

# GEOSPORT for SOCIETY

Volume 20/ no. 1/ 2024



Oradea-Debrecen-Gdansk



© GEOSPORT FOR SOCIETY

ISSN 2393-1353

Edited by Oradea University Press  
1, University street, 410087 Oradea, Romania

Journal homepage: <http://geosport.uoradea.ro/geosport.html>



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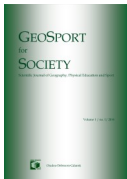
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# SOCIETY

Volume 20/ no. 1 / 2024



Oradea-Debrecen-Gdańsk



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Scientific Journal founded in 2014 under aegis of University of Oradea  
(Romania), University of Debrecen (Hungary), University of Gdansk (Poland)  
and published by Oradea University Press  
ISSN 2393-1353  
Journal homepage: <http://geosport.uoradea.ro>



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Journal homepage: <http://www.geosport.uoradea.ro>



## GEOSPOT FOR SOCIETY

Scientific Journal founded in 2014 under aegis of University of Oradea (Romania),  
University of Debrecen (Hungary), University of Gdansk (Poland)

ISSN 2393-1353

Edited by Oradea University Press  
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1, University Street, 410087, Oradea, Romania  
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# Varadinum Summer School: Between perception and motivation

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**Citation:** Herman, G.V., Şandra, M., Pop, A., Ille, M., Cristea, D., Filimon, L., Filimon, C., Bulz, G.C., Martins, R., Caciora, T., & Sabău, A.M. (2024). Varadinum Summer School: Between perception and motivation. *Geosport for Society*, 20(1), 1-10. <https://doi.org/10.30892/gss.2001-104>

*Article history:* Received: 25.12.2023; Revised: 12.01.2024; Accepted: 18.01.2024, Available online: 22.01.2024

**Abstract:** The Romanian society is currently facing numerous challenges, among which the issue of school dropout is becoming increasingly prominent. The purpose of this study is to establish the relationship between the perception and motivation of the target group (students in higher grades at risk of school dropout) to participate in the Varadinum Summer School, organized under the auspices of the University of Oradea - Faculty of Geography, Tourism, and Sport, and funded through the ROSE financing program. In this context, the organization of summer schools represents a serious alternative with beneficial effects in curbing school dropout. The obtained results will be utilized to optimize the selection process for the future target group and enhance the organizational management of the 2024 edition of the Varadinum Summer School.

**Keywords:** school dropout, perception, motivation, education, Varadinum Summer School

## Introduction

The socio-economic changes that have characterized Romania in recent times have generated profound psychological shifts regarding the role and importance of education in society (Herman et al., 2020a). Concurrently, there has been an increase in the school dropout rate among students and scholars, particularly those in at-risk situations, defined as individuals *"coming from families with low incomes; historically discriminated based on ethnicity; residing in rural areas or other areas lacking nearby schools; having one or both parents working abroad; having special educational requirements"* (Applicant's Guide, 2019). The necessity to identify new solutions to reduce and even halt the effects of school dropout, associated with the growing poverty, especially in rural areas, among vulnerable populations (divorced parents, disadvantaged social groups etc.), led to the organization of summer schools within the ROSE financing program. The primary objective of this program was to *"support students enrolled in public higher education institutions and students in state high schools, potential future students, who are at risk of dropping out in the first year of undergraduate studies, belonging predominantly to disadvantaged groups"* (Applicant's Guide, 2019).

The concept of summer school, from a temporal perspective, is relatively recent, having been introduced for the first time in 1996 in public schools in Chicago, USA. Subsequently, it was adopted in other schools in Baltimore, Boston, Denver, New York, Los Angeles, Philadelphia, and Washington (Matsudaira, 2008). It was introduced in response to the poor academic results recorded by students at the end of the school year as a condition for promotion (Cooper, 2001). Simultaneously, it aimed to enhance students' academic performance (Cooper et al., 2000).

Starting from a relatively similar situation, namely the high non-promotion rate of students at high risk of dropping out (18.2%), belonging to socio-economically disadvantaged categories at the Faculty of Geography, Tourism, and Sport of the University of Oradea, during the academic year 2018/2019, from the first year of study and with the existence of a funding source (ROSE), the project *"Open Doors to the Future - Varadinum Summer School"* was initiated. Its aim is to *"facilitate the transition of 150 high school students to tertiary education in the fields of Geography and Physical Education and Sport and retain them in the first year of university study through specific activities such as career counseling and guidance, mentoring courses, study visits, and workshops"* (Application Form, p. 4).

Open Doors to the Future is a summer school designed for 10<sup>th</sup>, 11<sup>th</sup>, and 12<sup>th</sup> grade students from Bihor County who wish to experience student life. The summer school provided a diverse program of activities that combined theory with practical experiences in various fields, involving university staff and specialists from partner institutions. These activities took place both in the laboratories on the university campuses in Oradea and in the field. Participants had the opportunity to immerse themselves for two weeks in the teaching, learning, and evaluation methods offered by the University of Oradea - Faculty of Geography, Tourism, and Sport. Simultaneously, they engaged in field-specific guidance courses in the fields of geography and physical education and sport, workshops, study visits, career counseling and guidance, sports competitions, cultural events, and many other

activities typical of university life. These were specially designed to showcase the beauty and uniqueness of the city where they might reside during their higher education studies.

The University of Oradea, particularly the Faculty of Geography, Tourism, and Sport, makes sustained efforts to increase the proportion and means of implementing student-centered education, a fundamental objective aimed at minimizing school dropout. The implementation of activities outlined in the project Open Doors to the Future - Varadinum Summer School aims to "*increase the pass rate of the bacalaureate exam in the high schools supported by the project*" and the "*retention rate in the first university year*" (Applicant's Guide, 2019).

The analysis of the dropout situation among first-year students at risk from a socio-economic perspective within the Faculty of Geography, Tourism, and Sport indicates a significant difference in grades obtained in certain subjects compared to other colleagues. This difference is attributed to factors such as non-attendance of classes and failure to appear for exams, which are determinants of dropout (Application Form, p. 4). One way to improve the academic situation of first-year students involves supporting them through counseling and career guidance services starting from the high school level, before making decisions about their desired college. This support is closely correlated with the needs and aspirations of each student. Consequently, students' participation in career counseling and guidance activities, mentoring courses, study visits, and workshops aimed to increase students' awareness of the importance of completing their studies and the relevance of their specialization choices from a professional perspective. This was achieved by providing an early university experience.

The informational support was provided by the disciplines of physical education, sport and geography, both playing significant roles in developing sets of skills and competencies for future graduates in the labor market (Herman et al., 2016).

In the specialized literature, the issue of school dropout has been extensively analyzed from various perspectives, highlighting causes associated with poverty, socio-economic status, student disengagement from school life, and the level of parental education, among others (Ensminger and Slusarcick, 1992; Jenkins, 1995; Alexander et al., 1997; Rumberger and Thomas, 2000; Olah, 2009; Kumar et al., 2023; Selim et al., 2023).

In this context, the objective of the present study is to assess the motivation and perception of the target group following the implementation of the Varadinum Summer School, conducted in July 2023 at the University of Oradea - Faculty of Geography, Tourism, and Sport. The aim is to enhance the next edition, scheduled for 2024.

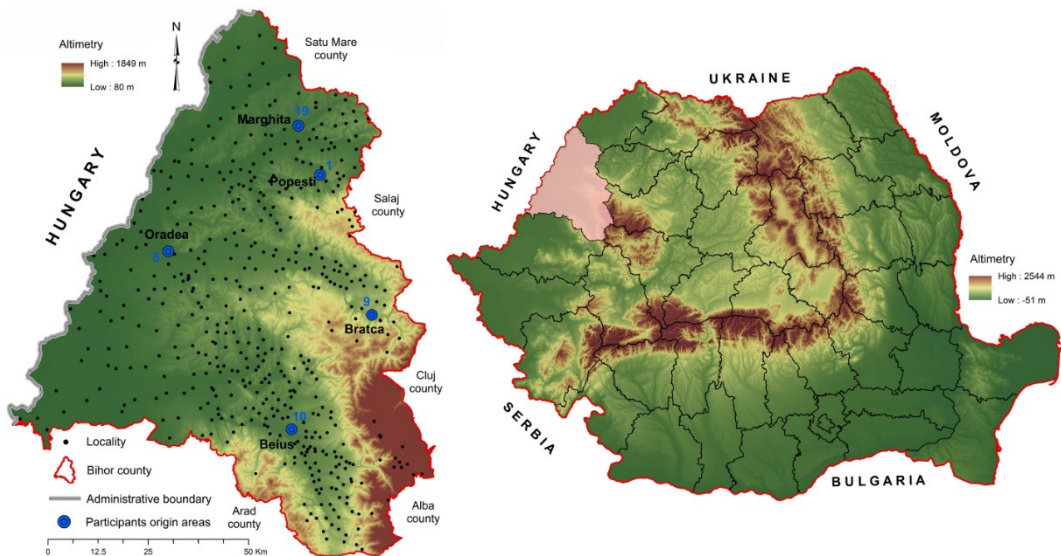
The working hypothesis aimed at the idea that understanding motivation contributes to a better identification of the target group, while the perception of the target group is a significant variable with direct effects on shaping motivation, satisfaction, and consequently, the behaviors of the target group (Herman et al., 2020b).



The novelty of this study lies in the methodology employed, particularly the informational structure of the questionnaire, and the manner in which the perception and motivation of the target group are quantified. The engagement of the target group, along with the necessity and relevance of the study, is crucial in shaping the next target group for the Varadinum Summer School, 2024 edition.

### Materials and methods

The data required for this study were obtained in the year 2023, in the month of July, within the Faculty of Geography, Tourism, and Sport, using a survey method based on a sociological questionnaire (Ilies et al., 2023a and b). The data collection was carried out through consultations with the target group that participated in the Summer School during the period from July 17, 2023 to July 30, 2023. The target group consisted of 44 high school students (29 males and 15 females) from the following localities: Beiuș (National College Samuil Vulcan, 10 students), Bratca (Theoretical High School No.1, 9 students), Marghita (Horea Technological High School, 12 students; Octavian Goga National College, 7 students; Technological High School No.1 Popești, 1 student), and Oradea (Bihorul Sports High School, 3 students; Vasile Voiculescu Sanitary Technological High School, 1 student; School of Art, 1 student). The students were in the 10<sup>th</sup> grade (13 students), 11<sup>th</sup> grade (27 students), and 12<sup>th</sup> grade (4 students) (Figure 1).



**Figure 1.** The selection area of the target group, at the level of Romania and Bihor county

Regarding the students' risk situation, out of the total participants, 22 come from low-income families, 32 live in rural areas, 2 students have a history of discrimination based on ethnicity, 9 students have one or both parents working abroad, and 4 students have special educational requirements. Through the Summer School, our goal was to address university dropout in Romania by combining efforts in an efficient collaboration. We aimed to create harmony between moments of fun

and learning to make the educational experience more engaging and less prone to abandonment.

The questionnaire used was structured with 8 items related to the motivation and perception of participants in the Varadinum Summer School, organized under the auspices of the University of Oradea, Romania. Items X1 and X2, regarding experience, and X8, regarding the intention to recommend participation in summer school programs to other colleagues, were binary (0 - No, 1 - Yes). Item X3, regarding the motivation for participation, had multiple responses, while those concerning the role and usefulness of participating in the Varadinum Summer School (X4 - X6) involved responses in the Likert scale format (1 to 10, where 1 represents not at all, and 10 - very much) (Table 1).

Perception is an essential aspect, sometimes challenging to capture, with direct influences in the management of summer schools. Among the influencing factors analyzed in this study, experience stands out (whether it is the first time participating in a Summer School or from other participations, including those heard about), the extent to which the project achieved its objectives, the utility of the proposed activities in the project, and the need for improvement in the proposed activities. Regarding motivation, factors such as curiosity, gratuity, the need for cultural enrichment, and spending leisure time in an enjoyable manner were analyzed (Table 1).

**Table 1.** Selected variables for the studied criteria

Criteria	Subcriterion	Variable	Data	Type of Data
<b>C1 - Perception</b>	Experience	X1. After attending a Summer School for the first time	44	Quantitative
		X2. After participating in other summer schools and through hearsay	44	Quantitative
	The extent to which the project achieved its objectives	X3. Career counseling and guidance	44	Quantitative
		X4. Familiarization of students with the academic environment specific to the fields of Geography and Physical Education and Sport	44	Quantitative
		X5. Familiarization of students with key actors involved in the management of issues specific to geography and sports	44	Quantitative
		X6. Initiation of students with the main methods, means, and technologies specific to the fields of study in Geography and Physical Education and Sport	44	Quantitative
Utility of the proposed activities in the project	X7. Career counseling and guidance	44	Quantitative	
	X8. Mentoring courses	44	Quantitative	

		X9. Study visits	44	Quantitative
		X10. Workshops	44	Quantitative
	The need for improvement in the proposed activities	X11. Career counseling and guidance	44	Quantitative
		X12. Mentoring courses	44	Quantitative
		X13. Study visits	44	Quantitative
		X14. Workshops	44	Quantitative
<b>C2 - Motivation</b>	Motivation	X15. Curiosity	44	Quantitative
		X16. Gratuity	44	Quantitative
		X17. Need for cultural enrichment	44	Quantitative
		X18. Spending leisure time in an enjoyable manner	44	Quantitative

In order to identify and understand the relationships between the perception and motivation of the target group following participation in the Varadinum Summer School, the multicriteria analysis method was utilized (Patro and Sahu, 2015; Kiselakova et al., 2020). In this study, the criteria of perception (14 variables) and motivation (4 variables) were examined (Table 1). Using the Min-Max Normalization Method or the Value Mapping Method (Patro and Sahu, 2015), the values of each variable were standardized to obtain an aggregate value for each analyzed criterion and sub-criterion (Boc et al., 2022; Deac et al., 2023; Herman et al., 2023). The relationship index between perception and motivation was then calculated, and the target group was classified based on the type of relationship between perception and motivation. Data processing was performed using Excel software.

## Results and discussions

Perception is an image, a reflection of the world through the lens of the personality of the target group. As it is shaped by numerous factors, including age, social category, ethnic structure, religious structure, education level, and more, we can say that understanding and quantifying perception is a subjective yet crucial aspect (Oneţ et al., 2020; Herman et al., 2021a and b; Herman et al., 2022a and b; Ilies et al., 2023a; Herman et al., 2023). It is necessary because it further manifests in the motivation and satisfaction of the students participating in the Varadinum Summer School.

Following the analysis of 14 variables related to experience, the extent to which the project achieved its objectives, the utility of the proposed activities in the project, and the need for improvement, it resulted that the perception of the target group was good (75.7%, 28 students), weak (16.2%, 6 students), and very good (8.1%, 3 students) (Figure 2).

However, noticeable differences can be observed from one person to another. The lowest level of perception was recorded by respondents number 10, 13, 22, and 39 in the database, while the highest level of perception was recorded by respondents number 2, 24, and 33 in the database. Fluctuations in the level of

perception can also be observed based on each variable (gender, place of residence, school of affiliation etc.).

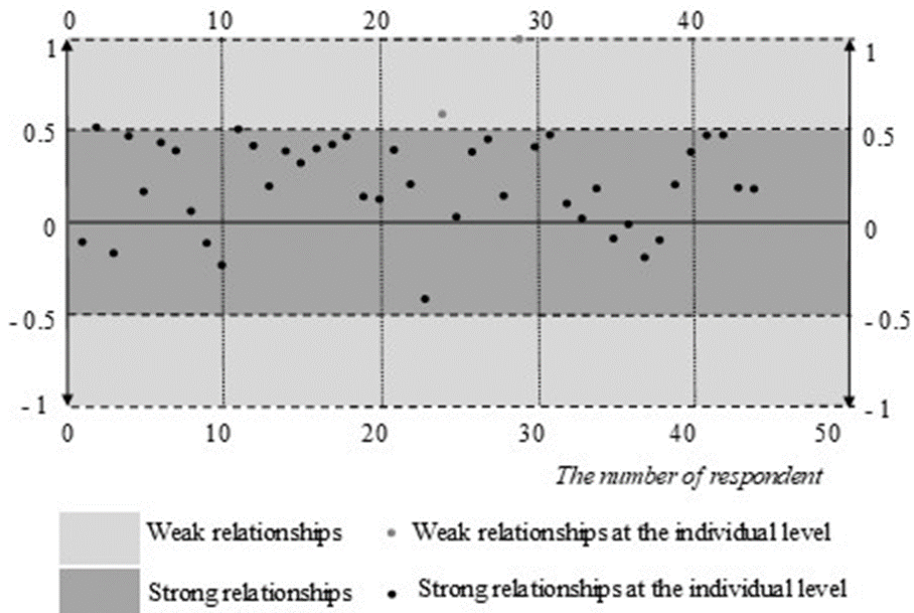


**Figure 2.** The motivation and perception of the participants within the Varadinum Summer School project

Motivation represents a triggering factor with direct effects on the formation of the target group that will participate in future editions. Similar to perception, the motivation to participate in such events is a highly sensitive aspect conditioned by numerous socio-demographic factors. However, following the consultation with the target group, the following types of motivations stood out: very weak (54.5%, 24 students), weak (27.3%, 12 students), good (11.4%, 5 students), and very good (6.8%, 3 students) (Figure 2). Individual-level analysis highlighted the weakest motivation in respondent number 29 from the database, while the highest values were recorded for respondents' number 3, 23, and 37 from the database. Significant differences were also observed in the analysis of motivation based on gender, locality, school, etc.

Based on the indices obtained from the analysis of the 18 criteria, the relationships between perception and motivation of the target group participating in the Varadinum Summer School were categorized into an interval of values [-1; 1]. They were classified into four equal intervals between -1 and -0.5, representing weak negative relationships; -0.51 and 0, representing strong negative relationships; 0.1 and 0.5, representing strong positive relationships; 0.51 and 1, representing weak positive relationships. Each participant was assigned to one of these four categories as follows:

- (1) Weak negative relationships, characterized by index values between  $[-1; -0.5]$ , were not established for any individual in the target group (Figure 3).
- (2) Strong negative relationships with relationship index values between  $-0.51$  and  $0$  were identified in 20.5% of the students who participated in the Varadinum Summer School (Figure 3). This type of relationship is characterized by perception values lower than those specific to motivation. For example, for participant number 23 from the database (from the Technical College "Traian Vuia," Oradea), the perception value was 0.394179894, while the motivation value was 1.



**Figure 3.** The relationship between perception and motivation of the target group participating in the Varadinum Summer School project

- (3) Strong positive relationships with relationship index values between  $0.1$  and  $0.5$  were identified in 72.7% of the students (Figure 3). This type of relationship is defined by perception values higher than those specific to motivation. For example, for student number 11 from the database (National College Octavian Goga, Marghita), the tourist perception value was 0.74, while the tourist motivation value was 0.25.
- (4) Weak positive relationships with relationship index values between  $0.51$  and  $1$  were identified in three students (two from Theoretical High School No. 1, Bratca, and one from Horea Technical High School, Marghita) (Figure 3). This type of relationship is defined by perception values higher than those specific to motivation. Thus, for the two students from Theoretical High School No. 1, Bratca, the perception values were 0.96 and 0.66, while the motivation values were 0.25 in both cases. In the case of the student from Horea Technical High School, Marghita, the perception value was 0.77, while the motivation value for participating in the Varadinum School was 0.25.

## Conclusions

In conclusion, from this study, it emerged that students who participated in the Varadinum Summer School 2023, held at the Faculty of Geography, Tourism, and Sport under the auspices of the University of Oradea, had a positive perception (75.7%, 28 students), while the motivation was diametrically opposed, very weak (54.5%, 24 students) (Figure 2).

Regarding the relationships between motivation and perception among participating students, strong positive relationships predominated (72.7%), followed by strong negative ones (20.5%), and weak positive ones (6.8%).

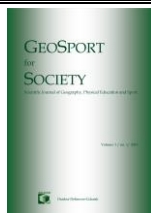
The results obtained from this study refute the working hypothesis that a positive perception contributes to forming a similar motivation among potential students to participate in the Varadinum Summer School, 2024 edition.

Regarding the acquired satisfaction and its effects on changing behaviors, it was measured by using the following question, "Would you recommend participating in the Varadinum Summer School to your colleagues?" to which they responded affirmatively in a percentage of 100%. Against this background, the satisfaction gained during the summer school had a significant contribution, influenced by the quality of the activities provided in the project, the lived experience, and the level of expectations. Therefore, we can emphasize that the results obtained in this study can have significant implications for organizing the next edition of the Varadinum Summer School.

## References

- Alexander, K.L., Entwisle, D.R., & Horsey, C.S. (1997). From first grade forward: Early foundations of high school dropout. *Sociology of education*, 87-107. <https://doi.org/10.2307/2673158>
- Application form (2019). Open doors to the future - Varadinum summer school.
- Boc, E., Filimon, A.L., Mancia, M.-S., Mancia, C.A., Josan, I., Herman, M.L., Filimon, A.C., & Herman, G.V. (2022). Tourism and Cultural Heritage in Beius, Land, Romania. *Heritage*, 5(3), 1734-1751. <https://doi.org/10.3390/heritage5030090>
- Cooper, H. (2001). *Summer School: Research-Based Recommendations for Policymakers*. SERVE Policy Brief, USA.
- Cooper, H., Charlton, K., Valentine, J.C., Muhlenbruck, L., & Borman, G.D. (2000). Making the most of summer school: A meta-analytic and narrative review. *Monographs of the society for research in child development*, 65(1), 1-118.
- Deac, L.A., Herman, G.V., Gozner, M., Bulz, G.C., & Boc, E. (2023). Relationship between Population and Ethno-Cultural Heritage - Case Study: Crișana, Romania. *Sustainability*, 15(11), 9055. <https://doi.org/10.3390/su15119055>
- Ensminger, M.E., & Slusarcick, A.L. (1992). Paths to High School Graduation or Dropout: A Longitudinal Study of a First-Grade Cohort. *Sociology of Education*, 65(2), 95-113. <https://doi.org/10.2307/2112677>
- Herman, G.V., Biriș, M.S., Ilies, D.C., Caciora, T. Ilies, A., Wendt, A.J., Sopota, D. (2020a). The Perception of Geography in School and Society. *Baltic Journal of Health and Physical Activity*, 12(1), 112-119.
- Herman, G. V., Banto, N., Caciora, T., Ungureanu, M., Furdui, S., Grama, V., Buhaș, R., & Buhaș, S., (2020b). Tourism in Bihor County, Romania. Trends and Prospects. *Folia Geographica*, 62(2), 87-105.
- Herman, G.V., Banto, N., Caciora, T., Ungureanu, M., Furdui, S., Garai, L.D., & Grama, V. (2021a). The Perception of Bihor Mountain Tourist Destination from Romania. *Geographia Polonica*, 94(4), 143-158.

