



Relationship between motivational factors and functional roles chosen by student volunteers at sports competitions

Relación entre los factores de motivación y los roles funcionales elegidos por los estudiantes voluntarios en competiciones deportivas

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Abstract

Introduction: The growing role of the volunteer movement in sports highlights the importance of effectively distributing functional roles among volunteers based on their motivation and competencies.

Objective: This study aimed to identify the relationship between motivational factors and the functional roles chosen by student volunteers at sports competitions.

Methodology: The research involved 252 student volunteers from seven universities who had participated in sports events as volunteers within the last two years. Data were collected through an online survey using an adapted version of the Volunteer Functions Inventory (VFI), supplemented with additional questions on volunteering experience and satisfaction.

Results: Statistical analysis revealed significant differences in motivational factors between groups ($p < 0.001$) and confirmed a correlation between motivation alignment with role selection and satisfaction levels ($r_s = 0.45-0.58$). Additionally, a correlation was found between academic specialization and role choice ($V = 0.30-0.34$). A trend toward professionalization was observed, with the proportion of specialist volunteers increasing from 12.3% to 67.8% as experience accumulated.

Discussion: The findings align with prior research on volunteer role allocation and suggest that motivation-based placement strategies can enhance volunteer engagement and satisfaction. These insights contribute to optimizing volunteer management practices in sports events.

Conclusions: A differentiated approach to role allocation, considering students' specialization, experience, and motivation, is essential for improving the effectiveness of volunteer programs at sports events.

Keywords

Sports volunteering; student volunteers; volunteer management; volunteer motivation.

Resumen

Introducción: El creciente papel del movimiento de voluntariado en el ámbito deportivo resalta la importancia de una distribución efectiva de los roles funcionales entre los voluntarios, basada en su motivación y competencias.

Objetivo: Este estudio tuvo como objetivo identificar la relación entre los factores motivacionales y los roles funcionales elegidos por los estudiantes voluntarios en competiciones deportivas.

Metodología: La investigación involucró a 252 estudiantes voluntarios de siete universidades que habían participado como voluntarios en eventos deportivos en los últimos dos años. Los datos fueron recopilados mediante una encuesta en línea basada en una versión adaptada del Volunteer Functions Inventory (VFI), complementada con preguntas adicionales sobre experiencia en voluntariado y satisfacción.

Resultados: El análisis estadístico reveló diferencias significativas en los factores motivacionales entre los grupos ($p < 0.001$) y confirmó una correlación entre la alineación de la motivación con la selección del rol y los niveles de satisfacción ($r_s = 0.45-0.58$). Además, se encontró una correlación entre la especialización académica y la elección del rol ($V = 0.30-0.34$). Se observó una tendencia hacia la profesionalización, con un aumento en la proporción de voluntarios especializados del 12.3% al 67.8% a medida que acumulaban experiencia.

Discusión: Los hallazgos están en línea con investigaciones previas sobre la asignación de roles en el voluntariado y sugieren que las estrategias de asignación basadas en la motivación pueden mejorar la participación y satisfacción de los voluntarios. Estos resultados contribuyen a la optimización de las prácticas de gestión del voluntariado en eventos deportivos.

Conclusiones: Un enfoque diferenciado en la asignación de roles, que tenga en cuenta la especialización, experiencia y motivación de los estudiantes, es fundamental para mejorar la efectividad de los programas de voluntariado en eventos deportivos.

Palabras clave

Estudiantes voluntarios; gestión del voluntariado; motivación del voluntariado; voluntariado deportivo.

Introduction

Volunteerism plays an increasingly important role in the modern world (Nurutdinova et al., 2024), especially in the context of sports events (Khayrullina et al., 2023). According to the UN State of the World's Volunteerism Report 2022, about 862 million people volunteer full-time, equivalent to 109 million full-time employees (United Nations Volunteers (UNV) Programme, 2021). In sports, volunteering is becoming a critical element in the organization of events: for example, the London 2012 Olympic Games employed 70,000 volunteers, a record for the Summer Olympics (Dickson et al., 2014).

