88.89%, The group is mainly engaged in community service, scientific research assistance, and exhibits explanation and guidance.

Table 1. Description statistical analysis.

	Option	Frequency	Percentage	effective percentage	cumulative percentage
The location of the service museum	Shanghai	136	55.06%	55.06%	55.06%
	Zhejiang	49	19.84%	19.84%	74.90%
	Jiangsu	62	25.10%	25.10%	100.00%
Gender	Male	192	77.73%	77.73%	77.73%
	Female	55	22.27%	22.27%	100.00%
Age group	under18	16	6.48%	6.48%	6.48%
	18~25	164	66.40%	66.40%	72.87%
	26~40	30	12.15%	12.15%	85.02%
	40-55	13	5.26%	5.26%	90.28%
	Over 55	24	9.72%	9.72%	100.00%
Occupation	primary and secondary school students	16	6.48%	6.48%	6.48%
	College students	148	59.92%	59.92%	66.40%
	Enterprise managers	5	2.02%	2.02%	68.42%
	Researchers	7	2.83%	2.83%	71.26%
	Current employees	15	6.07%	6.07%	77.33%
	Medical staff	16	6.48%	6.48%	83.81%
	Party and government officials Party and government officials	16	6.48%	6.48%	90.28%
	Retirees	24	9.72%	9.72%	100.00%

Volunteer time for science popularization	Under 1year	184	74.49%	74.49%	74.49%
	1-2 years	51	20.65%	20.65%	95.14%
	3-5 years	12	4.86%	4.86%	100.00%
Engaged in science popularization volunteerism	1-3 times	115	46.56%	46.56%	46.56%
	3-5 times	63	25.51%	25.51%	72.06%
	5-10 times	24	9.72%	9.72%	81.78%
	10-20 times	22	8.91%	8.91%	90.69%
	20 times above	23	9.31%	9.31%	100.00%
Engaged in science popularization volunteer specific work	Order maintenance;	188	76.11%	76.11%	76.11%
	Exhibit explanation and guidance	52	21.05%	21.05%	97.17%
	Research support	6	2.43%	2.43%	99.60%
	Other work	1	0.40%	0.40%	100.00%

4.2 Reliability and validity analysis

Two tests were conducted to authenticate the construct's validity: the convergent validity test and the discriminant validity test. According to Fornell and Larcker (1981), constructs demonstrate convergent validity if the factor loads of the indicators are greater than 0.5, the average variance extracted (AVE) is higher than 0.5, and the reliability is above 0.7[21]. Table 3 reveals that all constructs adhere to the ideas of Fornell and Larcker (1981), thus demonstrating positive convergent validity. Furthermore, the square root of AVE being greater than the correlation coefficient of the constructs was tested to verify discriminant validity, and Table 3 confirms that the constructs have discriminant validity[21].

Table 2. Reliability analysis and convergent validity..

Variable		Measured item	Standard load factor	**Cronbach's α**	**rho_A**	**CR**	**AVE**
TMV	LTU	1. Volunteering has given me a new perspective on things	0.895	0.902	0.907	0.932	0.773
		2. Volunteering has given me a deeper understanding of what I do	0.852				
		3. Participating in volunteer service has taught me a lot of practical social experience	0.863				
		4. Volunteering expands my career options	0.88				
	CD	5. Participating in voluntary service is helpful for the job I want to do	0.901	0.858	0.859	0.913	0.779
		6. Volunteering will allow me to meet people who can help me in my career	0.866				
		7. I care about those less fortunate than me	0.900				
	VE	8. I think it's important to help others	0.915	0.889	0.891	0.931	0.818
		9. I have compassion for people in need	0.898				