- Herman, G.V., Banto, N., Caciora, T., Grama, V., Trojan, J., Ungureanu, M., Furdui, S., Garai, L.D., Buhaş, R., & Buhaş, S. (2021b). Considerations Regarding the Profile of Tourists from Băile Felix – Băile 1 Mai Spa Destination, Romania. *Baltic Journal of Health and Physical Activity*, 13(1), 157-168.
- Herman, G.V., Banto, N., Herman L.M., Ungureanu, M. & Josan, I. (2022a). Perception, Reality and Intent in Bihorean Tourism, Romania. *Folia Geographica*, 64(2), 86-103.
- Herman, G.V., Matlovičová, K., Kostilníková, K., Pantea, L., Gozner, M., Demkova, M., & Zemanová, L. (2022b). The relationship between the degree of knowledge and the perception of the importance of the route of tourist routes. Case study: Tourist Destination Arieseni, Romania. *GeoJournal of Tourism and Geosites*, 45(4spl), 1610-1617.
- Herman, G.V., Caciora, T., Grama, V., Baias S., Beatón, M.O.R., Green, I., Hassan, T.H., Bulz, G.C., Andriamampianina, H.S., & Gozner, M. (2023). Tourist Perception of the „Night of the Museums” Event. Case Study in Oradea Municipality, Romania. *GeoJournal of Tourism and Geosites*, 47(2), 486-492. <https://doi.org/10.30892/gtg.47215-1047>
- Herman, G.V., Tatar, C.F., Stasac, M.S., & Cosman, V.L. (2024). Exploring the Relationship between Tourist Perception and Motivation at a Museum Attraction. *Sustainability*, 16(1), 370. <https://doi.org/10.3390/su16010370>
- Ilies, D.C., Herman, G.V., Safarov, B., Ilies, A., Blaga, L., Caciora, T., Peres, A.C., Grama, V., Bambang, S.W., Brou, T., Taglioni, F., Hassan, T.H., & Hossain, M.A. (2023a). Indoor Air Quality Perception in Built Cultural Heritage in Times of Climate Change. *Sustainability*, 15(10), 8284. <https://doi.org/10.3390/su15108284>
- Ilies, D.C., Blaga, L., Hassan, T. H., Ilies, A., Caciora, T., Grama, V., Herman, G.V., Dejeu, P., Zdringa, M., Marshall, T., Pereş, A.C., & Bekzot, J. (2023b). Indoor Microclimate and Microbiological Risks in Heritage Buildings: A Case Study of the Neologic Synagogue, Oradea, Romania. *Buildings*, 13(9), 2277. <https://doi.org/10.3390/buildings13092277>
- Jenkins, P.H. (1995). School delinquency and school commitment. *Sociology of education*, 68(3), 221-239. <https://doi.org/10.2307/2112686>
- Kiselakova, D., Stec, M., Grzebyk, M., & Sofrankova, B. (2020). A multidimensional evaluation of the sustainable development of European Union countries—An empirical study. *Journal of Competitiveness*, 12(4), 56-73.
- Kumar, P., Patel, SK., Debbarma, S., & Saggurti, N. (2023). Determinants of School dropouts among adolescents: Evidence from a longitudinal study in India. *PLoS One*, 18(3), e0282468. <https://doi.org/10.1371/journal.pone.0282468>
- Matsudaira, J.D. (2008). Mandatory summer school and student achievement. *Journal of Econometrics*, 142(2), 829-850. <https://doi.org/10.1016/j.jeconom.2007.05.015>
- Olah, S. (2009). Low Education and Its Consequences. A Case Study of Roma Communities in North-West Romania (Romanian Text). *Rev. Universitara Sociologie*, 69, 69-94.
- Oneţ, A., Ilies, D.C., Ilies, A., Herman, G.V., Burta, L., Marcu, F., Buhas, R., Caciora, T., Baias, Ş., Oneţ, C., Ilies, M., & Lincu, A. (2020). Indoor air quality assessment and its perception. Case study – historic wooden church, Romania. *Romanian Biotechnological Letters*, 25(3), 1547-1553.
- Patro, S.G.K., & Sahu, K.K. (2015). Normalization: A preprocessing stage. *Iarjset*, 2, 20-2.
- Rumberger, R.W., & Thomas, S.L. (2000). The distribution of dropout and turnover rates among urban and suburban high schools. *Sociology of education*, 73(1), 39-67. <https://doi.org/10.2307/2673198>
- Selim, K.S., & Rezk, S.S. (2023). On predicting school dropouts in Egypt: a machine learning approach. *Education and Information Technologies*, 28(7), 1-32. <https://doi.org/10.1007/s10639-022-11571-x>
- Unit for Project Management with External Funding (2019). Applicant Guide, Secondary Education Project (ROSE). <http://proiecte.pmu.ro/web/guest/rose>



## GEOSPORT FOR SOCIETY

Scientific Journal founded in 2014 under aegis of University of Oradea (Romania),  
University of Debrecen (Hungary), University of Gdansk (Poland)

ISSN 2393-1353

Edited by Oradea University Press

1, University Street, 410087, Oradea, Romania

Journal homepage: <http://geosport.uoradea.ro>



# Incipient special interest tourism: Sea angling as recreational sport in South Africa

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**Citation:** Rogerson, C.M., & Rogerson, J.M. (2024). Incipient special interest tourism: Sea angling as recreational sport in South Africa. *Geosport for Society*, 20(1), 11-24. <https://doi.org/10.30892/gss.2002-105>

*Article history:* Received: 12.02.2024; Revised: 18.03.2024; Accepted: 25.03.2024, Available online: 29.03.2024

**Abstract:** Literature on special interest tourism has been expanding over the past 25 years. Although the growth of research interest and scholarship is relatively recent, the phenomenon of special interest tourism is not new and many of its forms enjoy a long history. Nevertheless, most existing international scholarship concentrates on contemporary issues. Against this background the aim is provide an alternative historical perspective on special interest tourism. Archival sources are used to analyse the evolution of sea angling as a recreational sport and incipient form of special interest tourism in South Africa. Arguably, sea fishing was a tourism asset and contributed to coastal resort development. In addition, as far back as the 1920s and 1930s tourism promotion in South Africa related to potential opportunities linked to special interests such as coastal recreational fishing.

**Keywords:** special interest tourism, recreational fishing, sea angling, South Africa, historical research

## Introduction

The term 'special interest tourism' emerged during the 1980s (Weiler and Hall, 1992; Trauer, 2006). It was applied to describe the appearance of a phenomenon which marked a shift away from the demand for mainstream tourism offerings that were "standardized and rigidly packaged in nature, to forms of tourism that were more specialized and unique" (Agarwal et al., 2018). For Douglas et al. (2001) the growth of special interest tourism was considered to reflect the continuously



increasing diversity of leisure interests and recreational activities in the late-modern leisure society. For Hall and Weiler (1992) special interest tourism could be regarded also “as a form of serious leisure” given that it exhibits several of its characteristics, namely requiring participants to have specialized knowledge and being in search of durable benefits such as self-enrichment and recreation.

Nearly 20 years ago, McKercher and Chan (2005) observed that the special interest tourism market was “very special” as it was recognized that these tourists spent more, stayed longer and travelled more frequently than other kinds of travellers. Also sometimes termed as niche tourism, the concept of special interest tourism was consolidated to refer to specialized tourism products which are offered mainly to small groups of tourists (Trauer, 2006). In recent years, the promotion of special interest tourism as an alternative to mass tourism has become popular as a tourism development strategy that potentially might address problems of over-tourism. Some observers consider that post-COVID-19 several different forms of special interest tourism are predicted to expand (Nair and Mohanty, 2021; Rogerson and Rogerson, 2021a and 2021b). Arguably, the growth of special interest tourism is more broadly the result of a shift to a discerning and heterogenous travel market with demand increasingly focused on interest-based tourism experiences (Agarwal et al., 2018).

Over the past few years there has been a boom in international literature around special interest tourism and its products (Pforr et al., 2021; Rogerson and Rogerson, 2021c; Novelli et al., 2022; Sousa et al., 2022). Although the expansion of research interest and scholarship is relatively recent, special interest tourism is not a new phenomenon. Many of its manifestations enjoy a long history such as, for example, the activity of mountaineering (Beedie, 2015; Gill, 2022; Rogerson and Rogerson, 2024). Most academic writings concentrate, however, on contemporary issues relating to segmented markets or destination development. Against this backdrop, the objective in this paper is to provide an alternative perspective on special interest tourism. The analysis provides fresh insight and one example concerning the little researched pasts of special interest tourism. Our specific case study is the evolution of sea angling as a recreational sport and incipient form of special interest tourism in South Africa. A brief contextual overview of scholarly trends in recreational fishing and discussion of research approach used in this study are first provided before documenting early sea angling in South Africa as an incipient form of special interest tourism.

### **Research on Recreational Fishing**

Recreational fishing is defined as “fishing by those who do not rely on fishing to supply a necessary part of their diet or income” (Hall, 2021). According to Potts et al.

(2022) recreational fishing is one of the most popular global pastimes with an estimated 700 million participants. The activity of recreational fishing includes “both ocean and coastal activities as well as inland fishing on lakes and rivers” (Hall, 2021). Arguably, recreational fishing is a leading recreation and tourism activity and today its coastal manifestations represent a high value activity with significant expenditures by its participants (Roberts et al., 2017; Michailidis et al., 2020; Arlinghaus et al., 2021). It is an integral part of the ‘blue economy’ (Hall, 2021) and with a vital contribution made to local economic development of many coastal communities (Terashima et al., 2020; Williams et al., 2020; Zhao et al., 2022). According to one survey of global trends in recreational fishing the data supports a conceptual life-cycle model of fisheries with interest in recreational fishing rising with improvements in economic development before levelling off and eventually declining (Arlinghaus et al., 2021).

Despite an international growth of angling as a recreational activity there is only a relatively small amount of academic writings on this activity. Notwithstanding the boom in angling as a recreational pursuit Hall (2021) critiques the relative underdevelopment of scholarly research on recreational fishing. The recent international survey conducted by Hannonen and Hoogendoorn (2022) isolated three dominant themes in the extant literature. The first related to management issues including management strategies, regulation issues, species management and sustainability and conservation matters. The second was a general category of research studies which included works about the motivations and decision-making of recreational anglers, segmentation, stakeholder perspectives and of the different types of angling such as catch and release, game-angling and marine angling. The third research focus was directly linked to tourism development and of recreational fishing as a niche activity with economic, social and environmental impacts for destinations and local areas (Hannonen and Hoogendoorn, 2022). A striking omission in this state-of-the-art survey was any detailed consideration regarding the historical evolution of recreational fishing in particular countries.

In the international survey it was disclosed that South Africa was one of the group of most represented countries in terms of research investigations on recreational fishing. Inland fishing on rivers and lakes for trout has attracted the attention of several observers (Preston-Whyte, 2008; Hoogendoorn, 2014). In the period since South Africa’s democratic transition in 1994 much interest has focused on questions surrounding the local economic development potential of trout fishing in various parts of the country (Du Preez and Lee, 2010a and 2010b; Butler and Rogerson, 2016). Scholarship concerning coastal areas is almost entirely centred around debates and controversies about the ramifications of legislative changes instituted in the post-apartheid period for recreational fishing (Guastella, 1994;

Brouwer et al., 1997; Griffiths and Lamberth, 2002; Mann et al., 2002; Everett and Fennessy, 2007; Mann and Mann-Lang, 2020; Bova et al., 2022; Potts et al., 2022; Allison et al., 2023).

Of particular importance is the study by Potts et al. (2022) which showed a dualistic character in South African recreational fisheries. These authors demonstrated that the major flow of benefits from the popularity of recreational fishing were going to better-off 'first economy' households and that less than 10 percent of economic activity benefitted 'second economy' lower-income households in South Africa. Arguably, over many generations, recreational fishing became entrenched as a dominant recreational activity for many in South Africa and in particular for middle- to high-income groups. An historical perspective on recreational fishing in South Africa is therefore useful to provide insight on contemporary issues.

### **Methodology**

In terms of research methods, the starting point was an examination of existing historical writings on recreational sea fishing in South Africa (Thompson, 1913; Robinson and Dunn, 1923). To uncover further the early evolution of recreational sea fishing in South Africa an approach was adopted with the use of archival sources. The importance and merits of undertaking archival research in tourism and recreation studies are stressed by Nasab et al. (2022). Indeed, the case can be made that leisure and recreation studies, as much even as tourism research, "needs a sense of historical awareness" (Walton, 2009).

For this investigation the research is anchored on primary documentary material which has been accessed from historical papers housed both in the African Studies collection of University of Cape Town and at the South African National Library Cape Town depot. From the latter, access was obtained to the collections of guidebooks and information booklets which were issued by the South African Railways and Harbours. From 1910 this state-owned organization assumed a highly influential role in stimulating overseas tourism to South Africa and especially by familiarizing potential visitors about the varied landscapes and tourism assets of South Africa (Foster, 2008; Rogerson, 2024). As van Eeden (2014) shows South African Railways and Harbours provided the infrastructure and the publicity material to establish patterns of travel and tourism in the country for both domestic and international visitors over a period of 30 years. In addition to documentary sources from the railways organisation other guide books and publicity material from the South African Tourist Corporation issued in the 1950s were examined. The period under investigation is from the early 1900s and closes in the early apartheid years.

## **Results and discussion**

Two sub-sections of discussion are given. The first analyses and documents recreational fishing as an incipient form of special interest tourism. The second turns to examine the contribution of sea fishing to coastal resort development in South Africa.

### ***Recreational Fishing as Special Interest Tourism***

It is evident that from the early 1900s recreational fishing emerged as one of the most popular pastimes in colonial South Africa (Thompson, 1913). Potts et al. (2022) advance that its popularity stemmed in part from the limited options for alternative recreational activities during the colonial period. By the 1920s there is evidence of the appearance and an expansion in the numbers of international visitors coming to South Africa and attracted by its opportunities for recreational fishing (Robinson and Dunn, 1923; Lee, 2020). Arguably, in this respect recreational fishing was an incipient form of special interest tourism that began to be promoted in South Africa alongside other recreational activities such as mountaineering and the sport of game shooting.

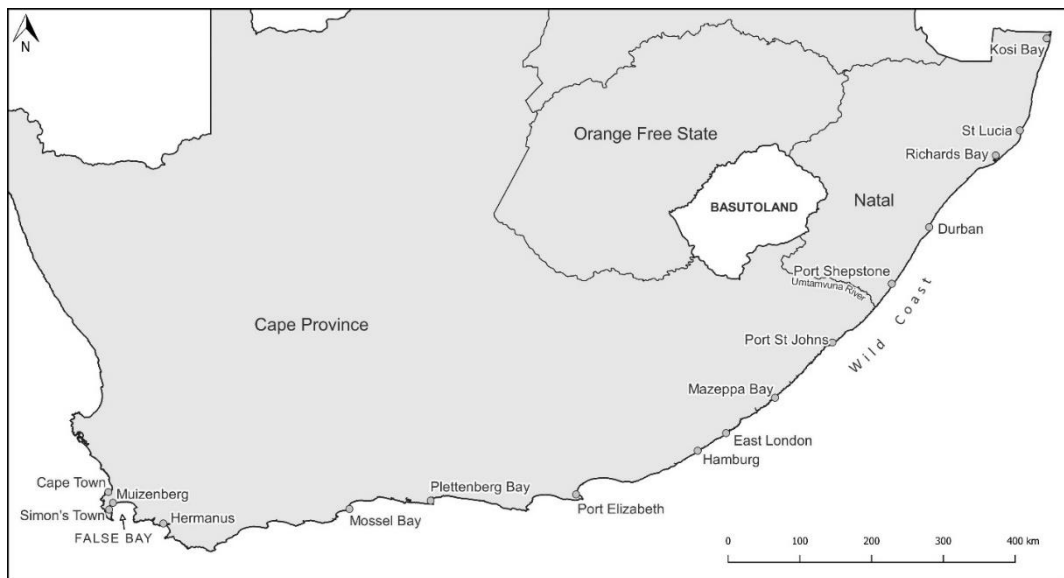
During the 1920s, as part of its wider promotional activities for South Africa, the South African Railways and Harbours launched a batch of advertising material specifically relating to the recreational fishing assets of the country both for the activities of inland trout and sea angling. Evidence exists from several documentary sources of the success of such promotional operations (Robinson and Dunn, 1923; South African Railways and Harbours, 1923 and 1924). By 1930 it was proclaimed that “the number of fishing enthusiasts visiting this country in search of ‘records’ to add to their lists is increasing yearly” (South African Railways and Harbours, 1930, p.1). Promotional material targeted at international fishers considered that this growth “is hardly a matter for wonder, when one considers the exceptional opportunities that are offered, together with the ideal conditions under which such a quest may be undertaken” (South African Railways and Harbours, 1930, p.1). Much attention was given to highlight the wide variety of available fishing options as well as diverse methods for sea fishing.

Overall, it was maintained that for “those anglers who can afford the time and money necessary for a long holiday, South Africa offers, probably, greater inducements than any other part of the world” (South African Railways and Harbours, 1930, p.2). It is significant, perhaps, to observe that emphasis was placed on South Africa as a destination for an “absolute carefree holiday” as opposed to an offering of luxury. Throughout the 1920s and 1930s the standards of accommodation services offered by its hotels and especially in country areas, was below the quality standards which were provided in Europe or North America (Norval, 1936). Accordingly, prospective anglers were cautioned that in South Africa there “is no suggestion of the

European seaside resort, where comfort gives way to fashion” (South African Railways and Harbours, 1930, p.2). Instead, it was stressed that the “true spirit of the sporting holiday pervades the air wherever the traveller may ‘pitch his tent’” (South African Railways and Harbours, 1930, p.1).

### ***Coastal Resort Development***

The historical development of coastal tourism in South Africa is a theme which is beginning to be explored by South African tourism geographers (Rogerson, 2019; Rogerson and Rogerson, 2020a and 2020b). Coastal resort development was one of the outcomes of the growth of recreational fishing as an incipient special interest form of tourism. The work of Robinson and Dunn (1923) documents the appearance by the 1920s of a number of resorts which offered recreational sea fishing along the Cape and Natal coastlines (Figure 1).



**Figure 1.** Location of major coastal fishing destinations

As early as the 1920s the natural assets of Durban for sea angling were well-acknowledged at least for domestic visitors. It was stated that “excellent fishing is to be had both from the Pier and from the rocks” and further that those preferring deep sea fishing can access a vessel, “comfortably fitted with saloon accommodation, which cruises to sea for a day’s fishing when required” (South African Railways and Harbours 1924, p.41). During the 1930s it was reported that the “Natal coast, from the Umtamvuma River in the south to Kosi Bay in North Zululand, is liberally endowed with fishing grounds” (South African Railways and Harbours 1938, p.5). In this region of warm seas and broad beaches, conditions for sea angling differed from other South

African coastal areas as here the waters of many rivers and streams fed into the ocean. Often lagoons occur at the mouth of these waterways allowing fishing sportsmen to "choose the placid water of a lagoon or the depth of the sea" (South African Railways and Harbours 1938, p.5). It was stressed, however, in promotional material produced by South African Railways that whatever the choice "the joys and thrills of fishing will be encountered" (South African Railways and Harbours 1938, p.5). It was argued that because of its fine facilities and abundance of fish species in winter, Durban enjoyed an excellent reputation for sea angling. Among the fish species available to sportsmen at various times of the year, were salmon, shad, king-fish, barracuda, rock cod, bream and a variety of sharks.

In addition to Durban, considerable opportunities at other resorts along the Natal coast were offered to sports fishermen. These included for example at Richard's Bay in Zululand and in the St Lucia Bay and estuary. It was observed that "St Lucia affords good angling from both boat and shore" and that in this area "the fishing is excellent throughout the year" (South African Railways and Harbours 1938, p.5). The less developed location of Kosi Bay was described as "a wonderful place for fishing" (South African Railways and Harbours, 1938, p.6). Further recommendations were given to the Natal South Coast between Durban and Port Shepstone where "stirring tales are told of the mighty catches landed on this attractive stretch of shore" (South African Railways and Harbours, 1938, p.6). The seaside resort of Isipingo on Natal South Coast was touted for "the excellent fishing to be had in the gullies and bays among the rocks" (South African Railways and Harbours, 1924, p.42). Overall, the attractions were the sports possibilities for landing king-fish, barracuda, salmon, springer, rock salmon, musselcracker, bream, grunter, and shad among others. The different varieties of shark included hammerheads, sand sharks and tiger shark which was described as "a formidable opponent, the record catch on rod and line being 920 lb (pounds)" (South African Railways and Harbours, 1938, p.9).

Different recreational fishing opportunities existed along the coastline of the Cape Province. It was stressed this area offered the opportunity "to land a great variety of sporting and edible fish" (South African Railways and Harbours, 1938, p.9). Several types of fish were available to the sportsman. During summer this included leervis, Cape salmon, red steenbras, kabeljou, galjoen, dassies, and John Brown. In the winter months the list of species was dominated by red stumpnose, roman, poenskop, and galjoen. In May snoek were visitors "in tremendous shoals off the shores of the Cape" and could often be hooked from rocks. The promotional literature mainly targeted at international fishers advised that in the surrounds of Cape Town "the angler has a wide choice of fishing marks, all easy access" with the most popular area being around False Bay "where towering headlands give protection to a chain of delightful seaside resorts" (South African Railways and Harbours, 1938, p.9). These

resorts included several from Muizenberg and Simonstown where there were many noted sea angling locations. In addition, it was stressed that angling “from boats in Cape waters usually provides excellent sport” (South African Railways and Harbours, 1938, p.11).

Outside of the Cape Peninsula a number of other centres emerged as resort destinations for the sport of sea angling. Above all, the small town of Hermanus was lauded as “a most attractive angling resort” (South African Railways and Harbours, 1938, p.11). Sea angling was one of the early bases for the growth of Hermanus as a coastal tourism destination (Lee, 2019; Rogerson and Rogerson, 2020b). By the early 1920s what was once a small fishing village at the turn of the 20th century had become transformed into one of South Africa’s most popular seaside resorts. The attractions of the Hermanus climate, beaches as well as sea angling explain its progressive consolidation as a pleasure tourist resort during the first decades of the 20th century. Here it was argued that the range of fishing “satisfies both the expert angler and the man who wishes to spend a seaside holiday with a little sport thrown in” (South African Railways and Harbours, 1938, p.11). It was described that the “place is noted for its rock fishing, and the disciples of Izaak Walton can be seen in large numbers landing kabel-jaauw, steenbras and many other kinds of fish that abound on this coast” (South African Railways and Harbours, 1924, p.16).

Lee (2020, p.4) records that the early participants in sport fishing at Hermanus “were usually of upper or middle class standing, fishing off the rocks or from a hired boat, with a single rod, catching large fish for personal use”. The town enjoyed celebrity status for its fishing opportunities. Lee (2020, p.4) observes that sea angling was “the recreational activity offered by Hermanus to busy diplomats, bureaucrats and even minor aristocracy”. For such upper-class sports fishermen, it was normal that the individual angler only got involved “when the catch was ready to be reeled in” and even then assistance might be given by a local fisherman referred to as a ‘ghillie’ who did all the dirty work: digging bait, baiting hooks, casting, gaffing and killing the fish” (Lee, 2020, p.4). This said, the wealthy visiting angler always took the sporting credit for the catches rather than the local fisherman. Publicity material issued in the 1930s aimed at international visitors described Hermanus as “an angler’s paradise” (Carlyle-Gall, 1937, p.24) and a “holiday resort and centre of world-wide fame for its sea fishing” (Carlyle-Gall, 1937, p.16). Overall, Hermanus is an example of where recreational fishing in the form of sea angling contributed greatly to resort development and the growth of the town’s local economy of accommodation services (Rogerson, 2019; Rogerson and Rogerson, 2020b).