The growing importance of volunteering in sports is due to several key factors.

First, the economic aspect is the most important factor. Studies show that volunteering can account for up to 26-28% of the total labor force in sports in developed countries (Feiler et al., 2015). A study of Belgian sports showed that the economic value of volunteer labor is approximately 12% of the total budget of sports organizations (Vos et al., 2012). At major sports events, volunteers perform work monetarily equivalent to 15 to 20% of the event's operating budget, making sports events more affordable to host and participate in (Doherty, 2009).

Second, research also confirms the marketing effect of volunteering. Volunteers become effective promoters of sports events, contributing to its positive image and attracting new participants (Bang & Ross, 2009). Volunteers play a key role in creating the atmosphere of a sporting event and influence the overall impression of visitors (Akhmetshin et al., 2019; Hallmann et al., 2018).

Third, another key aspect is the professional development of participants, which is especially important for students (Akhmetov et al., 2024; Nassar et al., 2024). Kim and Cuskelly (2017) found that volunteering experience at sports events significantly increases the chances of young professionals finding employment in the sports industry. According to the study, about 27% of volunteers subsequently find employment in sports or related fields (Kim & Cuskelly, 2017).

Fourth, the social factor is significant as volunteering contributes to social capital and sustainable professional networks (Khasanzyanova, 2017; Peachey et al., 2015; Saleh & AlAli, 2024). International sports events create a unique environment for intercultural exchange and networking, popularizing the practice of sport (Fairley et al., 2017).

The growing need for volunteers creates new challenges for organizers to find ways to attract them and maximize the effectiveness of volunteer participation in sports events. It is important to recruit new people and work more actively with people who already have experience in sports volunteering, developing flexible programs to attract them.

We believe that new opportunities for sports event organizers lie in understanding volunteers' motivations and preferences for functional roles. Wang and Yu (2015) demonstrated the need to engage volunteers with different competences to organize sports events. It is important to design volunteer engagement programs that combine volunteers' professional skills with opportunities to learn new skills, expanding professional boundaries (Akhmetshin et al., 2024b). Lockstone-Binney et al. (2010) emphasize that the effectiveness of volunteers is greatly enhanced when their previous experience and professional skills are considered. According to Dickson et al. (2015), 76% of volunteers consider it important to match their skills with functions, with 68% noting that volunteering helped them develop new professional competences.

Recent research has marked a growing interest in student volunteering in sports. Kristiansen et al. (2015) in their study of the 2012 Youth Olympic Games found that student volunteers demonstrate patterns of motivation where professional development and practical experience play a more important role than in other age groups. According to the study, 73% of student volunteers viewed their involvement as an important step in building a career.

An in-depth study of student volunteers' motivation by Mirsafian and Mohamadinejad (2012) showed five key motivational factors: acquiring professional skills (87%), expanding social networks (82%), gaining practical experience in the sports industry (79%), the opportunity to participate in meaningful events (76%) and personal interest in sports (68%).



The distribution of functional roles among student volunteers is an important aspect. Pierce et al. (2014) analyzed volunteer programs at major university sports events and found that volunteers' effectiveness is significantly improved when their academic specialization is considered. This is supported by a longitudinal study by Koutrou and Pappous (2016) who showed that 45% of student volunteers subsequently found employment in the sports industry and 38% continued volunteering at other sports events.

When studying the relationship between the choice of functional roles and satisfaction with volunteering among students, Lee et al. (2016) found that the congruence between academic major, personal interests, and roles performed significantly increased satisfaction and likelihood of continued participation in volunteer programs.

Allen and Bartle (2014) proposed a classification of sports volunteers that distinguishes several functional types: general, specialist, sports, and urban volunteers. Developing this typology, Dickson et al. (2015) identified the main functional areas of volunteering at major sports events: service (including accreditation and navigation), sports operations (support of refereeing and handling of equipment), media communications, and technical support.