		10. Volunteering makes me feel wanted	0.905				
	SI	11. Volunteering makes me feel important	0.871				
		12. Volunteering makes me feel better about myself	0.878				
		13. Volunteering helped me forget about my unhappiness	0.888				
	SP	14. Volunteering helps me feel less lonely	0.906	0.860	0.867	0.915	0.720
		15. Volunteering helped me overcome my problems	0.857				
		16. My friend is a volunteer	0.848				
	SIN	17. People around me want me to volunteer	0.846	0.870	0.873	0.911	0.720
		18. People around me think volunteering is very meaningful	0.872				
		19. The quality of my work is sufficient to meet the requirements of the performance review	0.827				
		20. I always finish my work on time	0.845				
		21. The work I completed met my expectations and the requirements of my superiors	0.816				
	TP			0.882	0.884	0.914	0.680
		22. I will volunteer for a challenging job	0.834				
		23. I have strong job-related knowledge and professional skills	0.841				
		24. I can use laws and regulations accurately and effectively in my work	0.818				
		25. In the absence of leadership supervision, can stably complete the work and ensure quality	0.801				
JP							
		26. Maintain supervisor's decision, and often assist supervisor's work	0.845				
	IF	27. Always encourage colleagues to bridge the gap and get along with each other	0.816	0.827	0.831	0.885	0.658
		28. Don't shift work onto other colleagues	0.844				
		29. Pay great attention to personal image and mannerisms when interacting with others	0.810				
		30. I take the initiative to help others	0.848				
	JD	31. I will actively communicate and cooperate with others and get along well with them	0.816	0.843	0.844	0.895	0.680
		32. Have good personal self-discipline and self-control spirit	0.805				
		33. I will go out of my way to help others when they are present.	0.838				
PB		34. I feel great when I can comfort someone who is in a bad mood.	0.792	0.831	0.832	0.887	0.664
		35. When people ask me for help, I seldom refuse.	0.847				

	36. I often donate without people knowing because it makes me feel good.	0.803				
	37. I do not help others so that they will repay me in return.	0.834				
	38. When someone asks me for help, I will try my best to help them.	0.815				
	39. I often help others, even if I don't get any benefit from it.	0.832				
	40. I often help others when they are in a bad mood.	0.798				
	41. Government departments or social organizations give me adequate protection and guidance.	0.824				
	42. When I have difficulties in my work, my family will help me solve them.	0.804				
	43. When I have problems, my colleagues and friends can give me good advice.	0.824				
SS			0.841	0.841	0.893	0.676
	44. I have friends who truly understand me and accept me.	0.808				
	45. When I need my parents to cooperate, they can do it.	0.840				
	46. My friends will lend me a helping hand when I need it.	0.818				

Note1:TMV, The Motivations to Volunteer; SS, Social Support; PB, Prosocial Behavior; JP, Job Performance; LTU, Learning To Understand; CD, Career Development; VE, Value Expression; SI, Self-improvement; SP, Self Protection; SIN, Social Interaction; TP, Task Performance; IF, Interpersonal Facilitation; JD, Job Dedication.

The Fornell-Larcker criterion's standard allows for discriminant validity to be achieved in either of two scenarios: the AVE square root of the construct being more influential than its bi-variate relationship to other variables, or the factor loading of the construct surpassing the others, as Hair et al.(2017)have demonstrated have emphasized that the values on the diagonal line are directly proportional to the validity of the discriminant[22].As can be seen from the bold numbers in Table 3, the AVE square root of each construct shows more significance than its bi-variate association with other constructs, so discriminant validity can be obtained.

This study affirms the internal consistency, reliability of each item, convergent validity, and discriminant validity, thusly. There is a possibility that common method variance (CMV) could have arisen from the cognitive information of student respondents collected through self-reported scales. Therefore, to reduce the influence of CMV, we took preventive measures in our research.The purpose of the queries for the various constructs was purposely kept hidden, in addition to the employment of an anonymous poll. Moreover, the variable results confirm the construct validity, which also shows that the results are not greatly impacted by CMV (see Tables 2). The Harman's One-Factor Test (Podsakoff,1986)[23] was employed to assess the intensity of CMV in this study. Exploratory factor analysis of the 46 questions in the survey revealed that the explanatory variance for the first factor was 38.91%, which was below the 50% standard and was a non-integrated factor, thus implying that CMV was not a major issue in this study.