A smallish shark caught at Hermanus.

**Figure 2.** Sea angling in Hermanus C.1935 (Source: *South African Railways and Harbours, 1938*)

Hermanus was renowned for catches of big sporting fish and in particular of kabeljou. Major shark catches were recorded also at Hermanus with a Mr. W. Selkirk celebrated for capturing the record shark of 2176 lbs using rod and line with “the monster being conquered after a combat lasting five hours” (South African Railways and Harbours, 1938, p.11). Figure 2 shows the much-advertised successes of fishing off Hermanus coastal waters. Several record catches for the sport of sea angling were linked to Hermanus thus giving it the status of “pre-eminent among fishing venues” (South African Railways and Harbours, 1938, p.11). The standing of Hermanus as a destination for sea angling continued into the apartheid period (Rogerson and Rogerson, 2020b). For example, in the early 1960s Albertyn (1961, p.1) stressed the reputation of Hermanus and argued that “there are few salt-water anglers in the entire Union of South Africa who have not heard the magic name of Hermanus mentioned at some time in connection with big catches of fish”. Often the resort town was viewed as “the mecca of anglers” because “for sheer consistency in yielding a wide variety of all types of fish all the year around, Hermanus stands alone” (Albertyn, 1961, p.1).

Several other coastal locations were flagged as fishing destinations for potential tourists. Mossel Bay was recommended as a location “where the rock or surf



angler has several miles of attractive sea front at his disposal” with sporting options including both boat fishing as well as the practice of rock angling (South African Railways and Harbours, 1938, p.11). The larger centre of Port Elizabeth and its environs also offered opportunities for fishing off jetties and rocks in addition to in the surf and estuaries. East London was another recommended destination for sports fishermen. East London and Mossel Bay both offered cheap accommodation options in the form of camping and caravan parks which were very popular for domestic fishermen in the 1920s and 1930s (Rogerson & Rogerson, 2021d and 2023). Local fish specialities around East London included black steenbras, blue-fish, copper steenbras as well as galjoen. Further south the town of Hamburg was detailed as follows: “a delightful fishing resort at the mouth of the Keiskana, where steenbras abound – the tails of the venturesome fish swishing over the sand banks at feeding times. Galjoen are taken in large numbers and kabeljou, some weighing over a hundred pounds, swim up the river from the sea in search of small fry” (South African Railways and Harbours. 1938, p.11).

From East London towards Durban, the coastline known as the Wild Coast, offered a number of excellent sports fishing resorts most notably at the small centres of Qolora, Mazeppa Bay and Port St Johns where rock angling was a popular pastime and, at least in the case of Port St Johns, an asset that supported the town’s small accommodation sector. Overall, for sportsmen visiting the resorts of the Cape coastline the summer catches included kabeljou, red steenbras, Cape salmon, yellowtail, garrick (leervis) and left. In winter the range of fish for sport changes to red stumpnose, roman, galjoen, and poenskop described as running up to 45 pounds and “with very powerful jaws” (South African Railways and Harbours, 1938).

It is evident that the early development of recreational fishing as a special interest form of tourism was consolidated and extended in the immediate period following the ending of the Second World War. With the slow resumption of international tourism to South Africa, sea angling was once again viewed as a national asset for tourism development. The task of overseas promotion was no longer, however, the responsibility of the publicity department of South African Railways as from the early 1950s the mandate for attracting international tourists was passed to the South African Tourist Corporation as a dedicated agency (van Eeden, 2014). One of its first initiatives related to fishing as a special interest market for tourism. In 1953 it was proclaimed that along South Africa’s coastline “all fishing stories are true” and that with more than 1000 different forms of marine fish classified in South African waters “there must be 50 or 60 that the angler can hook” (South African Tourist Corporation, 1953, p.3). The country’s leading resorts for sea fishing were once more highlighted with Hermanus styled as “the most famous of all fishing spots in South Africa” and as an iconic “angler’s paradise” (South African Tourist Corporation, 1953,

p.8). Further along the Cape coast the merits of Plettenburg Bay, Port Elizabeth and East London as fishing destinations were elaborated. By the 1950s East London had emerged as the major hub in South Africa for shore-based kite-fishing. On the coastline of Natal, Durban was flagged for “great shark-fishing” and Richard’s Bay where “there are numbers of places on the way where comfortable accommodation and good fishing may be had” (South African Tourist Corporation, 1953, p.15). This promotion of special interest tourism sea fishing in South Africa during the early years of apartheid (which began in 1948) is noteworthy given that the historian Albert Grundlingh (2006) observes a general neglect of tourism by the apartheid government until the early 1960s.

### **Conclusions**

In South Africa of the country’s total 59 million population an estimated 2.2 percent engage in recreational fishing on a regular basis (Bova et al., 2022). It has been calculated that recreational fishing currently contributes US\$ 2.2 billion per year to economic activity and is responsible for generating over 90 000 sustainable job opportunities (Potts et al., 2022). In terms of its early development inland trout fishing and marine shore-based angling were the initial foci. With improved technologies and the appearance of different forms of watercraft (including ski-boats) recreational fisheries became more diverse with people variously fishing from the shore, from boats in coastal areas as well as inland fishing in rivers and lakes mainly for trout (Griffiths and Lamberth, 2002; Potts et al., 2022).

This study has attempted to probe the historical evolution of one major segment of recreational fishing in South Africa, namely of coastal and marine fishing. It has been demonstrated that the promoters of tourism in South Africa – most especially the South African Railways and Harbours - were alert to the potential opportunities for tourism development which was associated with special interests such as recreational fishing. Although the concept of special interest tourism was only first put forward in the 1980s various early forms of special interest tourism predated its discovery by researchers. In final analysis, the results of this study on incipient special interest tourism confirm the relevance and considerable merits of pursuing archival based historical investigations in leisure and recreation studies.

### **Acknowledgements**

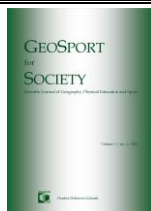
Arno Booyzen prepared the map. Thanks are due to the inputs provided to this paper by Robbie Norfolk, Lulu White and most especially by Skye Norfolk.

## References

- Agarwal, S., Busby, G., & Huang, R. (2018). Special interest tourism: An introduction. In S. Agarwal, G. Busby, & R. Huang (Eds.), *Special interest tourism: Concepts, contexts and cases* (pp. 1-17). Wallingford, UK: CABI.
- Albertyn, C. (1961). *The angler's Hermanus*. Hermanus Publicity Association, Hermanus, South Africa.
- Allison, C., Winckler, A.C., Childs, A.-R., Muller, C., & Potts, W.M. (2023). Can social media platforms be used to foster improved environmental behaviour in recreational fisheries? *Fisheries Research*, 258, 106544.
- Arlinghaus, R., Aas, O., Alós, J., Arismendi, I., Bower, S., Carle, S., Czarkowski, T., Freire, K.M.F., Hu, J., Hunt, L.M., Lyach, R., Kapusta, A., Salmi, P., Schwab, A., Tsuboi, J.-I., McPhee, D., Potts, W., Wołos, A., & Yang, J.-Z. (2021). Global participation in and public attitudes towards recreational fishing: International perspectives and developments. *Reviews in Fisheries Science & Aquaculture*, 29 (1), 58-95.
- Beedie, P. (2015). A history of mountaineering tourism. In G. Musa, J. Higham, & A. Thompson-Carr (Eds.), *Mountaineering tourism* (pp. 40-54). Abingdon, UK: Routledge.
- Bova, C.S., Stephens, J., Aswani, S., & Potts, W.M. (2022). Is the instrumental approach a 'silver bullet' for addressing non-compliance in recreational fisheries? A South African case study. *Fisheries Research*, 255, 106439.
- Brouwer, S.L., Mann, B.Q., Lamberth, S.J., Sauer, W.H.H., & Erasmus, C. (1997). A survey of the South African shore-angling fishery. *South African Journal of Marine Science*, 18(1), 165-177.
- Butler, G., & Rogerson, C.M. (2016). Inclusive local tourism development in South Africa: Evidence from Dullstroom. *Local Economy*, 31(1/2), 264-281.
- Carlyle-Gall, C. (1937). *Six thousand miles of sunshine travel over the South African Railways*. South African Railways and Harbours, Johannesburg, South Africa.
- Douglas, N., Douglas, N., & Derrett, R. (2001). *Special interest tourism*. Wiley, Melbourne, Australia.
- Du Preez, M., & Lee, D.M. (2010a). The contribution of trout fly-fishing to the economy of Rhodes, North Eastern Cape. *Development Southern Africa*, 27(2), 241-253.
- Du Preez, M., & Lee, D.M. (2010b). Estimating the value of a positive change in trout fly-fishing quality in Rhodes trout fishery, Eastern-Cape, South Africa. *Journal of Economic and Management Sciences*, 13(2), 158-176.
- Everett, B.I., & Fennessy, S.T. (2007). Assessment of recreational boat-angling in a large estuarine embayment in Kwa-Zulu Natal, South Africa. *African Journal of Marine Science*, 29(3), 411-422.
- Foster, J. (2008). *Washed with sun: Landscape and the making of white South Africa*. University of Pittsburgh Press, Pittsburgh, USA.
- Gill, A.M. (2022). Mountain tourism. In D. Buhalis (Ed.), *Encyclopedia of tourism management and marketing* (pp. 247-250). Cheltenham, UK: Edward Elgar.
- Griffiths, M.H., & Lamberth, S. (2002). Evaluating the marine recreational fishery in South Africa. In T.J. Pitcher & C. Hollingworth (Eds.), *Recreational fisheries: Ecological, economic and social evaluation* (pp. 227-251). Chichester, UK: Wiley.
- Grundlingh, A. (2006). Revisiting the 'old' South Africa: Excursions into South Africa's tourism history under apartheid, 1948-1990. *South African Historical Journal*, 56, 103-122.
- Guastella, L.A.-M. (1994). A quantitative assessment of recreational angling in Durban Harbour, South Africa. *South African Journal of Marine Science*, 14(1), 187-203.
- Hall, C.M. (2021). Tourism and fishing. *Scandinavian Journal of Hospitality and Tourism*, 21(4), 361-373.
- Hall, C.M., & Weiler, B. (1992). Introduction: What's special about special interest tourism?. In B. Weiler & C.M. Hall (eds.), *Special interest tourism* (pp. 1-14). London, UK: Belhaven Press.
- Hannonen, O., & Hoogendoorn, G. (2022). Angling tourism: A state-of-the-art review. *Matkailututkimus*, 18(2), 6-30.
- Hoogendoorn, G. (2014). Mapping fly-fishing tourism in Southern Africa. *African Journal of Hospitality, Tourism and Leisure*, 3(2), 1-13.
- Lee, R. (2019). *Hermanus history: People and events that touched our town 1890 to 2018*. Heritage Publications, Hermanus, South Africa.
- Lee, R. (2020). Angling and the birth of tourism in Hermanus (1900-1970). *The Village News*, 19 February, 4.

- Mann, B.Q., & Mann-Lang, J.B. (2020). Trends in shore-based angling effort determined from aerial surveys: A case study from Kwa-Zulu Natal, South Africa. *African Journal of Marine Science*, 42(3), 269-281.
- Mann, B.Q., James, N.C., & Beckley, L.E. (2002). An assessment of the recreational fishery in the St Lucia estuarine system, KwaZulu-Natal, South Africa. *African Journal of Marine Science*, 24, 263-279.
- McKercher, B., & Chan, A. (2005). How special is special interest tourism?. *Journal of Travel Research*, 44, 21-31.
- Michailidis, N., Katsanevakis, S., & Chatosia, N. (2020). Recreational fisheries can be of the same magnitude as commercial fisheries: The case of Cyprus. *Fisheries Research*, 231, 105711.
- Nair, B.B., & Mohanty, P.P. (2021). Positioning spice tourism as an emerging form of special interest tourism; Perspectives and strategies. *Journal of Ethnic Foods*, 8, 10.
- Nasab, P.S.A., Carr, N., & Walters, T. (2022). Using archival material in tourism, hospitality and leisure studies: Beauty and the beast. In F. Okumus, S.M. Rasoolimanesh, & S. Jahani (Eds.), *Advanced research methods in hospitality and tourism* (pp. 111-125). Bingley, UK: Emerald.
- Norval, A.J. (1936). *The tourist industry: A national and international survey*. London, UK: Sir Isaac Pitman.
- Novelli, M., Cheer, J.M., Dolezal, C., Jones, A., & Milano, C. (2022). *Handbook of niche tourism*. Cheltenham, UK: Edward Elgar.
- Pffor, C., Dowling, R., & Volgger, M. (2021). *Consumer tribes in tourism: Contemporary perspectives on special-interest tourism*. Singapore: Springer Nature.
- Potts, W.M., Saayman, M., Saayman, A., Mann, B.Q., van der Merwe, P., Britz, P., & Bova, C.S. (2022). Understanding the economic activity generated by recreational fishing in South Africa provides insights on the role of recreational fisheries for social development. *Fisheries Management and Ecology*, 29, 29-43.
- Preston-Whyte, R. (2008). The lure of fly-fishing. In B. Lovelock (Ed.), *Tourism and the consumption of wildlife: Hunting, shooting and sportfishing* (pp. 45-55). London, UK: Routledge.
- Roberts, A., Munday, M., Roche, N., Brown, A., Armstrong, M., Hargreaves, J., Pilgrim-Morrison, S., Williamson, K., & Hyder, K. (2017). Assessing the contribution of recreational sea angling to the English economy. *Marine Policy*, 83, 146-152.
- Robinson, R., & Dunn, J.S. (1923). *Salt water angling in South Africa*. Durban, South Africa: Robinson and Co.
- Rogerson, C.M. (2024). Transnational tourism development: An early episode from colonial Southern Africa. *Revistă Română de Geografie Politică*, 26,, 14-28
- Rogerson, C.M., & Rogerson, J.M. (2020a). Coastal tourism in South Africa: A geographical perspective. In J. M. Rogerson & G. Visser (Eds.), *New directions in South African tourism geographies* (pp. 227-247). Cham, Switzerland: Springer.
- Rogerson, C.M., & Rogerson, J.M. (2020b). Resort development and pathways in South Africa: Hermanus, 1890-1994. In J. M. Rogerson & G. Visser (Eds.), *New directions in South African tourism geographies* (pp. 15-32). Cham, Switzerland: Springer.
- Rogerson, C.M., & Rogerson, J.M. (2021a). Niche tourism in South Africa: A renewed policy focus in the Covid-19 environment. *GeoJournal of Tourism and Geosites*, 39(4 suppl), 1379-1387.
- Rogerson, C.M., & Rogerson, J.M. (2021b). African tourism in uncertain times: COVID-19 research progress. *GeoJournal of Tourism and Geosites*, 38(4), 1026-1032.
- Rogerson, C.M., & Rogerson, J.M. (2021c). Niche tourism research and policy: International and South African debates. *African Journal of Hospitality, Tourism and Leisure*, 10(4), 1131-1151.
- Rogerson, C.M., & Rogerson, J.M. (2021d). Mundane urban tourism: The historical evolution of caravan parks in South Africa 1930-1994. In C.M. Rogerson & J.M. Rogerson (Eds.), *Urban tourism in the global South: South African perspectives* (pp. 93-112). Cham, Switzerland: Springer.
- Rogerson, C.M. & Rogerson, J.M. (2024). Historical special interest tourism: The evolution of mountaineering in South Africa., *Revistă Română de Geografie Politică*, 26,, 1-13.
- Rogerson, J.M. (2019). The evolution of accommodation services in a coastal resort town: Hermanus, South Africa. *African Journal of Hospitality, Tourism and Leisure*, 8(5), 1-16.
- Rogerson, J.M., & Rogerson, C.M. (2023). Historical geographies of coastal tourism: Mossel Bay, South Africa c1850-1988. *Bulletin of Geography: Socio-Economic Series*, 61, 7-17.
- Sousa, B., Santos, V., & Ramos, P. (2022). Special forms of tourism. In D. Buhalis (Ed.), *Encyclopedia of tourism management and marketing* (pp. 199-201). Cheltenham, UK: Edward Elgar.

- South African Railways and Harbours (1923). *South Africa: Land of the outdoor life*. Cape Town, South Africa: Townshend, Taylor & Snashall for South African Railways and Harbours.
- South African Railways and Harbours (1924). *The seaside and river resorts of South Africa*. Johannesburg, South Africa: South African Railways and Harbours.
- South African Railways and Harbours (1930). *Sea-angling in South Africa*. Johannesburg, South Africa: South African Railways.
- South African Railways and Harbours (1938). *Fishing in South Africa*. Johannesburg, South Africa: South African Railways.
- South African Tourist Corporation (1953). *Sea and freshwater angling in South Africa*. Pretoria, South Africa: South African Tourist Corporation.
- Terashima, Y., Yamashita, Y., & Asanao, K. (2020). An economic evaluation of recreational fishing in Tango Bay, Japan. *Fisheries Science*, 86, 925-937.
- Thompson, W.W. (1913). *The sea fisheries of the Cape Colony from Van Riebeeck's days to the eve of Union*. Cape Town, South Africa: Maskew Miller.
- Trauer, B. (2006). Conceptualizing special interest tourism – frameworks for analysis. *Tourism Management*, 27(2), 183-200.
- Van Eeden, J. (2014). South African railways postcard calendars, 1961 to 1984. *South African Historical Journal*, 66(1), 79-103.
- Walton, J. (2009). Histories of tourism. In T. Jamal & M. Robinson (Eds.), *The SAGE handbook of tourism studies* (pp.115-129). London, UK: SAGE.
- Weiler, B., & Hall, C. (1992). *Special interest tourism*. London, UK: Belhaven.
- Williams, C., Davies, W., Clark, R.E., Muench, A., & Hyder, K. (2020). The economic contribution of sea angling from charter boats: A case study from the south coast of England. *Marine Policy*, 119, 104066.
- Zhao, Q., Chen, X., Chen, G., & Qi, S. (2022). The socioeconomic contribution of the recreational fishery based on input-output analysis; The case of China. *Marine Policy*, 143, 105177.



## GEOSPORT FOR SOCIETY

Scientific Journal founded in 2014 under aegis of University of Oradea (Romania),  
University of Debrecen (Hungary), University of Gdansk (Poland)

ISSN 2393-1353

Edited by Oradea University Press

1, University Street, 410087, Oradea, Romania

Journal homepage: <http://geosport.uoradea.ro>



# Pigeon racing in South Africa: Exploring the socio-economic nature and extent of this 'unknown sport'

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**Citation:** Mostert, C., & Donaldson, R. (2024). Pigeon racing in South Africa: Exploring the socio-economic nature and extent of this 'unknown sport'. *Geosport for Society*, 20(1), 25-45. <https://doi.org/10.30892/gss.2003-106>

*Article history:* Received: 25.02.2024; Revised: 01.04.2024; Accepted: 06.04.2024, Available online: 09.04.2024

**Abstract:** This research addresses the paucity of academic exploration into pigeon racing, a globally recognized sport with limited scholarly attention. While prior studies focused on ornithology and medicine, this paper pioneers a comprehensive examination from a geographical perspective. Employing a quantitative methodology, the study surveyed 712 members of the South African National Pigeon Organization (SANPO), providing a nuanced understanding of demographics, organizational structures, subjective values, and economic impacts within pigeon racing. The study's findings reveal the dominance of males in the sport, its multi-generational nature, and widespread participation across diverse income groups. SANPO, with 3,540 members, emerges as a crucial entity in the sport's landscape. The paper categorizes fanciers into small, medium, and large groups based on bird ownership, presenting insights into their socio-demographic context and motivations. Pigeon-related activities are explored, emphasizing the sport's familial and youth development aspects. The economic analysis highlights the industry's substantial job creation and estimates its total economic worth between R528,968,608 and R1,620,390,112. By shedding light on this understudied sport, the research aims to stimulate further academic exploration and provide a foundation for informed discussions on the cultural, economic, and social aspects of pigeon racing.

**Keywords:** economic impact, fanciers, socio-cultural impact, pigeon sport

## Introduction

In disciplines such as sociology, public management, history, media studies, and cultural studies, there are well-established and notable trends in sports research. The first time that sport was mentioned in a geographical publication was in 1879 (Bale

and Dejonghe, 2008). However, despite the inherent geographical characteristics of sports, encompassing considerations of time, space, communities, mobilities, and identities, and shared interests with researchers exploring phenomena such as geopolitics, socialization, structural and ideological forces, there is a limited body of work addressing sports geography (Wise and Kohe, 2020). Generally, geographical concepts of space, place, and environment are scrutinized and applied in the study of sports (Higham and Hinch, 2006 and 2011). Sports geographers focus on the societal effects of sports and how they imbue space and location with significance. Exploring sport and recreational practices in diverse contexts reflects the ongoing evolution of space and attitudes toward sports (Wise and Kohe, 2020). While research focuses may vary, geographers interested in sports also delve into spatial awareness, contested histories, identities, debates regarding scale, and existing power dynamics within sports governance, as well as the intricacies of place (Wise and Harris, 2010; Collins and Kay, 2014; Andrews, 2017; Koch, 2017).

The literature exploring the intersection of animals and sports is expansive and diverse, covering a wide range of topics such as ethical concerns, animal welfare, regulation and accountability, technological advancements, and public perceptions, among others (Kaushik, 1999; Kalof, 2014; Gibson, 2020; Campbell, 2023). Pigeon sport, also known as pigeon racing, is a unique and historic sport type that involves training homing pigeons to compete in races. As a sport it involves the release of trained pigeons that then fly back to their home loft. However, environmental factors such as wind speed, temperature, humidity, and air pollution can affect the birds' flight, speed, and navigation abilities, ultimately impacting the outcome of the race. Pigeons' navigation abilities are underpinned by two fundamental processes: orientation and homing. Orientation refers to their ability to determine their spatial position and direction relative to their goal, while homing pertains to their ability to return to their home loft from remote locations. Remarkably, pigeons exhibit a reliable sense of orientation even when released from unfamiliar locations, indicating the use of sophisticated navigational strategies (Walcott, 1996). While commonly viewed as nuisances or pests, pigeons have played significant roles in human history and remain subjects of both fascination and controversy in contemporary society. Their utility spans various roles, including being pets, carriers of post, messengers during wartime, subjects of scientific research, and participants in sports and leisure activities (Cressy, 1989; Beck, 2006, Kabir et al., 2020).