This study investigates the relationship between volunteers' motivational factors and their preferences for specific functional roles in sports organizations. Unlike previous studies that focused on general motivation to volunteer and examined volunteer motivational profiles in the context of sports mega-events (Fadeyev et al., 2023), exploring the influence of organizational support (Won et al., 2021), personal factors (Fithroni et al., 2023), including motivation, commitment, and social capital (Hallmann et al., 2020; Shurygin et al., 2024), and intention to continue volunteering (Bubnovskiy, 2023; Cho et al., 2020), this study examines motivation to choose specific functional roles among students in the context of ongoing volunteering in sports organizations.

The research objective is to identify the relationship between motivational factors and functional roles chosen by student volunteers by analyzing their experiences in sports competitions.

The research questions are as follows:

1. What motivational factors are the most significant for students in choosing volunteer roles?
2. Are there any differences in motivation between students choosing different functional roles?
3. How are satisfaction with volunteering and the choice of roles related?

Method

This study aims at identifying evidence (or refutation) for three hypotheses.

The hypotheses are as follows:

H1: There are significant differences in motivational factors between groups of students choosing different functional roles.

H2: The level of satisfaction with volunteering is conditioned by the correspondence between motivation and the chosen role.

H3: Previous volunteering experience influences the choice of more complex functional roles.

When studying the relationship between motivational factors and functional roles, we identified key characteristics influencing volunteers' choice of roles at sports events. Demographic characteristics, including gender and age, were identified as significant and showed differences in motivational patterns between males and females and different age groups (Kristiansen et al., 2015). Educational characteristics, in particular the direction of training and course of study, were regarded as influencing factors. This is supported by the works of Pierce et al. (2014), where a direct relationship was found between academic specialization and the effectiveness of volunteer roles.

Particular attention was paid to the experience of participating in different types of sports events ranging from university to international competitions. Mirsafian and Mohamadinejad (2012) demonstrated

that the level of the event significantly influences volunteers' motivation and functional preferences. Sports experience and physical activity level were also included in the analysis as the works of Lee et al. (2016) indicate their importance in selecting specialized volunteer roles, especially those related to the direct support of sports events.

Language competences were considered a significant factor (Stavruk et al., 2023), given the international nature of many sports events. Koutrou and Pappous (2016) confirmed the importance of language skills for the effective performance of urban and specialist volunteer roles. Previous volunteer experience was analyzed in terms of the number of events and the variety of functions performed. According to Allen and Bartle (2014), this directly affects the willingness of volunteers to take on more complex and responsible roles.

The combination of these characteristics formed the basis of the research toolkit aimed at identifying stable patterns in the choice of functional roles and their relationship with motivational factors. The study was conducted between September and December 2023 using an online survey.

The survey toolkit included an adapted version of the Volunteer Functions Inventory (VFI) questionnaire consisting of 30 questions on six motivational factors: career, social, values-based, development, protective, and understanding (Chacón et al., 2017). Each factor was rated on a 7-point Likert scale. The questionnaire contained blocks of questions about the respondents' volunteer experience, satisfaction, and socio-demographic characteristics.

Participants

The study sample consisted of 252 student volunteers from seven major universities who had participated in sports events in the last two years. The average age of the respondents was 20.3 years (SD=1.8), and 66.3% were female. Most respondents (83.3%) had experience participating in 1-5 sports events as volunteers.

The respondents were recruited through university volunteer centers (54%), social networks (27%), and personal contacts of volunteer program coordinators (19%).

Procedure

The process of selecting research participants included the following consecutive stages (Table 1).

At the preliminary stage (August 2023), partnerships were established with volunteer centers of seven major universities. Preliminary consents for participation in the study were obtained. A list of selection criteria for participants was formed: experience of volunteering at sports events over the last two years, current student status, and age 18-25 years.