Table 3. Fornell–Larcker criterion.

	TMV	SS	PB	JP
TMV	0.835			
SS	0.487	0.884		
PB	0.695	0.628	0.640	
JP	0.493	0.552	0.813	0.848

Diagonal elements in bold are the square root of the AVE.

Note1:TMV, The Motivations to Volunteer; SS, Social Support; PB, Prosocial Behavior; JP, Job Performance.

4.3 Path analysis and hypothesis testing

Smart-PLS software was employed to assess the inner model via bootstrapping with 5000 re-samples and blindfolding. We obtained the standard beta (β), t-value, p value, coefficient of determination (R^2) (Hair, et al,.2017)[24],Table 4 and Figure 2 demonstrate that the hypothesis testing results of the year 2017 are in agreement with all the hypotheses.

According to Table 4, in the hypotheses of H1, H2, H3, H4, H5, and H6, the Original Sample (O) s are 0.446, 0.872, 0.144, 0.707, 0.815, and 0.903, respectively, and the T-values are 7.279, 73.589, 2.527, 28.709, 39.589, and 124.826, respectively. The P-values are less than the significant level of 0.05, so the hypotheses of H1, H2, H3, H4, and H5 are valid;

As we can see from the (R^2) results, The Motivations to Volunteer, Social Support, and Prosocial Behavior together explain 81.9% of the variance in Job Performance. According to the values of (R^2) suggested by Chin(1998)[25], the (R^2) values obtained in this study are acceptable.

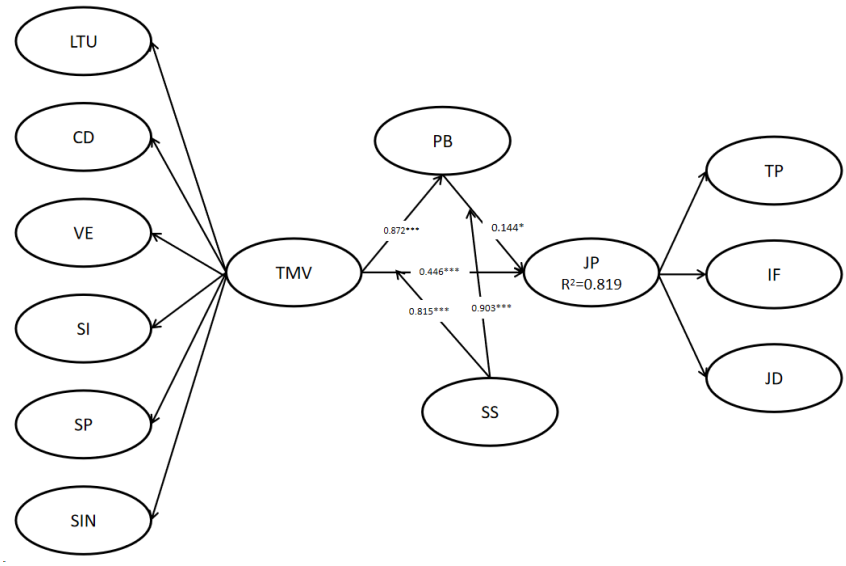

Fig. 2. Significance of inner model and results of path coefficient.

Table 4. Path coefficients.

	Hypothesis	Relationship	Original Sample	Standard Deviation	T Statistics	Decision
H1	TMV -> JP	0.446	0.440	0.061	7.279***	Supported
H2	TMV-> PB	0.872	0.872	0.012	73.589***	Supported
H3	PB -> JP	0.144	0.139	0.057	2.527*	Supported
H4	TMV-> PB -> JP	0.707	0.707	0.025	28.709***	Supported
H5	Regulatory effect 1 (SS*TMV -> JP)	0.815	0.815	0.021	39.589***	Supported
H6	Regulatory effect 2 (SS*PB -> JP)	0.903	0.903	0.007	124.862***	Supported

Note1:TMV, The Motivations to Volunteer; SS, Social Support; PB, Prosocial Behavior; JP, Job Performance. Note2:. *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$.