Pigeon racing evolved into a recreational activity for the working class in the 1870s, gaining global popularity post-World War II (Johnes, 2007; Whiston, 2017; Kabir et al., 2020). The reduction in working hours after the war in Europe, coupled with improved communication and travel networks, provided fertile ground for sports like pigeon racing to thrive. The impressive range of up to 1600 kilometres that

homing pigeons could traverse facilitated international competitions within Europe (Jerolmack, 2013). The English Carrier Pigeon, initially bred for news delivery, transformed into a short-distance racer due to the rise of the telegraph. Importation of robust racing pigeons from Belgium, facilitated by railways, expanded the scope of competitions. Pigeon lofts then became a prominent feature in residential areas across England and Europe (Jerolmack, 2013).

In contemporary times, pigeon racing boasts a substantial following with well-established organizational structures globally (Johnes and Nicholson, 2015). Despite rapid evolution and popularity in Western Europe and the United States in the early 20<sup>th</sup> century (Kabir et al., 2020), global enthusiasm for pigeon racing is dwindling. The introduction of modern technology has heightened the sport's complexity, making it costlier and less accessible to its working-class roots (Jerolmack, 2007). The declining interest among younger generations is attributed to rising expenses and the availability of alternative recreational pursuits. Even in Belgium, a prominent pigeon racing nation, the racer count has dropped significantly from approximately 200,000 to 40,000 over the past half-century (Jerolmack, 2013).

In South Africa, carrier pigeons gained prominence during the Anglo-Boer War. Post-war, a surplus of carrier pigeons led to the establishment of numerous lofts. Pigeon racing clubs such as Brooklyn, District Six, Rugby, Maitland, Woodstock, Wynberg, Ottery, Philippi, Paarl, and Stellenbosch have roots dating back over a century (Wallendorf personal communication, 2022), with multiracial participation in many clubs. Interest surged before World War II, with immigration bringing Belgian strains and a notable figure, Frans Putterie, to South Africa in 1932. Putterie's imported pigeons sparked a revolution in pigeon racing, leading to the development of the renowned "old Putteries" strain (Von Jules Gallez, 2010). Despite the changing political landscape due to apartheid, friendships endured, albeit with segregated clubs. Efforts to "race together" overcame these divisions (Wallendorf personal communication, 2022).

South Africa has become a favoured destination for pigeon fanciers and breeders, with its climate providing extended periods of favourable weather and the logistical advantage of overland travel as opposed to cross-oceanic transport (Wallendorff personal communication, 2022). As one of the top 10 pigeon countries globally, South Africa has positioned itself as a leader in innovation, developing new products such as software programs for online racing (De Coning, 2018 and 2022). The country boasts one of the world's best genetic pools of racing and breeding pigeons, sought after by both local and international breeders. International fanciers often send their birds to participate in South African races, with the Million Dollar Challenge, held annually at SUN City until its cancellation in 2020, remaining the top-earning and most prestigious race globally. These international competitions not only

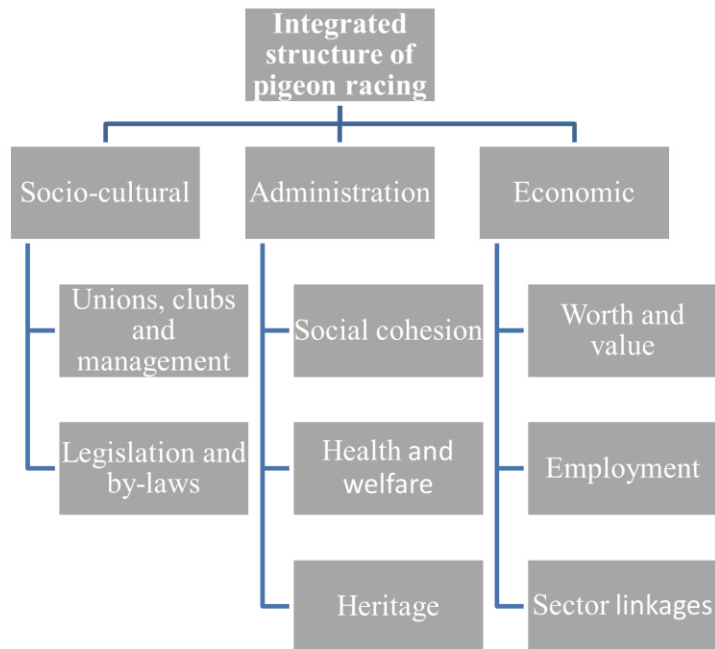


elevate the sport's profile but also generate substantial earnings for the South African tourism industry, thereby contributing to the national economy. Renowned South African lofts, including those of President Cyril Ramaphosa and Mark Kitchenbrand, have garnered international acclaim and prestige, yielding lucrative incomes for the loft owners (Wallendorf personal communication, 2022). Pigeon racing clearly serves as a prime example of a sport with a rich cultural history and heritage, intertwined with social interactions and with an economic impact.

While pigeon racing enjoys a vague degree of awareness in the general public as a sport, there has been a notable dearth of worldwide academic research on the subject (De Coning, 2018 and 2022), particularly from the perspectives of sport scientists, sociologists, and geographers. For example, a search on Google Scholar reveals no published academic works specifically focused on contemporary pigeon sport. Despite the existence of numerous studies on racing pigeons originating from ornithological and medical fields (Walcott, 1996; Shivambu 2020a and b, 2022; Southern African Bird Atlas Project, 2022), a noticeable gap persists in academic inquiries, particularly in English, that delve into the intricacies of pigeon racing, both in a global context and specifically within South Africa. Key aspects that remain largely unexplored within academic literature such as understanding the demographics of participants, organizational structures, the subjective value it holds for those engaged in the activity, and the economic impact of pigeon racing in South Africa are therefore investigated in the paper.

### **Methodology**

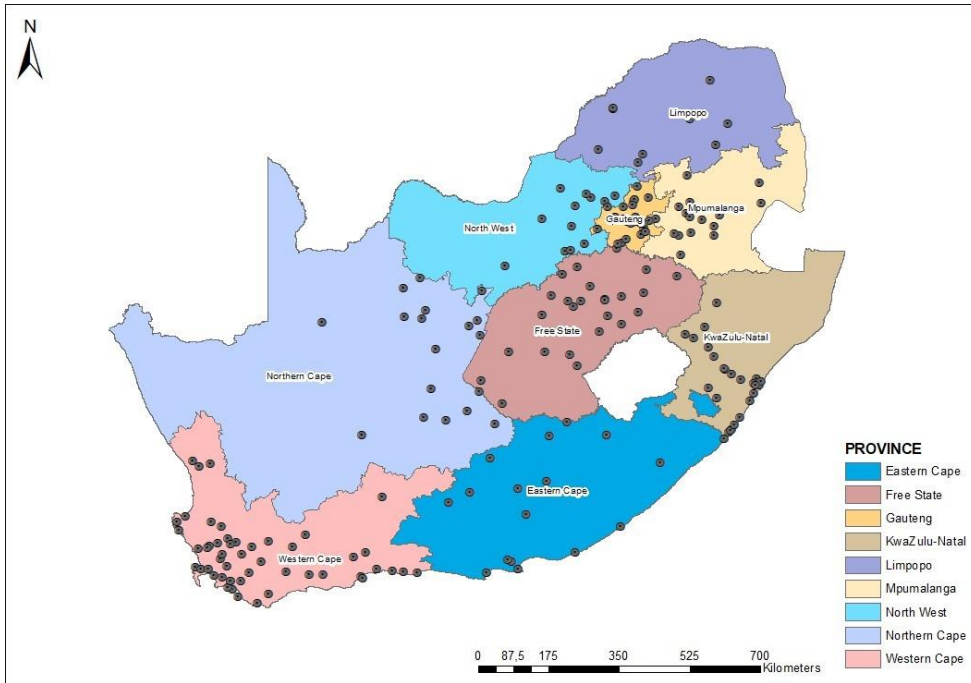
A quantitative research methodology was employed in this study, involving the collection of numerical data through an online questionnaire survey directed towards all registered members of South African National Pigeon Organization (SANPO). An analytical framework (Figure 1) served as a structural foundation for the study's questionnaire survey and subsequent data analysis. This integrated structure acts as a guiding framework, facilitating a comprehensive understanding and visualization of the main socio-cultural and economic themes within the sport, elucidating the driving factors, and highlighting their significance in society. Data was analyzed by means of SPSS. Statistical methods were then applied to analyze the data. The study created content cloud, alternatively known as a 'word cloud' or 'tag cloud', as an exploratory qualitative data analysis tool. Its purpose is to summarize document content by computing word frequencies and visually representing them.



**Figure 1.** Integrated structure of pigeon racing

For the survey, SANPO members, referred to as fanciers, an online questionnaire consisting of both open and closed-ended questions was designed using the Checkbox program. SANPO's executive provided information on the general structure, policies, and organization of the organization (Pretorius, 2022). SANPO's management disseminated the link to the online questionnaire to all members in September 2022, allowing a four-week period for completion. Ultimately, 712 members, constituting 20% of the total SANPO membership, successfully filled out the questionnaire. While the survey was initially conceived as a census, anticipating full participation from all members, it was later reclassified as a sample due to the partial involvement of the population. In statistical terms, the recommended sample size for a target population of 3540 (the number of SANPO members) is 347, as advised by statisticians using the Raosoft sample calculator. The actual response rate of 712 exceeded this standard.

The reliability of the study's findings hinges on the honesty and accuracy exhibited by respondents during the survey completion. Notably, the online survey method may have favoured digitally savvy fanciers, particularly those of medium and large sizes, typically professionals accustomed to responding to such inquiries and well-versed in information and communication technology. Figure 2 illustrates the geographic distribution of respondents' places of origin, showcasing representation from almost all clubs across the country.



**Figure 2.** Spatial distribution of geographical spread of places of origin of respondents

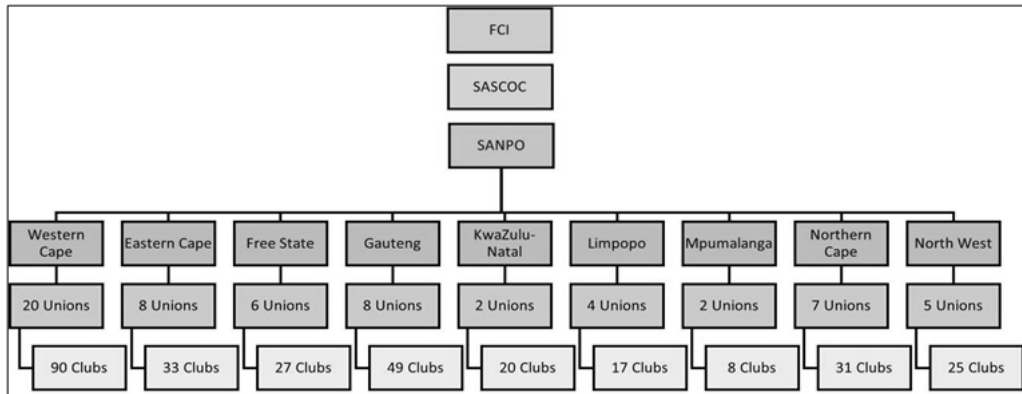
The study was approved by the Social, Behavioural and Education Research (SBER) Ethics Committee (Project number: 27438) of the authors’ university and was endorsed by the South African National Pigeon Organization (SANPO).

## Results

Given the scarcity of existing literature on pigeon racing as a sport, the paper will rely on empirical evidence gathered through surveys. The focus will be on presenting and discussing the collected data, offering a comprehensive examination of the surveyed elements within the specific context of the study.

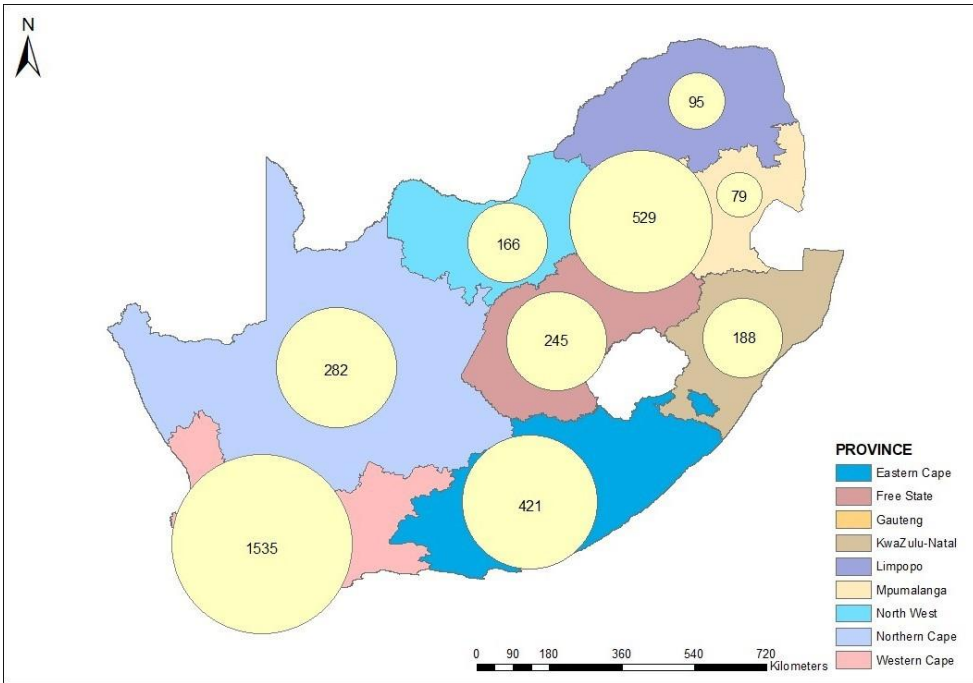
### *Organization and membership*

SANPO, a non-profit organization affiliated with the South African Sports Confederation and Olympic Committee (SASCOC), is dedicated to safeguarding, promoting, and fostering the sport of pigeon racing and the exhibition of pigeons. It encompasses all nine provinces in the country, including their respective unions (62 in total) and 300 clubs (Figure 3) (SANPO, 2020; Pretorius, 2022).

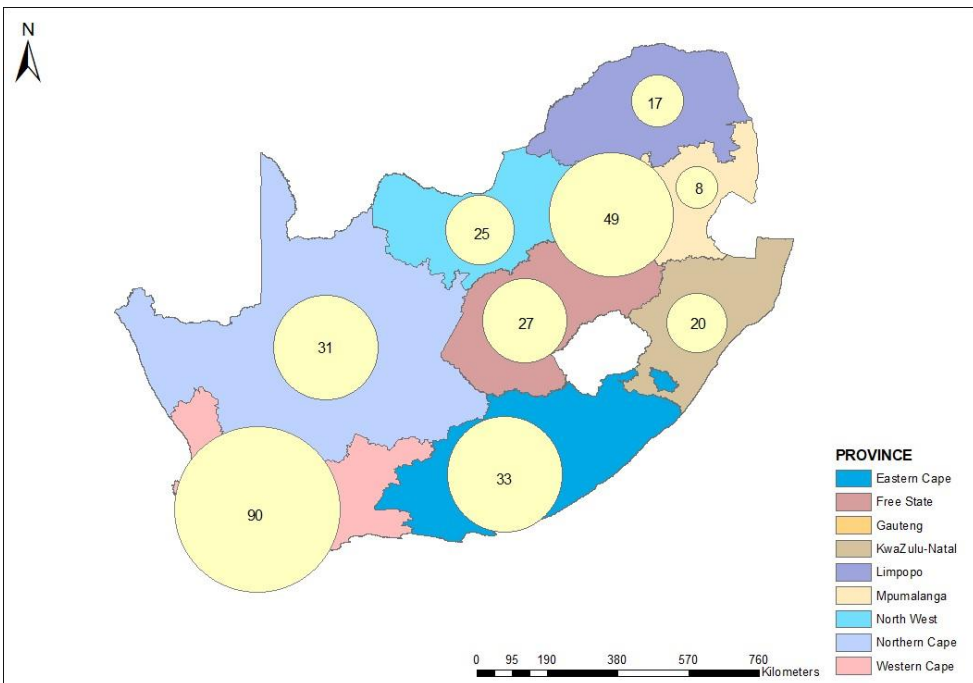


**Figure 3.** Governing structure of pigeon sport (Sources: SANPO, 2020; Pretorius, 2022)

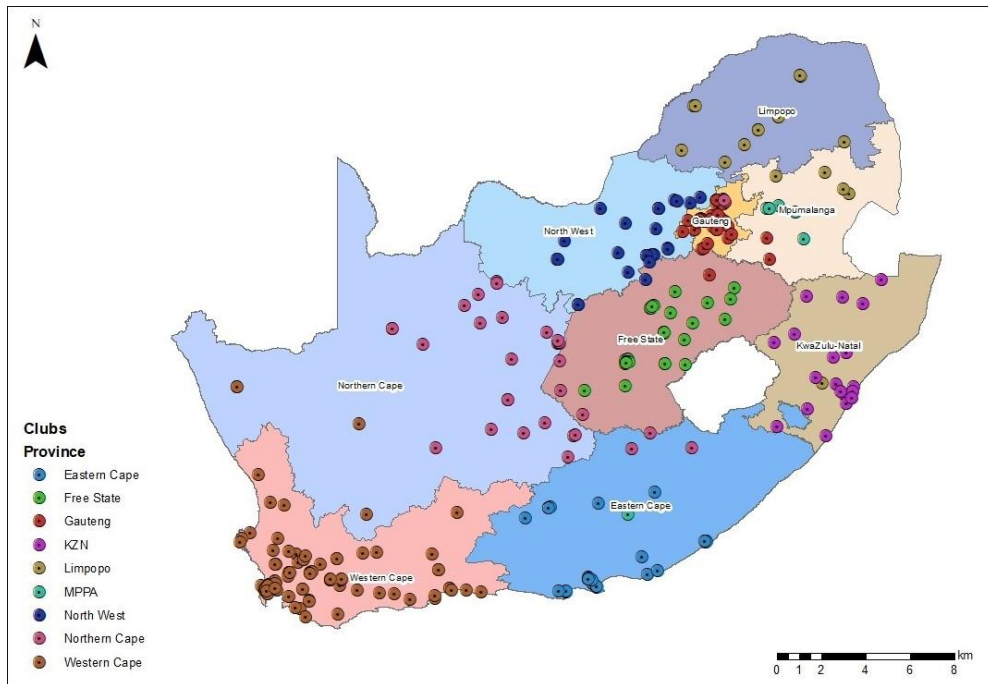
The organization adopted a code of conduct in 2016, which, notably, was among the first of its kind to be presented to SASCOC (De Coning personal communication, 2022). In an inclusive approach, membership fees are kept minimal, amounting to R100 per person per year in 2022. Despite being characterized by relatively small membership numbers, with 3.540 members in 2022, SANPO stands as a vital entity within the sporting landscape. Figure 4 illustrates the proportional distribution of memberships across provinces, while figure 5 provides insights into the number of clubs per province. The spatial distribution of these clubs, showcased in figure 6, reveals comprehensive coverage across metropolitan areas, secondary cities, towns, small towns, and rural regions throughout the country. Respondents have been members of their respective clubs for between 1 and 59 years with an average of 11 years (median = 6 years).



**Figure 4.** Proportional representation of SANPO members per province (2022)



**Figure 5.** Number of clubs per province (2020)



**Figure 6.** Spatial distribution of registered SANPO clubs (2020)

Unions consist of multiple clubs, which in turn are each constituted of a dozen or more members (fanciers). Such memberships ensure that fanciers derive the benefits of collective organising, such as transporting their birds to races in large trucks. According to De Coning (2018) existing unions and clubs are beginning to support and invest in fledgling clubs now, attempting to attract newcomers into the sport.

#### *Fancier category types*

In categorizing fanciers, De Coning's (2018) study employed a 10:50:40 ratio, distinguishing small fanciers with up to 59 birds (inclusive of racers and breeding birds), medium fanciers with 60 to 120 birds, and large fanciers with more than 120 birds. The respondents in the 2022 survey reported an average ownership of 129 pigeons, with a median of 110, ranging from a minimum of 7 to a maximum of 1.500 birds. To classify the sample of fanciers into three categories, the median value (110) was identified, and class breaks were established above and below the mean at intervals of  $\frac{1}{2}$  standard deviations, ensuring all data values fell within a class. For practical considerations, categories were rounded down to 60 and 155. Consequently, the three categories slightly deviate from De Coning's (2018) study, resulting in: (1) Small fanciers possessing fewer than 60 birds (2.5% of the surveyed sample); (2) medium fanciers with 60 to 155 birds (61.8% of the surveyed sample); and (3) large

fanciers owning more than 155 birds (25.8% of the surveyed sample). The median number of pigeons kept by the three fancier groups are: small fancier - 47; pigeons; medium fancier - 100 pigeons; and large fancier - 200 pigeons.

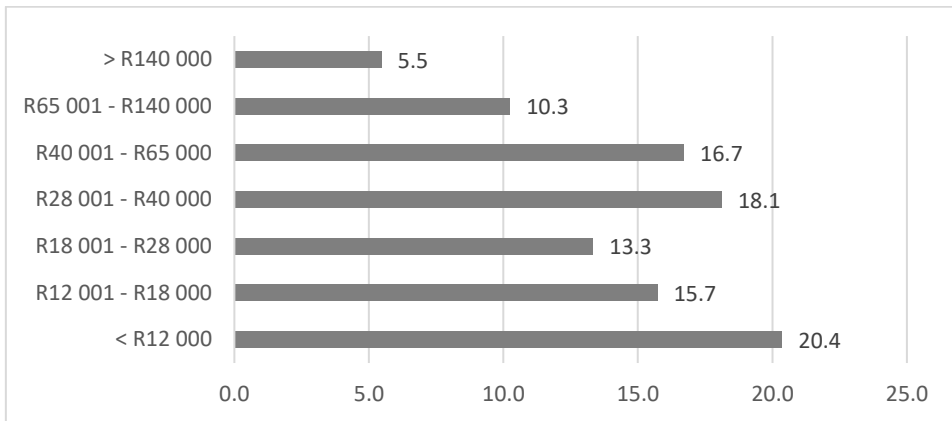
### *Socio-demographic context*

The dominance of males in animal sports can vary depending on the specific sport and cultural context. In some cases, animal sports may have historical or cultural associations with masculinity, leading to a greater male participation (Kalof, 2014). Pigeon sport in South Africa is largely male dominated (96%), mostly practiced by persons in their prime working age (56%) but also has great support among those older than 54 (42%), with some 2% below 24 years old. Respondents' age vary between 14 and 86 with an average age of 51 (median = 52). However, pigeon-racing has always been a notably multi-generational sport, a 'family affair' involving the whole family, with young children typically being allowed to hold baby birds (squabs) from a very young age (Wallendorf personal communication, 2022). Most children tend to drop out in their teens, however, returning again when they are older. To take part in pigeon-related activities is thus a life-long tradition. The average age to start is 21 years old (median is 15 years old). The number of years of involvement varies from 1 to 75 years with an average of 27 years (median = 27). Many fanciers have family members who participate in the sport with some having up to 60 members of an extended family involved, however, the average is 1.4 other members per family who are also members of SANPO.

Persons from all walks of life (Figure 7) and income-groups (Figure 8) partake in pigeon-related sport and activities: from professionals in high-income earning jobs to the low-skilled in low-income jobs and those unemployed. About half of the respondents are in the middle-to-higher income categories and half are below.