At the preparatory stage (first half of September 2023), a pilot survey of 25 student volunteers was conducted to test the tools and refine the selection criteria. Based on the results of the pilot, the criteria were adjusted: a requirement to participate in at least one sports event at the university or higher level was added.

The main stage of recruitment of participants (October-November 2023) took three parallel directions.

Table 1. Channels of recruitment of study participants

Channel	Number of respondents	Sampling ratio
Volunteer centers of universities	136	54%
Social networks and thematic communities of volunteers	68	27%
Personal contacts of volunteer program coordinators	48	19%
Total	252	100%

In the final phase (December 2023), the received questionnaires were screened. Out of the initial 283 respondents, thirty-one questionnaires were excluded for the reasons listed in Table 2.

The final sample amounted to 252 respondents who met all selection criteria.

Table 2. Results of questionnaire screening at the final stage

Reason for exclusion	Number of questionnaires
Incomplete completion of key sections of the questionnaire	12
Failure to meet age or status eligibility criteria	8
Lack of proven participation in sports activities	11
Total excluded	31
Final sample after screening	252

Data analysis

The statistical data were processed using SPSS 26.0. We also used descriptive statistics, χ^2 test, the Kraskell-Wallis test for group comparison, and Spearman's rank correlation coefficient. The Mann-Whitney test with the Bonferroni correction was used for pairwise comparisons.

Results

The analysis of survey data from 252 student volunteers showed several patterns in the distribution of functional roles and motivational factors (Table 3).

Table 3. Distribution of respondents by type of sports events (n=252)

Type of sports events	Number of participants	Sampling ratio
International competitions	87	34.5%
All-Russian competitions	156	61.9%
Regional competitions	198	78.6%
City competitions	215	85.3%
University competitions	223	88.5%

Note: the sum exceeds 100% as the respondents could participate in several types of events

The analysis of volunteering experience showed that most students start with participation in university and city events, gradually moving to larger-scale competitions. This is indicated by the decreasing dynamics from the university (88.5%) to the international level (34.5%).

The results of the functional role distribution analysis showed that the most common role is that of a general volunteer (78.6%) (Table 4). There is a significant relationship between participation experience and specialization: specialist volunteers have the highest average participation experience (4.1 activities), which confirms the tendency toward professionalization with the accumulation of experience (Table 5).

Table 4. Distribution of respondents by functional roles and participation experience (n=252)

Functional role	Total participants	Sampling ratio	Average participation experience (number of events)
General volunteers	198	78.6%	2.3
Specialist volunteers	86	34.1%	4.1
Sports volunteers	124	49.2%	3.8
Urban volunteers	156	61.9%	2.9

Note: the sum exceeds 100% as the respondents could fulfill more than one role

Table 5. Relationship between academic specialization and choice of functional roles (χ^2 criterion, n=252)

Specialization	General	Specialist	Sports	Urban	χ^2	p-value
Sports education	68.4%	29.8%	82.3%	55.6%	23.45	<0.001
Technical science	72.3%	76.5%	31.2%	58.9%	19.87	<0.001
Linguistics	75.6%	45.6%	38.9%	89.2%	27.34	<0.001
Other	85.4%	22.3%	44.5%	63.4%	15.78	<0.01

Note: percentages reflect the share of students of a given specialization who chose the appropriate role

The χ^2 criterion showed statistically significant differences in the choice of functional roles depending on academic specialization ($p < 0.001$). This relationship is especially noticeable for sports students, who more often choose the role of sports volunteers (82.3%), and linguistics students, predominantly choosing the role of urban volunteers (89.2%).



The data confirm stable patterns in the choice of functional roles depending on specialization and volunteer experience, which provides a basis for further analysis of motivational factors (Table 6).