5 Conclusion and recommendations

This article delves into the motivation and work performance of science popularization volunteers, investigates the moderating effects of volunteer service motivation, prosocial behavior, social support, and work performance behavior, constructs a research model, gathers research data through questionnaire surveys, and applies Smart PLS 4.0 and SPSS 20.0 software to carry out a series of tests on the collected questionnaires, verifying the research model. The final conclusion is as follows:

5.1 Volunteer service motivation and prosocial behavior have a positive impact on volunteer work performance

The results indicate that volunteers with high motivation for volunteer service, whether motivated by career development, value expression, or self-improvement, can achieve work performance beyond the preset level in volunteer service, playing a positive promoting role. Therefore, by guiding volunteer service motivation and pro social behavior, work performance can be better improved. We are spurred to focus on setting up the right values, honing business acumen, and fostering a congenial social atmosphere in the development of science popularization volunteer groups, and to form a three-way, unified pattern of science popularization volunteers, venues, and atmosphere.

5.2 There is a mediating effect of prosocial behavior between volunteer service motivation and job performance

This study confirms that the motivation for science popularization volunteer service has a promoting effect on prosocial behavior, and social behavior plays a positive mediating role between science popularization volunteer service motivation and job performance. Therefore, efforts should be made to cultivate the pro social behavior of science popularization volunteers, and to create a collaborative education mechanism of mutual trust among families, venues, and society. Utilizing the advantageous resources of venues, families, and society, a cooperative community of family, venue, and society can be created for education, such as

creating a think tank to cultivate science popularization volunteers, gathering a group of experts and scholars who are passionate about science popularization, and working together to create a curriculum and practical system for education; Establishing a mechanism for science popularization volunteers to guide and guide, selecting senior business elites for one-on-one Belt and Road education, building a good trust relationship, and better leveraging the joint efforts of education to guide pro social behavior.

5.3 Volunteer service motivation and prosocial behavior can have a beneficial moderating influence on job performance, due to social support

This study indicates that when science popularization volunteers receive social support, they are more likely to participate in volunteer service and exhibit a higher tendency towards pro social behavior, which helps improve work performance. Science popularization volunteers with high motivation for volunteer service tend to make volunteer services that align with their own values, which can lead to better work performance behaviors; For the dimension of prosocial behavior, this study also obtained the same validation results. The entire process of volunteer service is profoundly impacted by informal social support, which has a considerable and timely beneficial moderating effect on the enthusiasm and work performance of science popularizing volunteer service, as well as prosocial behavior and work performance. Therefore, relevant departments need to innovate institutional systems to provide clear career development paths, systematic.

This study has its drawbacks. Firstly, the research sample was limited in terms of both human and material resources, and only selected representative science popularization bases in the Yangtze River Delta, thus limiting the universality of the conclusions. Additionally, field research revealed that science popularization volunteers are mainly composed of students with a brief service life, leading to misinterpretations of the questionnaire measurement items.Future research should take into account the aforementioned elements, enhance research techniques, broaden sampling range, thoroughly and thoroughly construct survey questionnaires, and scrutinize survey outcomes from various aspects more thoroughly.

References

[1] Notice of The State Council on issuing the Outline of the Action Plan for Scientific Literacy of the whole People (2021-2035) [JB/OL].(2021-06-03)[2023-07-06].https://www.gov.cn/gongbao/content/2021/content_5623051.htm

[2] Anderson, J. C. & Moore, L. F. The motivation to volunteer. Journal of voluntary action research, 7(3-4), pp 120-129 (1978).

[3] Loan, L.The influence of organizational commitment on employees' job performance: The mediating role of job satisfaction. Management Science Letters, 10(14), pp 3307-3312 (2020).

[4] Davidescu, A. A., Apostu, S.-A., Paul, A. & Casuneanu, I. Work flexibility, job satisfaction, and job performance among Romanian employees—Implications for sustainable human resource management. Sustainability, 12(15), pp 6086 (2020).