**Figure 7.** Employment categories (%)



**Figure 8.** Combined household income per month (%)

*Motivation for participation*

Fanciers engage in the sport due to their deep affection for pigeons and the sport itself. Respondents often characterize the sport as family-friendly and a pursuit that fosters familial bonds. Sports that are passed down through generations can be seen in pigeon racing. The family of Wallendorf has been involved in pigeon racing since 1903, meaning the family has been engaged in the sport for over 100 years, and Mr. Wallendorf’s son represents the sixth generation of Wallendorfs flying pigeons (Wallendorf, 2022). This offers a rich history and pride within the family and can be considered a legacy sport. Respondents were questioned about their motivations for participating in pigeon-related activities. The responses were transformed into a word cloud and then categorized into themes, with table 1 outlining selected responses in each theme. A significant portion of participants are introduced to the activity through family members and friends who are also involved. For some individuals, the significance lies in acknowledging how the sport plays a role in deterring involvement in gangs and substance abuse. This perspective aligns with insights from Pretorius (2022), who highlighted the sport’s utilization in youth development as a means to steer young individuals away from drugs and gang violence.

**Table 1.** Selected responses per theme to the question why fanciers participate in selected pigeon sport

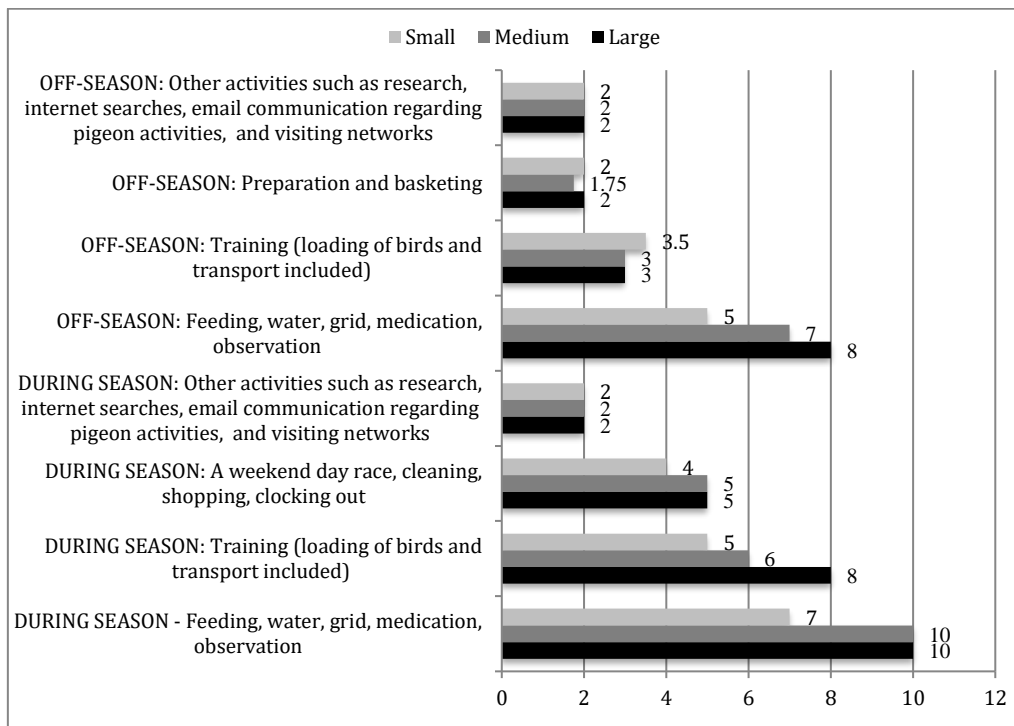
Family tradition/family time	“A love of pigeons and the pigeon racing sport. It is something our whole family can participate in”.
	“It keeps one busy over the weekends. It’s a great sport to be part of all the family members can partake and it means you are spending quality time with you family at home”.
Peace and religion	“It’s difficult to find the words to describe how unique and amazing pigeons are. I think the true beauty of pigeons are that the more you learn and understand them, the clearer you can see God’s hand in creation”.



	It is a wonderful creation of God, to give him love and food and water and he flies back to his home".
Recreation/hobby	"It's my hobby which I am very passionate about. The friends and camaraderie you make in this game is second to none".
	"Love for pigeons and the sport".
Competitiveness/competition	"Love the competitive nature of a Racing pigeon and the sport of Racing pigeons".
	"Always been a competitive individual, the combination of having racing pigeons and racing them allowed me to enjoy my birds to the fullest".
Prevention of crime	"It has been something that kept me out of trouble as a child. Saved me from associating with friends that abused drugs. It's also a family sport and keeps my children off the roads".
Community	"It's my sport. Better quality of life. Helps with mental and psychological well-being. Camaraderie and social interaction. Great challenge to test one's ability to breed race and take care of racing pigeons".
	"We enjoy the sport and the pigeons. We are a tight knit club, and all are friends".

*Pigeon sporting activities*

In South Africa, there are five distinct types of pigeon-related sports activities: pigeon rollers, pigeon shows/pageants, fancy pigeons, long, middle, and short-distance racing, and the World Olympiad. The Federation Colombophile Internationale (FCI) is an olympiad world body and pigeon racing event coordinator. The Racing Pigeon Olympiad is an international event that brings together champion pigeons from all over the world and it is organized every two years. The 27th Olympics took place at the Goede Hoop Centre in Cape Town in 2001 (Troskie, 2001). A substantial majority of respondents (92.1%) engage annually in the comprehensive program encompassing all distances of pigeon sport activities. Specifically, 38.8% are involved in pigeon breeding, 22.5% participate in one-loft races, and exclusively 15.6% in short-distance races, 14.9% in middle-distance races, and 12.1% in long-distance racing. A smaller proportion engages in pigeon shows (7.3%) and roller tumbling (2%). Regarding the farthest distance a respondent would travel for a racing event, nearly half of the participants (48%) reported travelling up to 200 km, typically reflecting local engagements. Approximately one-third (29%) would venture to regional or provincial events, while 22% would participate at the national level, and only 1% at the international level. Notably, 80% of respondents expressed a willingness to travel up to 200 km for training sessions leading up to an event. On average, respondents dedicate a median of 120 days per year to training pigeons. Figure 9 depicts the median number of hours allocated per week during the season and off-season across four activities, segmented by the three fancier categories. Understandably, medium and larger fanciers invest slightly more time in specific activities, such as feeding and training during the season.



**Figure 9.** Median number of hours spent per week during season and during off-season on activities according to the three fancier categories

*Economic worth*

Pigeon racing sport not only captures the enthusiasm of fanciers but also contributes substantially to various domestic economies. The pigeon trade has burgeoned into a multi-billion-dollar international industry, ranking for example, among Belgium's top ten export commodities. Recent auctions have seen individual birds fetching remarkable sums, such as \$25.4 million, underlining the economic significance of the sport. The international market primarily draws from prominent players in pigeon racing, notably from countries in the east such as China, the Benelux region, and ex-Eastern bloc countries (De Coning, 2018; Kavesh, 2018).

A pigeon fancier typically spends 3 to 5 years establishing a loft, laying out money for the building and/or buying of the loft, generally followed by extensions and improvements made over time. The fancier needs to acquire good breeding stock/young birds and purchase a range of paraphernalia. According to Wallendorf (Personal communication, 2022) although in the past the sport was a fairly simple affair, over time it has become notably more sophisticated and thus expensive, with fanciers gradually becoming more competitive and professional – if you are ‘in it to win it’ you need to make significant investments of both time and money to make money.

In what is becoming an increasingly competitive environment, where there is a lot of money to be made, the entry of new fanciers, and especially young people interested in the sport has become very challenging. A supplier of products to the industry went as far as to call the sport ‘a science’ (Viljoen personal communication, 2022). Youths from less privileged environments who are attracted to the sport, from places like Soweto for example (Mtembu, 2022), are finding it difficult to get established, mostly due to the associated costs involved, not least because of membership fees. The consequence of this is that those from less advantaged backgrounds generally do not register with clubs or unions (Mtembu, 2022), remaining invisible and unmonitored, thereby presenting a range of risks for the sporting body.

From the survey responses the estimated economic value of the racing pigeon industry in the country was computed, primarily utilizing the criteria established in De Coning (2018). Survey participants were asked about their expenditure estimates for running expenses over the course of a year or a month (whichever was more convenient to provide). The following categories were considered: Acquisition of pigeons; club fees; communication about pigeon; electricity use; feed and grain; functions; insurance; labour (workers); loft manager salary; medicine and supplies; one loft racing; research expenses; rings and equipment; SANPO and other affiliated fees; training costs; transportation-related expenses; and veterinarian fees. Table 2 serves as a comprehensive summary of the entire sample, indicating the number of respondents incurring costs for a specific item or category. The percentage of responses, used as a weighting factor in calculating the average overall running cost total, is also presented. Additionally, the table provides the minimum and maximum cost values reported by respondents, along with the mean (average value), standard deviation, and median for each category.

**Table 2.** Summative table of running costs

Descriptive Statistics	N	%	Min	Max	Mean	Std. Deviation	Median
Feed and grain	677	95.1	15	250000	17191	19711	12000
Medicine and supplies	658	92.4	120	240000	8716	13109	6000
Rings and equipment	663	93.1	36	72000	5799	9647	2400
Transportation of pigeons	633	88.9	120	240000	15059	22973	7200
Veterinarian fee	238	33.4	120	180000	5581	13381	2400
Training	585	82.2	120	240000	15513	24896	7200
Club fees	660	92.7	20	180000	7008	15773	2400
SANPO and other affiliation fees	581	81.6	50	66000	2079	5672	500
Acquisition of pigeons	237	33.3	2	600000	18833	55503	5000

Research expenses	297	41.7	84	60000	2451	4512	1200
Communication about pigeons	299	42.0	84	60000	2444	4498	1200
Electricity use for pigeon lofts	319	44.8	50	60000	2432	5011	1200
Labour workers	338	47.5	120	720000	27732	53698	12000
Loft manager salary	50	7.0	600	600000	72556	111285	48000
One loft racing	165	23.2	24	300000	31345	54408	12000
Functions	310	43.5	48	48000	3002	5241	1200
Insurance	17	2.4	120	20000	5112	5366	3000

Tables 3 and 4 show the mean and median calculated running expenses for the three fancier group types. The replacement value of all birds and lofts is also incorporated to provide a comprehensive estimation of the economic value of pigeon racing. While conventionally presenting only the median might suffice, in this instance, presenting both mean and median is beneficial. It not only highlights the spending disparity but also acknowledges that the value might surpass the median estimate. The current total economic worth ranges from R528.968.608 (based on median spend and replacement values) to R1.620.390.112 (based on average spend and replacement values) (100 Rand equals \$5.28 at the time of writing). It's essential to note that this figure excludes the facilities and land owned by clubs, as well as indirect tourism economic impacts resulting from fanciers travelling to racing events, whether local, national, or international.

**Table 3.** Estimation of economic worth South African Rand of pigeon industry based on the mean

Based.on.mean (average)	Small fanciers	Medium fanciers	Large fanciers	Total
All.running.expenses	21.500.279	179.403.053	167.796.465	368.699.797
Replace.value.of.all.birds	17.657.932	329.809.886	608.254.240	955.722.058
Replace.value.of.loft	13.386.611	127.448.089	15.5133.554	295.968.255
TOTAL	52.544.822	636.661.030	931.184.259	1.620.390.112

**Table 4.** Estimation of economic worth in South African Rand of pigeon industry based on the median

Based on median	Small fanciers	Medium fanciers	Large fanciers	Total
All.running.expenses	11.150.101	96.879.281	84.454.226	192.483.608
Replace.value.of.all.birds	8.780.000	109.400.000	91.300.000	209.480.000
Replace.value.of.loft	6.585.000	65.640.000	54.780.000	127.005.000
TOTAL	26.515.101	271.919.281	230.534.226	528.968.608

Despite the relatively small number of participants in the sport, it is noteworthy that the racing pigeon industry generates a substantial number of jobs. Fanciers typically employ 1.3 full-time and 1.2 part-time workers, with a median of 1 for both types of employment. In other words, within the industry, approximately 8.850 jobs are created, comprising around 4.602 full-time positions and an additional 4.248 part-time jobs. It's important to highlight that these figures exclude indirect employment creation, such as individuals working in the bird food industry, manufacturing of lofts, transportation of pigeons, as well as those employed in pet shops and the medicinal and medical fields.

#### *Awareness of legislative regulation of the sport*

The question was posed to the respondents whether they know that as a SANPO member it is illegal to own and sell racing pigeons in the country unless SANPO has a permit to do so - 65% percent did not know that it is the case. Furthermore, almost two thirds (60%) of the respondents are of the opinion that there should not be any form of national regulation for the keeping of pigeons.

To practice their sport, SANPO members are also subjected to certain restrictive local municipal level regulations. Around 50 municipalities for which by-laws pertaining to the keeping of birds were identified. Almost a third (32%) of the fanciers said that they do not know of any by-laws, some 46% were adamant that there are no such by-laws applicable where they live and only 22% indicated that they are aware of such by-laws. Eastern Cape respondents are most aware of the existence of by-laws followed by Western Cape and Gauteng respondents but these percentages are very low (all below 30%). Details related to building structure and size of the lofts are most prominent by-laws, followed by the specific location of the lofts on an erf, permission from neighbours, followed by the restrictions imposed on the number of birds. In some local authorities a maximum of only ten pigeons are permitted which is a major concern for SANPO members.

#### **Discussion**

Pigeon racing in South Africa boasts a rich tradition of efficient management, with present-day representation in all nine provinces. The South African Pigeon Union (SAPU) was established in 1939 as the first pigeon racing union. It was recognized as one of the first national organizations to which unions belonged and therefore also the beginning of representation of pigeons as a sport at an organized level (Pretorius, 2022). Today SANPO (constituted in 2000 after the merger of SAPU and the Federated Board), ensures the integrity and ethical management of the sport. With regulations, participation and rules constantly changing, the managing body

needs to revise their internal constitution regularly. The sport adheres to a code of conduct and holds affiliations with the national body SASCOC (South African Sports Confederation and Olympic Committee) and the Federation Colombophile Internationale. However, there is limited awareness of the sport beyond those who are part of the 'pigeon racing family'. The survey among SANPO members thus provides valuable insights into this unknown sport in the country.

With small numbers of participation, the sport has a dedicated following across all nine provinces, and is not limited to urban spaces, but rural spaces as well. Spatially the Western Cape, Gauteng, and the Eastern Cape emerge as the three most influential provinces, collectively constituting 70% of the country's membership. While predominantly male-dominated, pigeon sport is also characterized as a family-oriented activity, with family members participating in various aspects, although not necessarily holding SANPO membership. A relative age effect will not operate in sport activities where physicality is not important (Delorme and Raspaud, 2009). The average age of fanciers was 51 years old. The sport fosters a lasting affection for the birds and has transcended its historical association with the working class, as evidenced by the active involvement of the country's president as a dedicated fancier. A considerable proportion of members now includes professionals in high-income positions. Sport has the potential to promote inclusion and empower marginalized groups within society. By providing equal opportunities for participation, irrespective of gender, age, ability, or socio-economic background, SANPO challenges stereotypes and promotes equality.

Social networks impact health through various mechanisms, such as providing social support or exerting social influence through peers (Steiger et al., 2021). Non-physical sports such as pigeon racing foster social connections and community engagement, which are essential for promoting healthy lifestyles. Non-physical sports provide socialization platforms through forums and local clubs, connecting individuals with shared interests and facilitating social integration and social cohesion. Pigeon sport events range from local to regional to international gatherings, including events and can target social cohesion at the interpersonal level, especially as it concerns dimensions of social networks and identification (Moustakas, 2024). Unlike many other sports, fanciers' enduring engagement over the years reflects a commitment to preserving the cultural heritage embedded in the sport and its activities.

Pigeon racing demands both time and financial investment, with enthusiasts traveling significant distances for training and competitions. Evolving from humble origins, the sport has transformed into a scientific pursuit. Despite its relatively small size, pigeon racing contributes significantly to the economy (a calculated current total economic worth ranges from R528.968.608 to R1.620.390.112), generating economic

value and supporting direct and indirect employment, such as in the bird food industry, loft manufacturing, pigeon transportation, pet shops, and the medicinal and medical sectors.

Legislative challenges (locally through by-laws and nationally through permit applications) are however major challenges for fanciers to overcome in order for their sport to continue. At local level, many municipalities restrict the number of birds allowed in lofts to a maximum of ten. Such restriction is impractical, as most bird enthusiasts typically have on average 129 birds. At national level, SANPO faces major challenges to sustain their sport. The invasive tendencies of *Columba livia* (Rock Pigeon/Dove – the birds used for pigeon racing) are well known (Kumschick et al., 2016). It has the largest avian invaded range across the world (Stern and Dickenson, 2010) and its invasions have largely resulted from the domesticated bird trade where birds became invasive through release or escape pathways (Burivalova et al., 2017). The purpose of the National Environmental Management: Biodiversity Act (Act No. 10 of 2004): Alien and Invasive Species (AIS) Regulations is to prevent the unauthorised and uncontrolled introduction and spread of invasive species to ecosystems and habitats where they do not naturally occur, to prevent or minimise harm to the environment and to biological diversity in particular, and where possible and appropriate, eradicate invasive species that may cause such harm. The *Columba livia* was declared an alien species and listed as Category 1a in 2014, effectively banning all forms of pigeon racing, fancier shows and selling of pigeons in the country. After much lobbying from industry and SANPO, the decision was reversed and *Columba livia* was listed as a category 2 for all restricted activities relating to racing and showing of pigeons, however, sport activities can continue on condition that SANPO applies for a permit. The legislation dictates that any person undertaking pigeon racing or pigeon showing registered with the relevant industry association (in this case SANPO) is exempted from requiring a permit for all restricted activities, provided such association is in possession of a valid permit in terms of the Act or the Alien and Invasive Species Regulation and complies with all permit conditions. Restrictions on the permit may include breeding, cultivation, or transporting across provincial boundaries. As of the current writing in 2024, the permit has not been issued as the environmental assessment report submitted by SANPO in 2023 is still awaiting approval from the national authority.

## Conclusions

The paper aims to stand alone as a valuable contribution to the understanding of pigeon racing in South Africa, providing unique insights into the various aspects of the sport. The survey findings have enhanced our comprehension of the social, economic, cultural, and organizational facets of pigeon sport in the country. It is clear

that any potential curtailment or significant restriction of the sport could adversely affect the physical and mental well-being fanciers, underscoring broader consequences that merit careful consideration. The importance of heritage in sport cannot be overstated as it provides a window into the past and helps us understand our socio-cultural evolution. Sports have always been an integral part of society, and the legacy of sports has played a significant role in shaping the identity and cultural heritage of various sport communities. Given the historical context of the sport there has to be some merit in protecting the sport as an intangible heritage. Given the potential impact of national environmental legislation on pigeon sport, the delay in SANPO's permit issuance has cast a shadow of uncertainty over the industry. Once the national permit is granted, rigorous adherence to regulations and permit conditions will necessitate extensive monitoring and reporting, placing a considerable administrative and technical burden on SASCOC, clubs, and federations. It is recommended that SANPO devise a strategic plan to address these demands. In addition, locally, there is an urgent need for SANPO to collaborate with the South African Local Government Association to establish standardized rules for pigeon keeping in urban areas nationwide.

### **Acknowledgements**

The authors declare no conflicts of interest regarding the research conducted and the publication of the article. The authors extend their gratitude to the board members of SANPO for their support in the study, with special appreciation for Johan Pretorius.

### **References**

- Andrews, G.J. (2017). From post-game to play-by-play: Animating sports movement-space. *Progress in Human Geography*, 41(6), 766–794. <https://doi.org/10.1177/0309132516660207>
- Bale, J., & Dejonghe, T. (2008). Editorial. *Sports Geography: An overview. Belgeo*, 2, 157–166. <https://doi.org/10.4000/belgeo.10253>
- Beck, A.M. (2006). The use of animals to benefit humans: Animal-assisted therapy. In A.H. Fine (Ed.), *Handbook on Animal-Assisted Therapy: Theoretical Foundations and Guidelines for Practice* (pp. 21-40). Cambridge, UK: Academic Press.
- Burivalova, Z., Lee, T.M., Hua, F., Lee, J.S.H., Prawiradilaga, D.M., & Wilcove, D.S. (2017). Understanding consumer preferences and demography in order to reduce the domestic trade in wild-caught birds. *Biological Conservation*, 209, 423–431.
- Campbell, M.L.H. (2023). Ethical Justifications for the Use of Animals in Competitive Sport. *Sport, Ethics and Philosophy*, 17(4), 403–421. <https://doi.org/10.1080/17511321.2023.2236798>
- Collins, M., & Kay, T. (2014). *Sport and social exclusion*, 2nd Edition. London, UK: Routledge.
- Cressy, D. (1989). The early postal history of England: The correspondence of John Leland and the pigeon posts of William Bowyer and his successors. *The Library*, s6-11(1), 2-23.
- De Coning, C. (2018). Socio-economic benefits of sport and the case of racing pigeons in the Western Province. C. De Coning (Ed.) *The case for sport in the Western Cape: Socio-economic benefits of sport and recreation*. Commissioned report: Interdisciplinary Centre of Excellence for Sport Science and Development (ICESSD) University of the Western Cape, and The Department of Cultural Affairs and Sport (DCAS) Western Cape Provincial Government.