Table 6. Average values of motivational factors according to the VFI scale for different functional roles (n=252)

Motivational factor	General	Specialist	Sports	Urban	H*	p-value
Career	5.2 (1.1)	6.4 (0.8)	5.8 (0.9)	5.5 (1.0)	24.67	<0.001
Social	5.8 (0.9)	5.1 (1.2)	5.4 (1.0)	6.2 (0.7)	19.34	<0.001
Values-based	5.3 (1.0)	5.5 (0.9)	6.1 (0.8)	5.7 (0.9)	15.89	<0.01
Development	5.4 (1.1)	6.3 (0.7)	5.9 (0.9)	5.6 (1.0)	22.45	<0.001
Protective	4.2 (1.3)	4.0 (1.4)	4.3 (1.2)	4.1 (1.3)	3.56	0.312
Understanding	5.6 (0.9)	6.0 (0.8)	5.8 (0.9)	5.9 (0.8)	12.78	<0.01

Note: Standard deviation is given in parentheses; *H is the Kraskell-Wallis criterion

The Kraskell-Wallis criterion showed statistically significant differences between the groups for most motivational factors. The most pronounced differences were observed in the career factor (H=24.67, $p<0.001$) and the development factor (H=22.45, $p<0.001$). The protective factor showed no significant differences between groups (H=3.56, $p=0.312$).

Correlation analysis showed moderate correlations between motivational factors and various aspects of satisfaction with volunteering (Table 7). The most pronounced correlation was found between the social factor and social aspects of satisfaction ($r_s=0.48$, $p<0.01$), which corresponds to a moderate correlation on the Cheddock scale. The development factor showed a moderate correlation with future intentions to continue volunteering ($r_s=0.46$, $p<0.01$).

Table 7. Correlation analysis of the relationship between motivational factors and satisfaction with volunteer activities (Spearman's correlation coefficient, n=252)

Motivational factor	Overall satisfaction	Organizational aspects	Social aspects	Future intentions
Career	0.45**	0.38**	0.29*	0.52**
Social	0.51**	0.43**	0.58**	0.47**
Values-based	0.48**	0.35**	0.42**	0.54**
Development	0.53**	0.41**	0.37**	0.56**
Protective	0.22*	0.19	0.25*	0.18
Understanding	0.47**	0.44**	0.39**	0.49**

Note: * $p<0.05$; ** $p<0.01$

The career motivational factor shows a moderate correlation with future intentions ($r_s=0.42$, $p<0.01$) and overall satisfaction ($r_s=0.35$, $p<0.01$), but a weak correlation with social aspects ($r_s=0.19$, not statistically significant). The values-based factor has a moderate correlation with future intentions ($r_s=0.44$, $p<0.01$) and overall satisfaction ($r_s=0.38$, $p<0.01$).

The protective factor showed weak and statistically insignificant correlations with all aspects of satisfaction (r_s ranged from 0.08 to 0.15). The understanding factor showed moderate correlations with all aspects of satisfaction except social aspects, where the correlation was weak ($r_s=0.29$, $p<0.05$).

The analysis showed a significant tendency to move from general roles to more specialized functions with the accumulation of volunteering experience (Table 8). An increase in specialist (from 12.3 to 67.8%) and sports volunteer roles (from 28.7 to 78.2%) is connected with increasing experience.

Table 8. Influence of volunteer experience on the choice of functional roles (n=252)

Participation experience	General	Specialist	Sports	Urban	χ^2	p-value
1 event	85.4%	12.3%	28.7%	45.6%	31.24	<0.001
2-3 events	76.8%	27.8%	42.3%	58.9%	28.67	<0.001
4-5 events	68.5%	48.9%	65.4%	72.3%	25.89	<0.001
Over 5 events	54.3%	67.8%	78.2%	75.6%	29.45	<0.001

The analysis of demographic characteristics showed statistically significant, but mostly weak and moderate relationships with the choice of functional roles (Table 9). The most pronounced relationship was found between foreign language proficiency and the choice of functional roles ($V=0.33$, $p<0.001$). Among volunteers with an advanced level of language proficiency, the proportion of those who choose the roles of urban volunteers (72.4%) and professional volunteers (56.3%) is significantly higher.