[5] Garner, J. T., & Garner, L. T. Volunteering an opinion: Organizational voice and volunteer retention in nonprofit organizations. Nonprofit and Voluntary Sector Quarterly, 40(5), pp813-828.(2011).

[6] Kumari, K., Barkat Ali, S., Un Nisa Khan, N. & Abbas, J. Examining the role of motivation and reward in employees' job performance through mediating effect of job satisfaction: An empirical evidence. International Journal of Organizational Leadership, 10(4), pp 401-420 (2021).
[7] Bar-Tal, D.Prosocial behavior: Theory and research (1976).
[8] Thielmann, I., Spadaro, G. & Balliet, D.Personality and prosocial behavior: A theoretical framework and meta-analysis. Psychological Bulletin, 146(1), pp 30 (2020).
[9] Pfattheicher, S., Nielsen, Y. A. & Thielmann, I.Prosocial behavior and altruism: A review of concepts and definitions. Current opinion in psychology, 44,pp124-129 (2022).
[10] Baldassarri, D. & Abascal, M. Diversity and prosocial behavior. Science, 369(6508), pp 1183-1187 (2020).
[11] Berman, J. Z. & Silver, I. Prosocial behavior and reputation: When does doing good lead to looking good? Current opinion in psychology, 43,pp102-107 (2022).
[12] Kanwal, S., Rasheed, M. I., Pitafi, A. H., Pitafi, A. & Ren, M. Road and transport infrastructure development and community support for tourism: The role of perceived benefits, and community satisfaction. Tourism Management, 77,pp104014(2020).
[13] Labrague, L. J. & De los Santos, J. A. A.COVID-19 anxiety among front-line nurses: Predictive role of organisational support, personal resilience and social support. Journal of nursing management, 28(7), pp 1653-1661(2020).
[14] Cohen, S. & Syme, S. L.Issues in the study and application of social support. Social support and health, 3,pp3-22 (1985).
[15] Schwarzer, R., Knoll, N. & Rieckmann, N.Social support. Health psychology, 158,pp181(2004).
[16] Stukas, A. A., Snyder, M. & Clary, E. G. The effects of "mandatory volunteerism" on intentions to volunteer. Psychological Science, 10(1), pp 59-64(1999).
[17] Freeman, R. B. 1997. Spurts in union growth: Defining moments and social processes. National Bureau of Economic Research Cambridge, Mass., USA(1997).
[18] Ozorak, E. W.Love of God and neighbor: Religion and volunteer service among college students. Review of religious research, 285-299 (2003).
[19] Loan, L.The influence of organizational commitment on employees' job performance: The mediating role of job satisfaction. Management Science Letters, 10(14), pp 3307-3312(2020).
[20] Labrague, L. J. & De los Santos, J. A. 2020. Association between nurse and hospital characteristics and organisational silence behaviours in nurses: A cross-sectional study. Journal of Nursing Management, 28(8), pp 2196-2204.
[21] Fornell, C. & Larcker, D. F. Evaluating structural equation models with unobservable variables and measurement error. Journal of marketing research, 18(1), pp 39-50(1981).
[22] Hair, J., Hollingsworth, C. L., Randolph, A. B. & Chong, A. Y. L. An updated and expanded assessment of PLS-SEM in information systems research. Industrial management & data systems, 117(3), pp 442-458(2017).
[23] Podsakoff, P. M. & Organ, D. W. Self-reports in organizational research: Problems and prospects. Journal of management, 12(4), pp 531-544(1986).
[24] Hair, J., Hollingsworth, C. L., Randolph, A. B. & Chong, A. Y. L. An updated and expanded assessment of PLS-SEM in information systems research. Industrial management & data systems, 117(3), pp 442-458(2017).
[25] Chin, W. W. The partial least squares approach to structural equation modeling. Modern methods for business research, 295(2), pp 295-336(1998).