- De Coning, C. (2022). Personal email communication with De Coning, Professor Extraordinaire at the School of Public Leadership, University of Stellenbosch and a Director of the Foundation for Sport Development and Peace.
- Delorme, N., & Raspaud, M. (2009). Is there an influence of relative age on participation in non-physical sports activities? The example of shooting sports. *Journal of Sports Sciences*, 27(10), 1035–1042. <https://doi.org/10.1080/02640410902926438>
- Gibson, K. (2020). Animals, sport, and the environment. In B. Wilson & B. Millington, B. (Eds.) *Sport and the Environment* (pp. 103-121). Leeds, UK: Emerald Publishing Limited.
- Higham, J., & Hinch, T. (2006). Sport and Tourism Research: A Geographic Approach. *Journal of Sport & Tourism*, 11(1), 31–49. <https://doi.org/10.1080/14775080600985267>
- Higham, J., & Hinch, A. (2011). *Sport tourism development*, 2nd Edition. Bristol, UK: Channel View Publications.
- Jerolmack, C. (2013). *The Global Pigeon*. University of Chicago Press, Chicago, USA.
- Johnes, M. (2007). Pigeon racing and working-class culture in Britain, c. 1870–1950. *Cultural and Social History*, 4(3), 361-383.
- Johnes, M., & Nicholson, B. (2015). Sport history and digital archives in practice. In G. Osmond, & M.G. Philips (Eds.). *Sport History in the Digital Era* (pp. 53-74). Illinois, USA: University of Illinois Press.
- Kabir, A., Hawkeswood, T.J., & Makhan, D. (2020). Pigeon flying in the world: A brief review. *Calodema*, 809, 1-4.
- Kalof, L. (2014). Animal blood sport: A ritual display of masculinity and sexual virility. *Sociology of Sport Journal*, 31(4), 438-454.
- Kaushik, S.J. (1999). Animals for work, recreation and sports. *Livestock Production Science*, 59, 145-154.
- Kavesh, M.A. (2018). From the passions of kings to the pastime of the people: pigeon flying, cockfighting, and dogfighting in South Asia. *Pakistan Journal of Historical Studies*, 3, 61-83.
- Koch, N. (2017). *Critical geographies of sport: Space, power and sport in global perspective*. Routledge, London, UK.
- Kumschick, S., Blackburn, T.M., & Richardson, D.M. (2016). Managing alien bird species: Time to move beyond “100 of the worst” lists? *Bird Conservation International*, 26, 154–163.
- Moustakas, L. (2024). Sport for social cohesion: a conceptual framework linking common practices and theory. *Sport in Society*, 1–19. <https://doi.org/10.1080/17430437.2024.2304231>
- Mtembu, X. (2022). Bringing pigeon racing as a living to the townships. IOL report 17 June 2022. Available at: <https://www.iol.co.za/business-report/careers/bringing-pigeon-racing-as-a-living-to-the-townships-19-year-old-lodumo-nkala-59ca5093-51d8-4536-8d72-02e2812a0a40> (Accessed on 5 March 2024)
- Pretorius, J. (2022). Personal communication, SANPO secretariat.
- SANPO (2020). South African National Pigeon Organization Constitution. Sanpo, Bloemfontein, South Africa.
- Shivambu, N., Shivambu, C.T., & Downs, C.T. (2020a). Rock dove (*Columba livia* Gmelin, 1789). In Downs, C.T. & Hart, L.A. (Eds.) *Invasive Birds: Global Trends and Impacts* (pp. 109–117). Wallingford, UK: CAB International.
- Shivambu, C.T., Shivambu, N., & Downs, C.T. (2020b). Impact assessment of seven alien invasive bird species already introduced to South Africa. *Biological Invasions*, 22, 1829-1847.
- Shivambu, T.C., Shivambu, N., & Downs, C.T. (2022). An assessment of avian species sold in the South African pet trade. *African Journal of Ecology*, 60, 980 – 985. <https://doi.org/10.1111/aje.13029>
- Southern African Bird Atlas Project (2022). Available at: <http://sabap2.birdmap.africa/> (Accessed on 5 March 2024)
- Steiger, A., Mumenthaler, F., & Nagel, S. (2021). Friendships in integrative settings: Network analyses in organized sports and a comparison with school. *International Journal of Environmental Research and Public Health*, 18(12), 6603. <https://doi.org/10.3390/ijerph18126603>
- Stern, C.A., & Dickinson, J.L. (2010). Pigeons. In M.D. Breed & J. Moore (Eds.) *Encyclopedia of Animal Behaviour*. London, UK: Academic Press.
- Troskie, B. (2001). *Grootste sametrek in geskiedenis van duiwesport [Largest gathering in history of pigeon sport]*. SA and World Pigeon News. SANPO, Johannesburg, South Africa.
- Viljoen, M. (2022). Personal email communication with Viljoen, a supplier of medical and feed products to fanciers in Cape Town

- Von Jules Gallez, T.F. (2010). The history of the South African racing pigeon. Available at: <https://www.pipa.be/de/articles/23249/history-south-african-racing-pigeon-23249> (Accessed on 20 November 2022).
- Walcott, C. (1996). Pigeon homing: observations, experiments and confusions. *The Journal of Experimental Biology*, 199(1), 21-27.
- Wallendorf, E. (2022). Personal communication with Wallendorf who was a longstanding member of SANPO and author of book on the history of pigeon racing in South Africa.
- Whiston, K. (2017). Pigeon geographies: aesthetics, organisation, and athleticism in British pigeon fancying, c.1850-1939. PhD thesis, University of Nottingham, UK.
- Wise, N., & Harris, J. (2010). Reading Carlos Tevez: Football, Geography, and Contested Identities in Manchester. *International Journal of Sport Communication*, 3(3), 322-335. <https://doi.org/10.1123/ijsc.3.3.322>
- Wise, N., & Kohe, G.Z. (2020). Sports geography: new approaches, perspectives and directions. *Sport in Society*, 23(1), 1-10. <https://doi.org/10.1080/17430437.2018.1555209>



## GEOSPORT FOR SOCIETY

Scientific Journal founded in 2014 under aegis of University of Oradea (Romania),  
University of Debrecen (Hungary), University of Gdansk (Poland)  
ISSN 2393-1353

Edited by Oradea University Press  
1, University Street, 410087, Oradea, Romania  
Journal homepage: <http://geosport.uoradea.ro>



# The Relationship Between Tourism, Dog Ownership and Sustainability

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**Citation:** Pálinkás, R., Kinczel, A., & Müller, A. (2024). The relationship between tourism, dog ownership and sustainability. *Geosport for Society*, 20(1), 46-60. <https://doi.org/10.30892/gss.2004-107>

*Article history:* Received: 03.04.2024; Revised: 05.05.2024; Accepted: 08.05.2024, Available online: 10.05.2024

**Abstract:** The interplay between tourism and dog ownership presents a unique set of challenges and opportunities for sustainability. The relationship between tourism, dog ownership, and sustainability forms a complex nexus that is becoming increasingly relevant in contemporary socio-economic and environmental contexts. Tourism significantly impacts local economies and environments, and its relationship with dog ownership manifests in various ways. Tourist destinations that promote pet-friendly policies can see an increase in visitor numbers as dog owners are more inclined to visit places where their pets are welcomed. This can lead to increased spending in these areas but also poses potential sustainability challenges such as increased waste production and environmental degradation. Conversely, the presence of dogs in tourist areas can enhance the visitor experience, encouraging longer stays and promoting mental and physical well-being through pet interaction. This aspect can lead to a more sustainable form of tourism that values longer visits over quick, high-impact travel. However, managing the environmental impact of a larger number of pets, including waste management and habitat disturbance, is crucial for sustainability. Sustainability in the context of tourism and dog ownership also extends to the practices of accommodations and tourist attractions, such as the provision of eco-friendly pet amenities, promoting responsible pet ownership, and ensuring that tourism development does not harm local wildlife and ecosystems.

**Keywords:** tourism, dog ownership, sustainability, dog travel

## Introduction

In tourism contexts, the understanding of sustainability and the definition of environmentally conscious practices are still uncertain, both among professionals (Sørensen and Bærenholdt, 2020) and consumers (Bernini et al., 2021). Tourism is one of the most promising and fastest growing sectors of the global economy. In this context, it is of paramount importance to plan and promote tourism in a targeted and sustainable way, while seeking a balance between ecological, economic and social objectives. A key element in managing sustainable tourism development is to ensure a high level of satisfaction of tourists' needs, while providing a meaningful visitor experience. They also have an important role to play in raising awareness of sustainability issues and promoting sustainable tourism practices in consumer society. It is important that people become environmentally aware. Environmental awareness is an attitude and way of life, which means that individuals and organisations are aware of environmental issues and take responsibility for sustainable, environmentally friendly practices. Aspects of environmental awareness range widely and can vary depending on the lifestyle and activities of the individual or organisation. Maintaining a balance between society, the environment and the economy, which are the three pillars of sustainability (Szabó, 2020), is the responsibility of our generation to ensure that future generations have all the necessary conditions for social well-being.

Sustainable tourism, also known as ecotourism, is an approach to tourism that aims to minimise negative impacts on the environment, society and the economy, and to balance the environment, culture and the economy. Sustainable tourism seeks to balance the economic, social and environmental aspects of tourism to ensure that tourism remains sustainable in the long term (Butler, 1999). Sustainable tourism also aims to ensure that tourism has a positive impact on tourists, local communities and the environment. This type of tourism helps present and future generations to enjoy tourist destinations while preserving the environment and supporting local communities.

In Hungary, the number of dogs is increasing and the number of pets is close to 3 million, which showed a significant increase during the COVID-19 pandemic (Vetter et al., 2022). However, the purpose and role of dog ownership has also changed along with the increase in the number of dogs. They used to be kept for housekeeping, watch dogs, but today more and more people consider them as companions, treating them as family members (Boni, 2008). International studies have already been published reporting on dog owners' leisure activities, physical activity and, in the case of dogs treated as family members, outings with their owners (Carr, 2009; Blichfeldt et al., 2018). International studies have already been published that report on the leisure and physical activity of dog owners, as well as travel with the owner in the case of dogs treated as family members (Arnberger and Hinterberger, 2003; Carr, 2009; Kirillova et al., 2015; Blichfeldt et al., 2018; Rickly et al., 2020). There are also studies that focus on travel and dog-friendly accommodation (Dotson et al., 2010; Kovács et al., 2020). The experiences of Hungarian dog owners during Hungarian and international travels contribute to a better understanding of the expanding global trends in the dog-friendly tourism industry. These observations point to the need for

the tourism sector to pay attention to the diverse expectations of travelling dog owners and encourage destinations and service providers to develop a more open attitude to cater for this target group.

### **The emergence of an ideology of sustainable tourism**

The emergence of an ideology of sustainable tourism is the result of a gradual process, rooted in a number of different sources and initiatives. The idea of sustainable tourism began to emerge in the late 1960s and early 1970s and over the years has received increasing attention from individuals, organisations and governments. Several key events have taken place that have contributed to the development of the sustainable tourism ideology. At the 1972 United Nations Conference in Stockholm, environmental sustainability and the conservation of natural resources became the focus of attention. This was followed by the 1992 Earth Summit in Rio de Janeiro, where the principles of sustainable development were recognised and accepted. Agenda 21 sets out a global action plan for sustainable development. Tourism is included in this document and tourism operators are encouraged to develop and apply the principles of sustainable tourism. In recent decades, various green certificates and sustainability initiatives have been developed in tourism. These initiatives have set standards and criteria for hotels, travel agencies and other tourism businesses to promote sustainability.

The ideology of sustainable tourism has been evolving and developing ever since. More and more international and regional organisations are addressing the issue. Sustainable tourism has become an integral part of the tourism industry, with an increasing number of hotels, travel agencies and tourist destinations committing themselves to the principles of sustainability. The principles of sustainable tourism are increasingly appreciated and supported by the conscious travelling public and society as a whole, as a response to global environmental and social challenges.

Sustainable tourism is a complex and ongoing process that requires a wide range of stakeholders, including tourists, businesses, local communities and governments, to work together. The aim is to ensure that the benefits of tourism are sustainable in the long term and do not threaten the environment or local communities.

To achieve sustainable tourism, a number of measures are needed from both destinations and tourism service providers. These measures could include:

- Introduction and implementation of an environmental management system: destinations and businesses can introduce environmental management systems to help incorporate and maintain sustainable practices.
- Community involvement: the involvement and active participation of local communities in decision-making processes and tourism planning allows local needs and interests to be taken into account.
- Education and awareness raising: Educate both tourists and local people about the importance of sustainable tourism, encourage them to adopt sustainable behaviour and promote sustainable attitudes.

Tourism uses sustainability practices for two purposes. One is to reduce negative environmental impacts by reducing emissions and litter. The second is to use and conserve resources sustainably to minimise the impact of climate events on the sector (Reid et al., 2017).

### ESG-Environmental, Social, and Governance

ESG tourism, where ESG stands for Environmental, Social, and Governance, is becoming an increasingly important part of the global tourism industry (Figure 1). This approach emphasises sustainability and responsible tourism, encouraging the sector to proactively contribute to environmental protection, social justice and ethical management practices. ESG tourism is a relatively new approach to tourism and is sometimes used as a synonym for sustainability. It is a framework for evaluating and reporting on the performance of companies and organisations from an environmental, social and governance perspective (Holden et al., 2017). In this context, sustainability is not only about minimising environmental impacts, but also includes social responsibility and ethical corporate governance. ESG tourism aims to have a positive impact on the environment, support local communities and promote transparent, responsible corporate governance, i.e. to align tourism activities with environmental protection, social well-being, and ethical business practices.



**Figure 1.** Main factors of ESG tourism

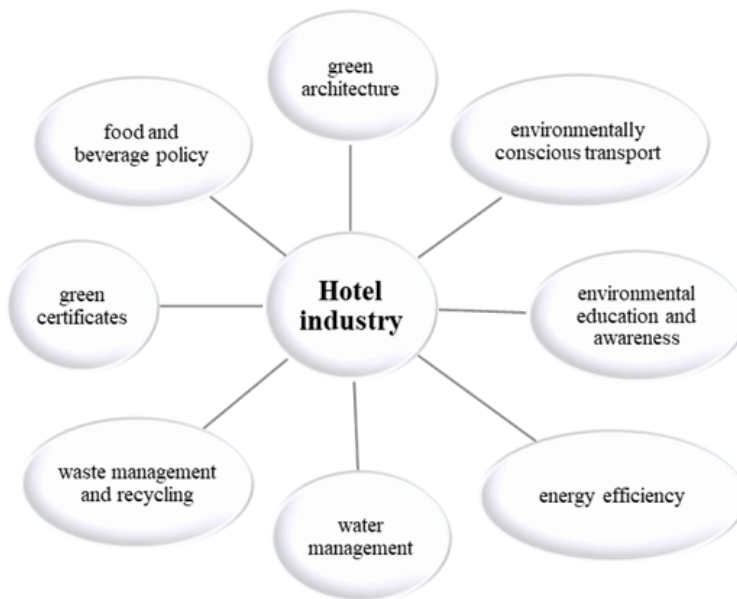
In ESG tourism, the aim is to ensure that tourism activities not only generate economic benefits, but also have a long-term positive impact on the environment, local communities and business ethics. This approach is becoming increasingly common in the tourism industry in response to growing global sustainability challenges and conscious consumer demands.

### Sustainability efforts in the hotel industry

Sustainable accommodation is a way of developing the hotel sector that not only meets the needs of current guests, hotel employees and other stakeholders, but also

enables future guests, hotel employees and other stakeholders to enjoy the same products and experiences (Sloan et al., 2012).

Sustainability has become increasingly important in the hotel industry in recent years, and many hotels have already taken steps and measures to reduce environmental pollution and promote social and economic sustainability (Janković and Krivačić, 2014). The following figure shows some of the sustainability efforts that are widely applied in the hotel industry (Figure 2).



**Figure 2.** Sustainability efforts in the hotel industry

In green architectural design, hotels use sustainable building materials and follow energy-conscious design principles. The use of energy saving devices such as LED lighting and intelligent energy optimisation systems help to reduce energy consumption.

Hotels use water-saving equipment such as low-flow toilets, shower heads and taps. The use of water collection systems and recycling technologies also helps to ensure sustainable water management. Many hotels are implementing recycling programmes and waste reduction measures. Hotels are using recyclable materials, such as reusable packaging materials, which contribute greatly to sustainable waste management. Sustainable food and beverage sourcing, such as the use of ingredients from local producers. Food waste reduction initiatives such as donations or composting of organic waste. Obtaining green certifications such as LEED (Leadership in Energy and Environmental Design) certification or other local sustainability schemes to recognise sustainability efforts. Hotels encourage the use of sustainable means of transport. For example, they offer bike rentals to guests or allow charging of electric vehicles. Organise education programmes and campaigns for guests and staff on sustainability issues, encouraging sustainable behaviour.

These initiatives show that the hotel industry is striving for sustainability. It is working in a variety of ways to preserve the environment for future generations, support local communities and contribute to sustainable development.

### **Green hotel**

A "green hotel" or "sustainable hotel" is a hotel that adopts practices and measures that are based on the principles of environmental, social and economic sustainability (Ásványi and Komár, 2021).

Today, there is a growing number of consumers who are concerned about environmental pressures and prefer to use green products and services. The emergence of a green consumer in the hotel industry has led to the recognition of the need to introduce and promote green solutions (Claver-Cortés et al., 2007). Green operations can give hotels a competitive advantage by differentiating themselves from other hotels and improving their image, while reducing their energy consumption and thus their operating costs. The definition of green hotels is not uniform in the literature (Manaktola and Jauhuri, 2007). Hotels that voluntarily offer green solutions are often considered green hotels, but there is considerable variation in what and how much green elements are used in their operations. There are different ways of reducing the environmental burden, making it difficult to define what is meant by a green hotel (Millar and Baloglu, 2011).

Kasim (2004), however, does not only define green hotels in environmental terms, but also in social and economic terms, i.e. a hotel that is responsible towards its employees, the local community, the local culture and the immediate environment.

Millar and Baloglu (2011) conducted consumer research specifically on the green attributes of hotels. The research team looked at 12 attributes of hotel rooms, with the highest mean scores for linen change on request only, room occupancy indicator and card keys, while the lowest scores were for low-flow shower heads and refillable soap and shampoo dispensers. However, the use of energy efficient light bulbs, towel reuse program and selective waste bins were the most strongly agreed upon by respondents.

The greening of the hotel industry is becoming increasingly important due to growing demands and expectations for sustainability. Sustainability activities and programs in the hotel industry have a significant impact not only on greening hotel operations, but also on increasing guests' environmental awareness and loyalty.

The demand side of sustainable tourism refers to travelers who are increasingly aware of environmental, social and sustainable lifestyles. A growing number of travelers are becoming more environmentally conscious and more concerned about protecting the natural environment. Travelers are becoming increasingly informed about sustainability and the impact of tourism. Those who are aware of sustainable tourism principles and practices are more likely to choose this type of travel. Furthermore, some travelers are looking specifically for nature and cultural experiences and choose destinations that offer these experiences in a sustainable way.



Hotels, destinations and tourism businesses that have green certificates or sustainability accreditations can be more attractive to those interested in sustainable tourism.

Social media and social impact information are increasing interest in sustainable tourism. Satisfied travelers are more likely to share their experiences and experiences can influence the decisions of others.

Government policies and stricter regulations can help to increase demand for sustainable tourism.

Together, these factors are contributing to the growing demand for sustainable tourism, which in turn is encouraging the tourism industry to develop and promote more sustainable solutions and services. Domestic research shows that Hungarian travellers consider themselves to be environmentally conscious (Lukács et al., 2022) and claim to take environmental considerations into account when travelling (Gonda and Raffay, 2021).

Several studies have shown that tourists are also increasingly interested in environmentally friendly products and services (Buffa et al., 2018; Peng et al., 2019), which is perhaps one of the most tangible elements of sustainability. On the demand side of the sector, studies already show that people are willing to pay more not only for environmental protection but also for green products and services (Kang et al., 2012).

### **The link between dog owners and sustainability**

There are many links between dog owners and sustainability. Responsible dog ownership should also include a commitment to sustainability. There are different ways in which dog owners can contribute to sustainability.

1. Responsible dog ownership: It is the responsibility of dog owners to look after their pets. It is the responsibility of the dog owner to take care of their pet (Swanson et al., 2013).
2. Sustainable, environmentally conscious nutrition: It is important that farmers take into account the environmental impact of pet food. Considering the importance of pet food for the environment is important (Rushforth 2013).
3. Active lifestyles: Dog owners contribute to their own and their dog's health and well-being through regular walks and exercise (Cutt et al., 2007), while reducing the carbon footprint from transport and other energy-intensive activities. Owners should make use of sustainable transport options when walking their dogs (cycling, public transport, walking)
4. Handling and collection of dog waste: Dog waste can cause environmental pollution, especially if not properly handled. Dog owners should give preference to biodegradable bags and dispose of dog waste in designated waste bins.
5. Adoption of dogs: Adoption can be a sustainable alternative to dog ownership, as it offers the opportunity to find a new home for dogs in shelters.

6. Sustainable toys and accessories: When buying toys and accessories for your dog, it's a good idea to choose products that are made from environmentally friendly materials. Avoid single-use plastic toys and choose more durable, longer-lasting toys instead.

Sustainable dog ownership, in addition to the love and care of dogs, focuses on reducing the environmental footprint and adopting environmentally friendly practices. This is becoming increasingly important in modern society. This approach not only has a positive impact on the welfare and health of dogs, but also contributes to environmental goals. Dog owners can have a significant impact on their impact on the environment through their conscious choices and daily activities. It is important for dog owners to be aware of the environmental impact of dog ownership and to continuously look for ways to reduce pollution (Yavor et al., 2020).

Sustainable dog ownership is not only about reducing environmental impacts, but also about developing a lifestyle that promotes the harmonious coexistence of dogs and the environment, so that dog owners can become active players in building a sustainable and environmentally conscious society.

### Sustainable dog travel

Sustainable dog travel is becoming increasingly popular for those who want to explore the world with their pet. When holidaying and travelling with a dog, dog owners who are committed to sustainability can take many steps to reduce their environmental footprint and help protect the environment, while ensuring the well-being and safety of their pet. Below are some tips and ideas to help you do this (Table 1).

**Table 1.** Tips for sustainable dog travel

<i>Choosing eco-friendly accommodation</i>	<i>Accommodation that adopts sustainable practices can be particularly attractive. Many places already offer eco-friendly services.</i>
<i>Sustainable packaging and equipment</i>	You can reduce the amount of luggage and choose reusable or biodegradable products when travelling. The use of reusable water bottles, bowls, plates and cutlery is recommended for both people and dogs.
<i>Environmentally friendly mode of transport</i>	Where possible, lower carbon travel modes such as train or bus are recommended. For short distances, walking or cycling is recommended. When travelling by car, sharing the journey with other families with dogs can reduce the impact on the environment.
<i>Environmentally friendly dog walking</i>	Collect dog waste in biodegradable bags when walking in new areas. Avoid walking in protected areas where dogs can disturb wildlife.
<i>Use of natural dog cosmetics</i>	Dog shampoos and conditioners made from natural ingredients have less of an impact on the environment, especially if you are on holiday in places where water is discharged directly into nature.
<i>Supporting the local economy</i>	Purchasing local products and services, such as dog-friendly local attractions, dog food and accessories from local producers, not only helps the local economy, but is often a more sustainable option.
<i>Education and awareness raising</i>	To learn about the environmental standards and challenges of the place visited, and to share experiences and lessons learned with other dog owners, enabling them to travel more consciously with their pets.

These steps and actions will contribute to more sustainable dog ownership and environmentally conscious lifestyles, while allowing people and their four-legged friends to enjoy their travels without unnecessarily burdening the planet. This type of travel sometimes requires more effort, attention and planning, but it is worth it because you don't have to give up your pet's company during your journey.

The link between sustainability and dog sports and recreation is becoming increasingly important for both environmentally conscious dog owners and the wider community. This relationship is particularly significant given that reducing the environmental footprint and protecting natural resources is a global priority. Canine sports and recreation can contribute to sustainability goals in a number of ways. Canine activities such as dog walking, agility or canicross (dog running) often take place in outdoor areas, which can help to enhance the valuation and protection of natural areas. Dog owners and athletes can raise awareness and encourage respect and conservation of the natural environment. Dog events such as competitions and exhibitions can be organised in a sustainable way, for example by reducing waste, using recyclable materials and minimising carbon emissions. This could include electronic applications, on-site selective waste collection and the promotion of public transport. Equipment and products used in canine sports and recreational activities, such as leashes, toys, training equipment and nutritional products, can also be sustainable. This includes giving preference to products made from recycled materials, the use of environmentally friendly packaging. Combining sustainability and dog activities therefore creates the opportunity to have a positive impact on the environment while spending quality time with our pets. To achieve this, it is important to do all activities consciously and with a view to minimising environmental impact.