Table 9. Analysis of the relationship between demographic characteristics and choice of functional roles (n=252)

Characteristic	General	Specialist	Sports	Urban	χ^2	Cramer's V	p-value
Gender					18.34	0.27	<0.001
Male (n=85)	52.9%	45.9%	64.7%	48.2%			
Female (n=167)	47.1%	54.1%	35.3%	51.8%			
Year of study					24.56	0.31	<0.001
1-2 year (n=98)	45.9%	22.4%	28.6%	38.8%			
3-4 year (n=154)	54.1%	77.6%	71.4%	61.2%			
Sports experience					21.78	0.29	<0.001
Yes (n=156)	48.7%	52.6%	78.2%	55.1%			
No (n=96)	51.3%	47.4%	21.8%	44.9%			
Foreign language proficiency					26.89	0.33	<0.001
Advanced level (n=87)	32.2%	56.3%	41.1%	72.4%			
Intermediate/ beginner (n=165)	67.8%	43.7%	58.9%	27.6%			

Note: The Cramer's V coefficient is interpreted as follows: $0.1 \leq V < 0.3$ is weak association; $0.3 \leq V < 0.5$ is moderate association; $V \geq 0.5$ is strong association

The moderate correlation between the course of study and the choice of functional roles was showed ($V=0.31$, $p<0.001$). Senior students more often choose specialized roles: among specialist volunteers their share is 77.6%, among sports volunteers their ratio is 71.4%.

The presence of sports experience showed a weak but statistically significant relationship with the choice of functional roles ($V=0.29$, $p<0.001$). The influence of this factor is especially noticeable for the group of sports volunteers, where the share of those with sports experience is 78.2%.

Gender differences also showed a weak relationship with the choice of functional roles ($V=0.27$, $p<0.001$). The most noticeable gender disproportions are observed in the group of sports volunteers, where men predominate (64.7%).

To better understand the choice of functional roles, we conducted an additional analysis of the distribution of roles depending on the direction of students' training.

The analysis of the distribution of functional roles by training areas showed the average strength of relationships ($V=0.30-0.34$) (Table 10). Students of sports specializations more often choose the roles of sports volunteers (82.8%), students of linguistic specializations prefer the roles of urban volunteers (81.0%), and students of technical specializations more often become specialist volunteers (76.7%).

Table 10. Distribution of functional roles by areas of training (n=252)

Field of study	General	Specialist	Sports	Urban	χ^2	Cramer's V	p-value
Sports (n=64)	45.3%	29.7%	82.8%	42.2%	29.45	0.34	<0.001
Linguistics (n=58)	39.7%	48.3%	31.0%	81.0%	27.89	0.33	<0.001
Technical science (n=73)	42.5%	76.7%	34.2%	38.4%	25.67	0.32	<0.001
Other (n=57)	87.7%	22.8%	28.1%	45.6%	23.12	0.30	<0.001

Discussion

Our research identifies several significant patterns in the choice of functional roles by student volunteers and confirms the hypotheses put forward.

We confirmed H1 hypothesis about significant differences in motivational factors between the groups of students choosing different functional roles. The Kraskell-Wallis criterion showed statistically significant differences in five of the six motivational factors ($p<0.01$). The most significant differences were found in the career factor ($H=24.67$, $p<0.001$) and the development factor ($H=22.45$, $p<0.001$). These results are consistent with the ideas of Kristiansen et al. (2015), who also observed the prevalence of professionally-oriented motivation in student volunteers. However, our study showed a more detailed differentiation: for professional volunteers, career motives turned out to be the most significant (mean value 6.4 out of 7 possible points on the VFI scale), while urban volunteers are more driven by social motivation (mean value 6.2 out of 7) associated with the desire to expand the circle of communication and establish new social ties.

The protective factor showed no significant differences between the groups ($H=3.56$, $p=0.312$), which differs from the results of Mirsafian and Mohamadinejad (2012), where this factor played a more significant role. This may be due to differences in the socio-cultural context of the studies or the changing motivational patterns of modern students.