### **Summary and proposals**

Dog-friendly accommodation and tourism operators are increasingly focusing on sustainability and environmental awareness, especially in view of the growing demand for eco-friendly travel options. The following strategic guidelines and development suggestions can help them to reduce pollution and create sustainable dog-friendly destinations. Practicing dog sports and recreational activities in a sustainable way can not only improve the quality of life for dogs and their owners but can also make a significant contribution to environmental protection and sustainable development. Promoting and supporting such activities can encourage environmentally conscious choices and reduce the environmental footprint of both dog owners and the wider community.

### **Sustainable Operation**

Energy-saving solutions: using solar energy to achieve energy savings can reduce dependence on fossil fuels and thus significantly reduce carbon emissions. The use of LED lighting and energy-saving appliances further optimizes energy use.

Water saving means not only reducing water bills, but also protecting water resources. Rainwater harvesting systems, water-saving taps and showerheads, and grey water recycling systems make a significant contribution to reducing water use.

Waste reduction: composting allows organic waste to be recycled, while the use of reusable or biodegradable products reduces landfill pressures. Minimizing packaging waste is particularly important as it is a major contributor to environmental pollution.

### **Environmentally Friendly Dog Friendly Services**

Biodegradable dog waste bags: these bags help reduce the plastic waste that persists in the environment over time and threatens wildlife.

Natural dog shampoos and conditioners: using products containing natural ingredients instead of chemicals reduces water pollution and is safer for dogs' skin and fur.

Environmentally friendly dog toys: toys made from sustainably sourced or recycled materials not only reduce the environmental footprint, but also protect dogs' health from harmful substances.

### **Green Spaces and Dog Friendly Attractions**

Native Planted Gardens: gardens that use native plants require low maintenance and use less water because these plants are adapted to the local climate. In addition, these plants help local fauna such as pollinators, birds and small mammals to survive, enhancing biodiversity and ecosystem health. For accommodation and tourism establishments, this means that their green spaces are not just decorative, but also play an active role in supporting and maintaining the local ecosystem.

Dog-friendly trails: creating dog-friendly trails that are clearly marked and well maintained will reduce disturbance to wildlife and vegetation. These trails are designed to minimize soil erosion and other negative environmental impacts, while providing dogs and their owners with safe and enjoyable hiking opportunities. The use of designated trails contributes to the preservation of natural areas and ensures that visitors do not stray from designated trails, thus reducing their environmental footprint.

Educational Programs: Educational programs that inform guests about the importance of protecting local ecosystems and how to hike with dogs responsibly and sustainably are vital to raising environmental awareness. These programs can include information about local wildlife and plants, guidelines for dog behavior in nature, and tips on how to apply the "leave everything as you found it" principle. This type of education can help reduce visitors' environmental footprint while increasing respect for ecological and cultural values.

The overall aim is for accommodation and tourism providers not only to offer guests and their dogs the opportunity to enjoy nature, but also to play an active role in protecting and maintaining ecosystems. The integration of native plant gardens, dog-friendly trails and educational programs are important elements in the development of a sustainable dog-friendly destination that promotes environmentally responsible tourism and contributes to the conservation of local biodiversity.

### **Involving local communities**

**Local products and services:** relying on local products and services, such as food grown by local producers, artisanal products and local services, not only helps to stimulate the local economy, but also to reduce carbon emissions from transport. It also increases the sustainability of tourism activities by reducing the resources needed to transport goods and services to the destination.

**Community programs:** programs to build links between local communities and tourists, such as joint volunteering activities, participation in local cultural events and joint environmental projects, not only enrich cultural exchange but also promote environmental awareness. These programs provide an opportunity for visitors to gain a deeper insight into the local way of life and to understand how their own activities can affect the environment and the community.

**Educational initiatives:** educational programs and workshops focusing on environmental awareness, sustainable practices and local biodiversity conservation can be important tools to raise awareness among local communities and visitors. Such programs can help visitors to understand the importance of local ecosystems and how they can contribute to their protection, even during their short stay.

**Employing local labour:** providing a local workforce that is favoured by dog-friendly accommodation and tourism providers helps to promote economic development in the local community and reduces the environmental pressure of commuting. In this way, tourism activity also contributes directly to the sustainability of the local economy.

**Supporting local environmental initiatives:** local environmental projects, such as afforestation schemes, wildlife conservation projects or initiatives to protect natural water sources, with the active participation and support of dog-friendly accommodation and tourism operators, not only contribute to the preservation of the local environment, but also strengthen the relationship between guests and local communities. By participating in such activities, tourists can play an active role in promoting sustainable tourism and local environmental protection.

### **Marketing and Communication**

Marketing and communication play a key role in promoting sustainable dog-friendly destinations and encouraging tourism in this direction. Through targeted communication strategies, accommodation and tourism providers can effectively inform potential guests about their sustainability initiatives and practices and how they can contribute to these initiatives.

**Digital Marketing:** digital platforms such as social media, websites and blogs play a prominent role in spreading sustainability-focused messages. Dog-friendly accommodation and service providers can showcase their sustainable practices, such as energy efficient lighting, water saving equipment, use of organic bedding, or partnerships with local communities. In addition, special content, such as sustainable travel tips, dog-friendly places to visit, and educational videos can help inspire visitors to make more informed choices.

**Storytelling:** powerful storytelling allows accommodation and service providers to connect emotionally with their guests. They can share their guests'

success stories, such as how they discovered eco-friendly activities in the area or how they got involved in supporting the local community. Sharing real stories and experiences increases guest engagement and loyalty.

**Highlighting Green Certifications and Awards:** sustainability certifications and awards such as the Green Key or ECO-Label can provide evidence of sustainable operations of accommodation and tourism service providers. These certifications and awards should be actively communicated in marketing materials so that guests can see and appreciate the efforts that the accommodation is making to protect the environment.

**Interactive and Educational Content:** Interactive and educational content focused on environmental awareness, such as quizzes, games and workshops, can be not only entertaining but also informative for guests. These activities will help raise awareness of the importance of protecting the environment, while also providing practical advice on how to travel and live more sustainably.

The key to a sustainable dog-friendly destination's marketing strategy is to build and maintain trust with guests through authentic and transparent communication. This includes showcasing the real results of sustainability efforts, honestly sharing ongoing challenges, and encouraging guest participation in promoting sustainable tourism.

Applying the above strategies and development proposals will not only reduce the environmental footprint, but also create an experience that encourages dog owners and their pets to travel responsibly and sustainably. These types of destinations not only provide environmental benefits, but also increase guest satisfaction, which in the long run fosters a loyal customer base and positive word of mouth.

## **Conclusion**

Kularatne et al., (2019) have shown in their publication that environmental sustainability and responsibility enhance the efficiency of hotels - especially in terms of energy consumption and water use. Gyurász-Németh (2014) also linked the two sustainability pillars by identifying cost savings as the main motivating factor for environmental sustainability, and Asadi et al., (2020) investigated the impact of green innovations on hotel operations. They found a positive and significant relationship between green innovation processes and environmental performance, i.e. if the hotel is involved in a "green" development process, it can achieve more acceptable environmental performance. This has generated an incentive to comply with government and industry conditions, and has succeeded in reducing waste and pollution, thus protecting the environment and even enhancing competitive potential (Asadi et al., 2020). Hotels' environmental decisions can undoubtedly bring a number of benefits to firms.

The relationship between tourism, dog ownership, and sustainability is multifaceted and requires a balanced approach to optimize benefits while minimizing negative impacts.

Economically, the advent of pet-friendly tourism has opened new avenues for revenue generation for local businesses and has contributed to diversifying the

tourist experience, attracting a broader demographic of visitors. However, this should be carefully balanced with investments in local infrastructure and services to handle the increased demand without straining local resources.

Socially, fostering a dog-friendly environment in tourist areas can significantly enhance the quality of life for both visitors and residents, promoting inclusivity and a sense of community. However, creating inclusive environments that cater to both tourists and residents can significantly enhance the overall community well-being and visitor experience.

The future of integrating dog ownership into sustainable tourism lies in adopting a holistic approach that considers environmental stewardship, economic viability, and social well-being. Stakeholders, including policymakers, business owners, and community members, must collaborate to develop and implement policies and practices that safeguard local ecosystems, promote economic prosperity, and enhance the social landscape. By doing so, tourist destinations can not only accommodate dog owners but do so in a manner that aligns with sustainable development goals, ensuring the long-term viability and resilience of these communities.

In conclusion, the relationship between tourism, dog ownership, and sustainability is intricate, with significant implications for environmental, economic, and social dimensions of tourist destinations. The surge in pet-friendly tourism offers both challenges and opportunities: environmentally, there is a risk of increased waste and habitat disturbance, but this can be mitigated by responsible tourism practices. Economically, destinations can benefit from the niche market of pet owners, though they must also invest in infrastructure to manage these impacts. Socially, accommodating pets can enhance visitor experiences but requires balancing with local community interests. Effective management and policy strategies are crucial for ensuring that pet-friendly tourism supports sustainable development, leveraging educational initiatives and strict regulatory measures to harmonize the needs of tourists, residents, and the environment.

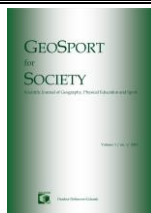
## References

- Arnberger, A., & Hinterberger, B. (2003). Visitor monitoring methods for managing public use pressures in the Danube Floodplains National Park, Austria. *Journal for Nature Conservation*, 11(4), 260–267. <https://doi.org/10.1078/1617-1381-00057>
- Asadi, S., OmSalameh Pourhashemi, S., Nilashi, M., Abdullah, R., Samad, S., Yadegaridehkordi, E., Aljojo, N., & Razali, N.S. (2020). Investigating influence of green innovation on sustainability performance: A case on Malaysian hotel industry. *Journal of Cleaner Production*, 258, 120860. <https://doi.org/10.1016/j.jclepro.2020.120860>
- Ásványi, K., & Komár, Z. (2021). Is it worth being green? green hotels and their customers. *Tourism and Rural Development Studies*, 3(1), 20-33.
- Bernini, C., Emili, S., & Vici, L. (2021). Are mass tourists sensitive to sustainability? *Tourism Economics*, 27(7), 1375–1397. <https://doi.org/10.1177/1354816620923212>
- Blichfeldt, B., & Sakáčová, K. (2018). Domesticated dogs and 'doings' during the holidays. 113–127. <https://doi.org/10.4324/9781315457451-8>
- Boni, S.E. (2008). Anthropomorphism: How it affects the human-canine bond. *Journal of Applied Companion Animal Behavior*, 2(1), 16–21.
- Buffa, F., Franch, M., & Rizio, D. (2018). Environmental management practices for sustainable business models in small and medium sized hotel enterprises. *Journal of Cleaner Production*, 194, 656–664. <https://doi.org/10.1016/j.jclepro.2018.05.143>

- Butler, R.W. (1999). Sustainable tourism: A state of the art review, *Tourism Geographies*, 1(1), 7-25.
- Carr, N. (2009). Animals in the tourism and leisure experience. *Current Issues in Tourism*, 12(5/6), 409-411.
- Claver-Cortés, E., Molina-Azorín, J.F., & Pereira-Moliner, J. (2007). The impact of strategic behaviours on hotel performance. *International Journal of Contemporary Hospitality Management*, 19(1), 6–20. <https://doi.org/10.1108/09596110710724125>
- Cutt, H., Giles-Corti, B., Knuiaman, M., & Burke, V. (2007). Dog ownership, health and physical activity: A critical review of the literature. *Health & Place*, 13(1), 261–272. <https://doi.org/10.1016/j.healthplace.2006.01.003>
- Dotson, M.J., Hyatt, E.M., & Clark, J.D. (2010). Traveling with the family dog: Targeting an emerging segment. *Journal of Hospitality Marketing & Management*, 20(1), 1-23.
- Gonda, T., & Raffay, Z. (2021). Hungarian tourists environmentally conscious? *Tourism Bulletin*, 21(2). pp. 4-14. <https://doi.org/10.14267/TURBULL.2021v21n2.1>
- Gyurác-Németh, P. (2014). A magyar szállodák környezettudatos innovációi [Environmentally conscious innovations in Hungarian hotels]. *Turizmus Bulletin*, 16(3-4), 68-75.
- Holden, E., Linnerud, K., & Banister, D. (2017). The imperatives of sustainable development. *Sustainable development*, 25(3), 213-226.
- Janković, S., & Krivačić, D. (2014). Environmental accounting as perspective for hotel. *Sustainability: literature review. Tourism and hospitality management*, 20(1), 103-120.
- Kang, K.H., Stein, L., Heo, C.Y., & Lee, S. (2012). Consumers' willingness to pay for green initiatives of the hotel industry. *International Journal of Hospitality Management*, 31(2), 564–572.
- Kasim, A. (2004). Socio-environmentally responsible Hotel Business: Do Tourists to Penang IslND, Malaysia Care? *Journal of Hospitality and Leisure Marketing*, 11(4), 5-28.
- Kirillova, K., Lee, S., & Lehto, X. (2015). Willingness to travel with pets: A US consumer perspective. *Journal of Quality Assurance in Hospitality & Tourism*, 16(1), 24-44.
- Kovács, S., Kovács, F., & Péter, E. (2022). A hazai kisállatturizmus jelenlegi helyzetének felmérése állattartók körében [Survey on the current situation of pet tourism in Hungary among pet owners] In Marton, Z., Németh K., Pelesz, P., & Péter, E. (Eds.) *Turizmus és biztonság nemzetközi tudományos konferencia tanulmánykötet [Tourism and Security International Scientific Conference 2022, Nagykanizsa]*, Pannon University, Nagykanizsai Campus, Hungary, pp. 257-265.
- Kularatne, T., Wilson, C., Mansson, J., Hoang, V. & Lee, B. (2019). Do environmentally sustainable practices make hotels more efficient? A study of major hotels in Sri Lanka. *Tourism Management*, 71, 213–225.
- Lukács, R., Tütümkov, Hrisztov, J., & Grotte, J. (2022). Hotel choice patterns of domestic generations, especially digital natives, in the context of sustainability and digitalisation. *Tourism Bulletin*, 22(1). 26-37. <https://doi.org/10.14267/TURBULL.2022v22n1.3>
- Manaktola, K., & Jauhari, V. (2007). Exploring Consumer Attitude And Behavior Towards Green Practices In The Lodging Industry In India. *International Journal Of Contemporary Hospitality Management*, 19(5), 364-377.
- Millar, M., & Baloglu, S. (2011). Hotel guests' preferences for green guest room attributes. *Cornell Hospitality Quarterly*, 52(3), 302–311. <https://doi.org/10.1177/1938965511409031>
- Peng, N., & Chen, A. (2019). Luxury hotels going green – the antecedents and consequences of consumer hesitation. *Journal of Sustainable Tourism*, 27(9), 1374–1392.
- Reid, S., Johnston, N., & Patiar, A. (2017). Coastal resorts setting the pace: An evaluation of sustainable hotel practices. *Journal of International Hospitality, Leisure & Tourism Management*, 33, 11–22. <https://doi.org/10.1016/j.jhtm.2017.07.001>
- Rickly, J.M., Halpern, N., Hansen, M., & Welsman, J. (2021). Travelling with a Guide Dog: Experiences of People with Vision Impairment. *Sustainability*, 13(5), 2840. <https://doi.org/10.3390/su13052840>
- Rushforth, R., & Moreau, M. (2013). *Finding Your Dog's Ecological "Pawprint": A Hybrid EIO-LCA of Dog Food Manufacturing*. Arizona State University, USA.
- Sloan, P., Simons-Kaufman, C., & Legrand, W. (2012). *Sustainable Hospitality and Tourism as Motors for Development. Case studies from developing region of the world*, Routledge, Oxford, UK.
- Sørensen, F., & Bærenholdt, J.O. (2020). Tourist practices in the circular economy. *Annals of Tourism Research*. 85(1). 103027. <https://doi.org/10.1016/j.annals.2020.103027>
- Swanson, K.S., Carter, R.A., Yount, T.P., Aretz, J., & Buff, P.R. (2013). Nutritional sustainability of pet foods. *Advances in nutrition*, 4(2), 141-150.



- Szabó, S. (2020). Investigating the relationship between sustainable tourism and place attachment in the context of Busójárás. *TVT Tourism and Rural Development Studies*, 5(2), 78-91. <https://doi.org/10.15170/TVT.2020.05.02.06>
- Vetter, S., Vizi V., & Ózsvári, L. (2022). A magyarországi kutyatartási szokások a COVID-19-világjárványban - 2021-es országos reprezentatív felmérés előzetes eredményei [Dog ownership patterns in Hungary in the COVID-19 pandemic - Preliminary results of the 2021 national representative survey]. *Magyar Állatorvosok Lapja*, 144(1), 3-12.
- Yavor, K.M., Lehmann, A., & Finkbeiner, M. (2020). Environmental impacts of a pet dog: an LCA case study. *Sustainability*, 12(8), 3394.



## GEOSPORT FOR SOCIETY

Scientific Journal founded in 2014 under aegis of University of Oradea (Romania),  
University of Debrecen (Hungary), University of Gdansk (Poland)

ISSN 2393-1353

Edited by Oradea University Press

1, University Street, 410087, Oradea, Romania

Journal homepage: <http://geosport.uoradea.ro>



# THE INFLUENCE OF LOGICAL THINKING ON THE ABILITY TO MANIPULATE RHYTHMIC GYMNASTICS APPARATUS IN ELITE ATHLETES

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**Citation:** Sabău, A., Bălășoiu, L.C., Bulz, A.M., & Cristea, D.I. (2024). The influence of logical thinking on the ability to manipulate rhythmic gymnastics apparatus in elite athletes. *Geosport for Society*, 20(1), 61-71. <https://doi.org/10.30892/gss.2005-108>

*Article history:* Received: 25.04.2024; Revised: 20.05.2024; Accepted: 02.06.2024, Available online: 06.06.2024

**Abstract:** Rhythmic gymnastics, a distinguished discipline within the Olympic sports family, exemplifies a sophisticated blend of athleticism and artistic expression, categorizing it as a technical-combinatory sport where precise motor control is paramount. This study investigates the relationship between academic performance in subjects requiring logical and mathematical reasoning and the proficiency of gymnasts in handling rhythmic gymnastics apparatus. Through the analysis of statistical data and mathematical assessments, the research aims to determine the impact of mathematical skills on executing complex and high-risk elements in rhythmic gymnastics routines. The findings reveal a significant correlation between mathematical test scores and gymnasts' performance, indicating that cognitive abilities in logical and mathematical reasoning substantially enhance the athletes' capability to perform intricate maneuvers with precision and control. This suggests that success in rhythmic gymnastics is not solely dependent on physical attributes but is also significantly influenced by cognitive skills. These results underscore the importance of integrating cognitive training into athletic preparation to achieve excellence in rhythmic gymnastics.

**Keywords:** rhythmic gymnastics, logical thinking, athletic performance, mathematical skills

## Introduction

Rhythmic gymnastics is a comprehensive sport and an artistic domain in motion that intricately combines elements of ballet, acrobatics, and dance with the manipulation of specific apparatus such as rope, hoop, ball, clubs, and ribbon. This sport elevates these elements to the level of art through harmonious execution. As a sport, rhythmic gymnastics falls into the category of technical-combinatory sports (Papp et al., 2019; Erdelyi et al., 2020; Giurgiu et al., 2024). These sports are characterized by motor performances based on automated elements that continuously evolve through new combinations and associations of movements (Sierra-Palmeiro et al., 2019; Furtado et al., 2020; Grosu and Grosu, 2021). The dominant factor in terms of motor skills is motor control. Competitions, which serve as the ultimate form of assessing athletic performance, rely on elegant, precise, and expressive executions and are evaluated through a judging system with a significant subjective component (Macovei si Buțu, 2018; Sabau, 2022).

The first forms of rhythmic gymnastics exercises emerged within official artistic gymnastics competitions. The sport originated in the Union of Soviet Socialist Republics (USSR), where, in 1936, during an artistic gymnastics' competition, the technical program required athletes to participate with one exercise without apparatus and one with a portable apparatus, incorporating elements of dance and pantomime. In 1948, the USSR held the first official Artistic Gymnastics competition, the initial designation for what is now known as rhythmic gymnastics (Manos, 2008).

Rhythmic gymnastics has undergone a spectacular evolution, rapidly transforming into a form of expression and rhythm that is well-suited for female education and subsequently becoming an Olympic discipline.

A study conducted by researchers at the University of Illinois found that regular participation in sports can influence brain structure in children. They discovered that a smaller volume of gray matter is associated with superior cognitive abilities. Children who were more physically active had a smaller amount of gray matter in their brains and performed better in mathematics, although not in writing and reading. Thus, stimulating children's physical activities can contribute to the optimal development of brain structures involved in mathematical abilities (Hillman et al., 2011; Bidzan-Bluma and Lipowska, 2018).

Logic, as the science that establishes the conditions for correct thinking, is an essential aspect of human knowledge. The Greek term "logos," from which logic derives, suggests multiple meanings such as word, idea, reason, and order. From childhood to adulthood, logic is a skill used in various contexts, including daily life. Mathematics, particularly geometry, contributes significantly to the development of logical thinking. This ability is essential for professionals in various fields such as forensic science, mathematics, and medicine. Logic is vital for every individual, enabling coherent and efficient thinking (Apostolopoulou, 2016).

Logic is a species of exact knowledge, with its object being the abstract form of human thought. For instance, in the game of dominoes, logical thinking aids in finding optimal solutions for arranging the pieces. Similarly, in sports like tennis or basketball, we logically associate movements and strategies to achieve favorable

outcomes, such as making a basket or tracking the opponent's actions. Constructing a mechanism also requires structured and logical thinking to arrange the parts so that they function properly. Furthermore, the logic of propositions and grammar rules helps us understand and interpret texts, and in the process of correcting an error, we use logic to identify the mistake and provide counterarguments (Mihăiță et al., 2022).

Although the connection is not always apparent, we unconsciously apply mathematical thinking in almost all daily activities. In sports, discipline and resource management represent just a visible aspect of the influence of mathematics on performance, with many effects becoming unconscious actions through repetition. Over time, the importance of mathematics in sports has been repeatedly demonstrated (Randall, 1990; Aycan et al., 2020). Mathematical knowledge aids in developing cognitive skills and specialized problem-solving thinking, relying on pattern recognition and solution-finding. In some situations, mathematical thinking can distinguish between those for whom problem-solving is a natural, unconscious task and those who require conscious effort to analyze aspects of the game or sport practiced. For example, in sports, fractions are used to divide team games into periods and sets, allowing children to learn and experience fraction concepts in real-time. Geometry plays a crucial role in sports by using angles and shapes to determine the direction and trajectory of movements. Additionally, elementary arithmetic and algebra knowledge enable graphical representation of athletes' results and analysis of their performance based on time and other relevant factors (Rulence-Pâques et al., 2005; Önal et al., 2017).

Our ability to solve mathematical problems has long been considered a clear expression of our intelligence. The time required to detect mathematical patterns in a series, solve a mental calculation, or respond to ordinary geometry exercises is measured. Today, this capacity remains vital in assessing human cognitive abilities, but our conception of intelligence has become broader (Bahar, 2015; Grosu et al., 2016).

Based on our experience as both former athletes and coaches, we have observed that gymnasts with outstanding academic results in practical and logical disciplines master actions involving the loss of contact with the apparatus more quickly and easily. Thus, the hypothesis emerged that mathematics and logical thinking are important qualities for a gymnast to achieve remarkable performances. We decided to investigate this hypothesis to validate it and develop appropriate tests for future gymnast selections. We aim to implement these tests in the selection process for children to improve the talent identification system in performance sports, similar to other countries. We believe this initiative is important for the development of sports and for maximizing each child's potential in this field.

### **Materials and methods**

The subjects of this study were gymnasts from various sports clubs across the country, all affiliated with the Romanian Rhythmic Gymnastics Federation. A total of 50 gymnasts, aged between 9 and 12 years old, who competed in the Junior III and Junior II categories, were tested. The tests were administered during the pre-

competition period, specifically during training sessions, to minimize the influence of the emotional factor.

We selected subjects aged between 9 and 12 years old because this is the age range in which gymnasts predominantly compete with specific apparatus, and the frequency of actions involving loss of contact with the apparatus increases as they gain competitive experience and progress in competition categories. Additionally, at this age, they are capable of answering questions related to mathematics.

The methods used in the study included the bibliographic study method, the conversation method, the observation method, the graphical method, the statistical-mathematical method, and the arithmetic mean.

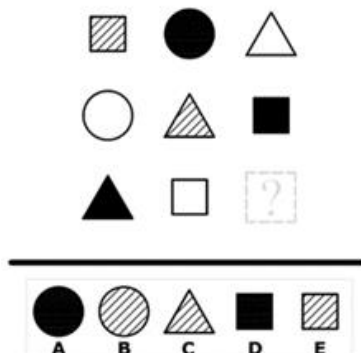
### *Mathematical tests*

These tests focus on logical deduction, practical mathematical thinking, and spatial orientation. They were designed to highlight the analytical abilities specific to the left hemisphere of the brain, which is responsible for logical, mathematical, and analytical thinking.

A set of three mathematical tests was utilized in this study. The first two tests comprised sets of  $3 \times 3$  matrices, each with the last element missing. The gymnasts were required to indicate the image from a selection provided below the matrix that logically completed the place marked with a question mark. The third test consisted of 12 mathematical logic problems presented in a grid format. The gymnasts had to choose the correct answer based on logical deduction or mathematical calculation.

The format of the problems is as follows: a  $3 \times 3$  matrix with the last element missing, where the gymnast must determine the logical or mathematical element that completes the sequence. This structure aims to assess the gymnasts' ability to recognize patterns, perform logical reasoning, and apply mathematical principles (Figure 1).

These tests were meticulously designed to measure the cognitive functions related to logical deduction, practical mathematical thinking, and spatial orientation, which are essential for successful performance in rhythmic gymnastics. The results of these tests provide insight into the gymnasts' analytical abilities and their potential for mastering complex movements involving the loss of contact with apparatus.



**Figure 1.** Matrix image used for the tests

The test consisted of indicating the image, from those below the line (labeled from A to E), which logically completes the space marked with the question mark. The correct answer was marked on the TEST form with an X. Thus, if it is considered that in the example above the correct answer corresponds to the image labeled with C, then on the test form the box corresponding to option C is marked with an X.

### *Practical tests*

For the practical test, each gymnast selected one apparatus of her choice and performed a specific risky element, defined as an action involving loss of contact with the apparatus. The selected element required the gymnast to execute a throw, perform two rotations underneath the apparatus, and then successfully catch it. The gymnasts were instructed to perform this risky throw ten times. Only the successful attempts, defined as those where the gymnast successfully caught the apparatus after completing the two rotations, were recorded. This approach allowed for a precise assessment of the gymnast's ability to perform complex maneuvers involving coordination, timing, and spatial awareness under controlled conditions. This practical test aimed to quantify the proficiency and consistency of gymnasts in executing high-risk elements, which are critical components in rhythmic gymnastics performances. The results provided valuable data on each gymnast's skill level and the effectiveness of their training in mastering such advanced techniques.

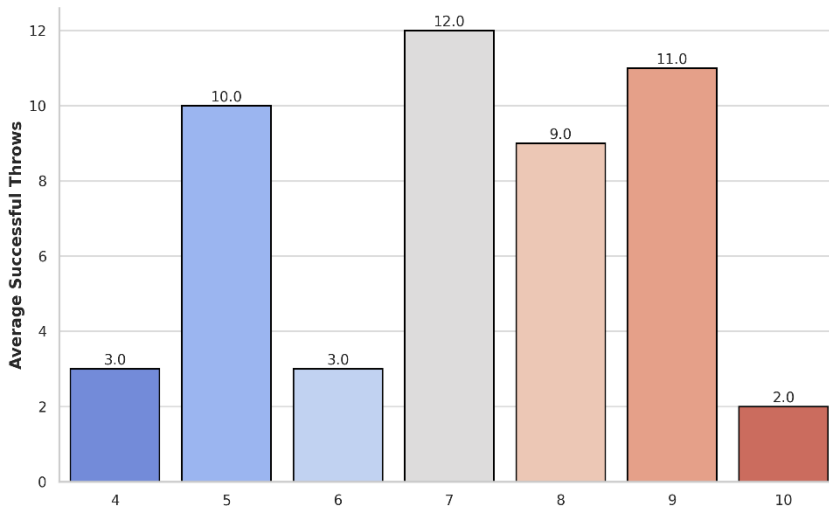
### **Results and discussions**

After administering the tests, the results were consolidated into a summary table, and a hypothetical average of the results was calculated. Following the completion of the three mathematics tests, an average score was derived to reflect the expected performance in the practical tests. The 50 gymnasts displayed a wide range of results across the three tests. Out of a possible total of 36 points, only one gymnast achieved the maximum score, while the lowest recorded score was 8 points. These scores were used to calculate a hypothetical average intended to predict the outcomes in the practical test.

The diversity in test scores among the gymnasts highlighted the varying levels of cognitive and analytical skills within the group. The calculated average provided a benchmark to evaluate whether the theoretical skills assessed by the mathematics tests correlated with the practical performance in rhythmic gymnastics, particularly in executing risky elements involving loss of contact with the apparatus. This approach allowed for a comprehensive analysis of the relationship between cognitive abilities and practical performance, offering insights into the effectiveness of incorporating logical and mathematical training into the athletic development of gymnasts.

Mathematics tests had a slightly increased weight in the evaluation of the gymnasts, accounting for 51% due to the utilization of three theoretical tests and only one practical test. Although the practical test accounts for a lower weight of 49%, it is equally relevant as it depicts the precise action of losing contact with the object, which is the aim of the study. Between the two tests, a slight difference is recorded, a

difference that, however, confirms the theory that mathematics should be part of practice in rhythmic gymnastics.



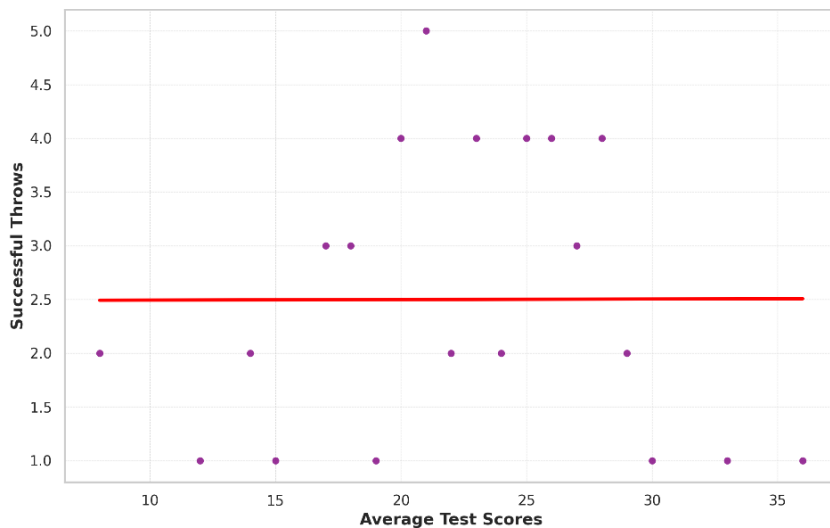
**Figure 2.** Average throws of the subjects

Figure 2 illustrates the performance distribution of gymnasts in successfully catching the thrown object during the risky element test. Specifically, three gymnasts managed to correctly catch the thrown object four times, resulting in a very poor rating. A larger group of gymnasts, consisting of ten individuals, achieved a slightly better performance by catching the object five times during the risky action. Only three gymnasts succeeded in catching the object six times, which surpasses half of the maximum possible number of successful catches. The graph indicates that the majority of gymnasts achieved higher ratings, with twelve gymnasts catching the object seven times, nine gymnasts catching it eight times, and eleven gymnasts catching it nine times. These results reflect a good performance, indicating that most gymnasts were able to execute the risky element with a high degree of consistency and skill.

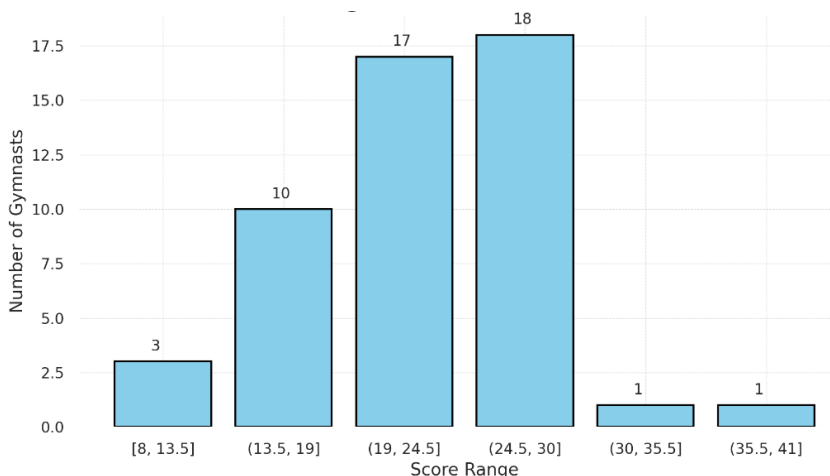
Notably, only two gymnasts achieved a perfect score by successfully catching the object ten times out of a possible ten attempts. This exceptional performance demonstrates their superior coordination, timing, and ability to manage the complexity of the risky element under the given test conditions. Overall, the data depicted in Figure 3 highlights the varied levels of proficiency among the gymnasts in performing high-risk elements, emphasizing the importance of further training to enhance consistency and skill in such critical aspects of rhythmic gymnastics.

In Figure 3, the precise results obtained by each gymnast in the administered tests are depicted. The data reveal that the peak of the performance plateau was reached within the score range of 24.5 to 30. This indicates that the majority of subjects achieved favorable outcomes in the conducted assessments. The concentration of scores within this range suggests that the tests were effectively designed and appropriate for evaluating the cognitive and practical skills of children

aged 9 to 12 years old. These results underscore the suitability of the test parameters in accurately measuring the intended competencies within this age group. Consequently, the implemented tests have proven to be reliable tools for assessing the logical, mathematical, and spatial orientation abilities necessary for rhythmic gymnastics. This conclusion is supported by the observed distribution of scores, which demonstrates that a significant proportion of the participants performed well, thereby validating the efficacy of the tests.



**Figure 3.** Average scores of mathematics tests



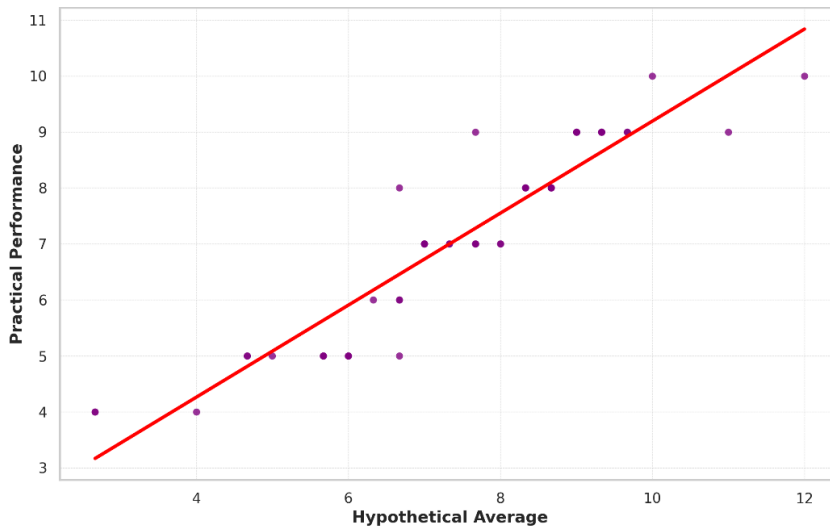
**Figure 4.** Average qualifying test scores

As shown in figure 4, the gymnasts were classified into 5 categories of scores. Between 8 and 13.5 points, 3 gymnasts received a poor rating. Out of a total of 36 possible points, between 13.5 and 19 points, 10 gymnasts achieved a satisfactory rating. A good rating was awarded to 17 athletes who scored between 19 and 24.5



points. In the same tests, 18 gymnasts achieved excellent results, ranging between 24.5 and 30 points. One gymnast fell between 30 and 35.5 points, and one answered all 36 questions correctly, achieving an outstanding rating.

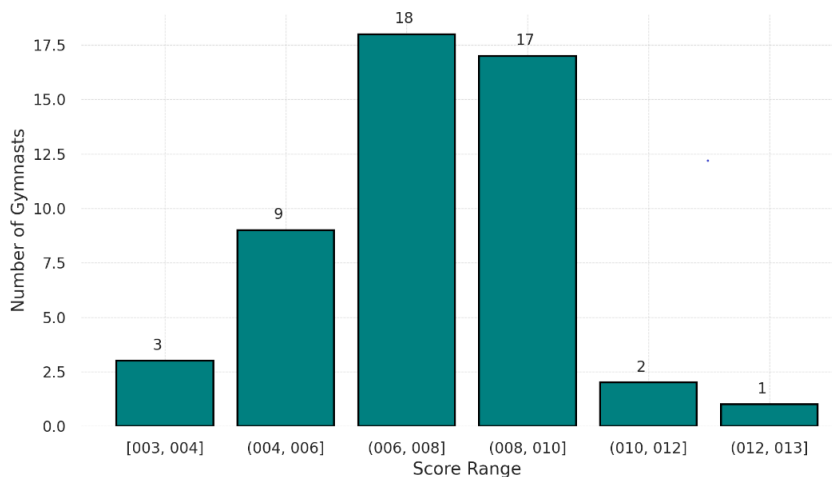
Thus, the graph reflects a diverse distribution of gymnasts' performances, with the majority achieving ratings from satisfactory to very good. Only a few gymnasts had poor or excellent results, highlighting differences in levels of preparation and performance.



**Figure 5.** Correlation Between Hypothetical Average Scores and Practical Performance in Gymnasts

In Figure 5, a hypothetical average was calculated based on the results obtained in the mathematics tests. This hypothetical average predicts the number of successful catches the gymnasts should achieve in the practical tests. The x-axis represents the hypothetical average scores, while the y-axis represents the actual number of successful catches by the subjects. The scatter plot provides a comprehensive view of the correlation between theoretical knowledge and practical execution. The purple points indicate the performance of each gymnast, with the red regression line highlighting the overall trend.

The data reveals both gymnasts who effectively translated their theoretical knowledge into practice, achieving the predicted number of successful catches, and those who deviated from the hypothetical results. This variation underscores the influence of other factors, such as physical coordination, mental focus, and training consistency, on practical performance. This analysis is critical for understanding the extent to which cognitive abilities, as measured by the mathematics tests, can predict practical performance in rhythmic gymnastics. The positive correlation observed suggests that higher hypothetical averages tend to be associated with better practical performance. However, the deviations also indicate that while theoretical knowledge is important, it is not the sole determinant of practical success.



**Figure 6.** Hypothetical Average - Practical Average

The gymnasts are grouped into 6 reference groups, each assigned an interval of values and a rating. The first 3 gymnasts recorded the weakest values, with an average ranging from 2.67 to 4.47. Satisfactory values were obtained by the next 9 gymnasts, ranging between averages of 4.47 and 6.27. Better results were achieved by the largest number of subjects, 18, who managed to fall between averages of 6.27 and 8.07. Good results were also demonstrated by the 17 gymnasts falling between averages of 8.07 and 9.87. Only 2 gymnasts achieved very good results, ranging between values of 9.87 and 11.67. The best results were obtained by the gymnast who achieved a maximum score in both tests, receiving an outstanding rating (Figure 6).

## Conclusion

The findings of this study confirm the initial hypothesis that mathematics and logical thinking significantly influence the ability to manipulate objects in performance gymnasts. The two tests administered clearly demonstrated the correlation between theoretical knowledge and practical execution, highlighting the interaction between cognitive and motor skills. The results suggest that analytical thinking, associated with the left hemisphere of the brain, is crucial for achieving success in sports performance. The data reveal that gymnasts who scored higher in mathematical and logical tests tended to perform better in practical tasks involving object manipulation. This correlation underscores the importance of cognitive skills in enhancing physical performance, particularly in complex sports like rhythmic gymnastics.

The implementation of these tests in future selection processes for performance gymnasts is recommended. By incorporating these assessments, it will be possible to identify children with exceptional cognitive abilities who are likely to excel in the sport. Moreover, understanding the thinking processes of gymnasts can inform the development of more effective training programs. By tailoring external stimuli during training to enhance cognitive and motor integration, coaches can optimize the performance outcomes of their athletes. These tests have proven to be

valuable tools for not only selecting potential high achievers but also for gaining insights into the cognitive strategies employed by gymnasts. Future research could further explore the specific cognitive mechanisms that contribute to successful performance in rhythmic gymnastics, leading to even more refined training methodologies.

In conclusion, the integration of cognitive and physical assessments provides a comprehensive approach to developing and nurturing talent in rhythmic gymnastics. The findings of this study support the continued use of mathematical and logical tests in the selection and training of performance gymnasts, contributing to the overall advancement of the sport.

## References

- Apostolopoulou, G. (2016). From ancient Greek Logos to European rationality. *Wisdom*, 2(7), 118. <https://doi.org/10.24234/wisdom.v2i7.144>
- Aycan, Z., Akgül, S., Gençay, S., Kanbur, N., & Derman, O. (2020). Assessment of academic performance of licensed athletes. *International Journal of Adolescent Medicine and Health*, 33(3), 429-436.
- Bahar, A. (2015). Cognitive Backgrounds of Problem Solving: A Comparison of Open-Ended vs. Closed Mathematics Problems. *Eurasia Journal of Mathematics, Science and Technology Education*, 11, 1531-1546. <https://doi.org/10.12973/EURASIA.2015.1410A>.
- Bidzan-Bluma, I., & Lipowska, M. (2018). Physical Activity and Cognitive Functioning of Children: A Systematic Review. *International Journal of Environmental Research and Public Health*, 15(4), 800. <https://doi.org/10.3390/ijerph15040800>
- Erdely, Ş., Caciora, T., Şerbescu, C., Papp, B. M., Tamas, F. A., Bujorean, E., Baidog, A., Furdui, S., Ile, M., & Herman, G. V. (2020). Trends in the lifestyle of students. Case study of a high school in Oradea, Romania. *GeoSport for Society*, 12(1), 1–12. <https://doi.org/10.30892/gss.1201-052>
- Furtado, L. N. dos R., Toledo, E. de, Antualpa, K. F., & Carbinatto, M. V. (2020). Ballet movements in rhythmic gymnastics routines: An analysis from the last two code of points (2013-2016 and 2017-2020). *Science of Gymnastics Journal*, 12(3), 395–406. <https://doi.org/10.52165/sgj.12.3.395-406>
- Giurgiu, L. R., Damian, C., Sabău, A. M., Caciora, T., & Călin, F. M. (2024). Depression Related to COVID-19, Coping, and Hopelessness in Sports Students. *Brain Sciences*, 14(6), 563. <https://doi.org/10.3390/brainsci14060563>
- Grosu, E.F., Grosu, V.T., Moraru, C.E., & Monea, D. (2016). Motor coordination and reactivity influenced by mental training in alpine skiing. *Global Journal on Humanites & Social Sciences*, 2(1), 101-105.
- Grosu, V.T., & Grosu, E.F. (2021). Development of Motor Coordination and Manual Response in Alpine Skiing Through Mental Training. *Modern Perspectives in Language, Literature and Education*, 6, 234-140.
- Hillman, C., Kamijo, K., & Scudder, M. (2011). A review of chronic and acute physical activity participation on neuroelectric measures of brain health and cognition during childhood. *Preventive medicine*, 52 Suppl 1, S21-28. <https://doi.org/10.1016/j.ypmed.2011.01.024>.
- Macovei, S., & Buţu, I.M., (2018). *Tehnica de mânăuire a obiectelor în antrenamentul de gimnastică ritmică [The technique of handling objects in rhythmic gymnastics training]*, Editura Universitaria, Bucharest, Romania.
- Manos, M. (2008). *Gimnastică Ritmică de Performanță [Performance Rhythmic Gymnastics]*, Editura Bren, Bucharest, Romania.
- Mihăiță, E., Badau, D., Stoica, M., Mitrache, G., Stănescu, M.I., Hidi, I.L., Badau, A., Damian, C., & Damian, M. (2022). Identification of Perception Differences in Personality Factors and Autonomy by Sporting Age Category in Competitive Bodybuilders. *International Journal of Environmental Research and Public Health*, 20(1), 167. <https://doi.org/10.3390/ijerph20010167>
- Önal, H., Inan, M., & Bozkurt, S. (2017). A Research on Mathematical Thinking Skills: Mathematical Thinking Skills of Athletes in Individual and Team Sports. *Journal of Education and Training Studies*, 5(9), 133-139.

- Papp, B.M., Șerbescu, C., Caciora, T., Baidog, A., Varodi, M.O. (2019). The Effects of a Physical Activity Program on Body Composition and Physical Condition in the Overweight Adult. *Analele Universității din Oradea. Fascicula Educație Fizică și Sport*, 29(1), 1-9.
- Randall, T. (1990). Athletic Self-Concept and Mathematics Achievement in Girls. *Psychological Reports*, 67(2), 619-623.
- Rulence-Pâques, P., Fruchart, E., Dru, V., & Mullet, E. (2005). Cognitive Algebra in Sport Decision-Making. *Theory and Decision*, 58, 387-406.
- Sabău, A.M., (2022). *Gimnastica ritmică - Repere teoretice și metodice [Rhythmic gymnastics - Theoretical and methodical milestones]*, Editura Risoprint, Cluj-Napoca, Romania.
- Sierra-Palmeiro, E., Bobo-Arce, M., Pérez-Ferreirós, A., & Fernández-Villarino, M.A. (2019). Longitudinal Study of Individual Exercises in Elite Rhythmic Gymnastics. *Frontiers in Psychology*, 10, 1496. <https://doi.org/10.3389/fpsyg.2019.01496>

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**ISSN 2393-1353**