H2 hypothesis about the relationship between the level of satisfaction and the correspondence between motivation and the chosen role was also confirmed, although the correlations were predominantly moderate. The strongest correlation was found between the social factor and social aspects of satisfaction ($r_s=0.58$, $p<0.01$), which is consistent with the findings of Lee et al. (2016) about the importance of the social component in volunteering. The career factor showed a stronger relationship with future intentions ($r_s=0.52$, $p<0.01$) than with current satisfaction, which may indicate the strategic nature of volunteering for professional development.

H3 hypothesis about the influence of experience on the choice of more complex functional roles received the most convincing confirmation. The analysis showed a clear tendency to move from general to specialist roles with gaining experience: the proportion of specialist volunteers increases from 12.3% among those with experience in one event to 67.8% among those who participated in more than five events. These data correlate with the results of Pierce et al. (2014) on the increased effectiveness of volunteers when their experience and specialization are considered.

It is essential to consider the relationship between academic specialization and the selection of functional volunteer roles. Our analysis, using Cramer's V coefficient, revealed a moderately strong association ($V = 0.30-0.34$) between students' specializations and their preferred roles. These findings align with those of Koutrou and Pappous (2016), who emphasized the significance of professional orientation in volunteer role allocation.

In particular, our study reinforces this trend, showing that students specializing in sports overwhelmingly choose sports-related volunteer roles (82.8%), while linguistics majors predominantly prefer urban volunteer roles (81.0%). This pattern highlights the influence of educational background on volunteer participation and underscores the potential benefits of assigning roles based on academic expertise.

One possible explanation for this distribution is that sports students are well-versed in athletic event dynamics and feel more confident contributing to environments aligned with their training. Meanwhile, linguistics majors, who often possess multilingual skills and cross-cultural competencies, may gravitate toward urban volunteer roles that require strong communication and navigation abilities.

These insights hold valuable implications for event organizers, who could optimize volunteer allocation by aligning roles with students' academic backgrounds to enhance engagement and operational efficiency. For example, sports students could be assigned to on-field operational roles, while linguistics students may be better suited for international visitor assistance or logistics coordination. By strategically placing volunteers in roles that leverage their expertise, organizers can improve both volunteer satisfaction and event success.

The study results formulate several practical recommendations for improving the management system of volunteer programs at sports events.

A differentiated approach to attracting students of different specializations is important in recruiting and training volunteers. Considering the correlation between academic specialization and the effectiveness of certain functions ($V=0.30-0.34$), it is advisable to develop partnership programs with profile departments of universities. This is consistent with the studies of Pierce et al. (2014) which emphasize the importance of integrating volunteer practice into the educational process. Special attention should be paid to creating a multi-level training system, where basic training is supplemented by specialized modules depending on the functional role of the volunteer. According to Dickson et al. (2015), this approach increases the quality of volunteer work by 32-45%.

The distribution of functional roles requires significant modernization based on the identified patterns. The results demonstrate that the correspondence between volunteer competences and functions significantly increases satisfaction ($r_s=0.45-0.58$). Therefore, we recommend implementing a matrix system of role allocation that considers professional competences and volunteer experience. This is especially important for technical sports where, according to Wang and Yu (2015), specific knowledge and skills are required.



Volunteer retention and development programs should consider the identified trend toward professionalization: with the accumulation of experience, the share of specialist volunteers increases from 12.3 to 67.8%. It is necessary to create conditions for career development within the volunteer program. This is supported by Kim and Cuskelly's research (Kim & Cuskelly, 2017), which showed that structured development programs increase long-term volunteer engagement by 40-45%. It is recommended to introduce a mentoring system, where experienced volunteers help newcomers master the specifics of work (Akhmetshin et al., 2024a; Çali et al., 2024; Lee et al., 2016), which contributes to stable professional communities.

The motivational aspect of volunteer management deserves special attention (Fomicheva et al., 2021). Given the identified differences in motivational factors between groups ($p < 0.001$), it is necessary to develop differentiated incentive systems. For professional volunteers with predominant career motivation (mean 6.4 out of 7), it is important to create opportunities for professional certification and internships. For urban volunteers who are socially motivated (mean 6.2), emphasis should be placed on developing networking and team activities. This approach is consistent with the research of Mirsafian and Mohamadinejad (2012) who showed the importance of considering individual motivational profiles.

In the context of organizing major sports events, our results stipulate the need to create flexible work schedules to accommodate academic workloads. According to Kristiansen et al. (2015), it increases the efficiency of volunteers' work by 25-30% and reduces staff turnover. It is recommended to form mixed teams of experienced and novice volunteers, which, according to Koutrou and Pappous et al. (Lukmanova et al., 2024; Koutrou & Pappous, 2016), contributes to the faster adaptation of newcomers and improves the overall quality of work.

In the long term, it is important to consider volunteer programs as a tool to form a talent pool for the sports industry (Doğru, 2024; Podolskiy, 2023). The study showed that 73% of student volunteers consider their participation an important step in building a career. In this regard, we recommend creating a database of promising volunteers and developing internship programs with the possibility of subsequent employment. This is in line with the findings of Allen and Bartle et al. (Allen & Bartle, 2014; Chernyakevich, 2024; Jeyaraj et al., 2024) about the importance of building career trajectories through volunteering.

To evaluate the effectiveness of our recommendations, it is necessary to implement a monitoring system that includes quantitative indicators (satisfaction level, share of returning volunteers) and qualitative metrics (competence development, career progression) (Doğru, 2024). This will allow to constantly improve the volunteer program management system and adapt it to the changing needs of the sports industry.

Conclusions

The research answers the questions posed. Regarding the first question about significant motivational factors in choosing specific volunteer roles, it was shown that career motives (mean value 6.4 out of 7 on the VFI scale) and the development factor (6.3) are the most important for professional volunteers, while social motivation prevails for urban volunteers (6.2). Sports volunteers show high scores on the values-based factor (6.1), indicating their commitment to sports ideals and desire to contribute to sports.

Regarding the second research question about differences in motivation between groups, statistical analysis showed significant differences in five of the six motivational factors ($p < 0.001$). The most significant differences were found in the career factor ($H = 24.67$) and the development factor ($H = 22.45$), indicating a clear differentiation of motivational profiles depending on the functional role chosen.

The third question about the relationship between satisfaction and role selection was confirmed by the correlations between motivation and the chosen role and the level of satisfaction ($r_s = 0.45-0.58$). An important pattern was found: the higher the correspondence between academic specialization and the chosen role ($V = 0.30-0.34$), the higher the satisfaction with volunteering.

The study has several limitations that need to be considered when interpreting the results. First, the sample is limited to students of seven universities, which may not fully reflect the situation in other



regions and educational institutions. Second, using quantitative methods without a qualitative component limits the understanding of volunteers' motivations and preferences. Third, the cross-sectional nature of the study does not allow to track changes in volunteers' motivations and preferences over time.

Prospects for further research in this area can be divided in several directions. The first is to conduct longitudinal studies to track the dynamics of volunteers' motivational factors and career trajectories. The second is to expand the geography of the study to include universities from different regions to obtain more representative data. The third is to supplement quantitative data with qualitative research, including in-depth interviews and focus groups, to better understand the mechanisms of decision-making in selecting functional roles. The fourth is to examine the influence of cultural and socioeconomic factors on volunteers' motivation and role selection.

The conclusions drawn provide a basis for improving the management system of volunteer programs at sports events, allowing for more effective role allocation and development of participants' competences with due regard to their motivation and professional interests. This is especially relevant in the context of the growing need for qualified personnel for the sports industry and the growing number of sports events requiring professional volunteer support.

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