Empowering communities through sports: Exploring the impact of physical activity on social and economic development

Empoderar a las comunidades a través del deporte: Explorando el impacto de la actividad física en el desarrollo social y económico

Authors

Vevi Sunarti [1]
Zaiful Netra [2]
Ridha Husnul Hayati [3]
Anggi Firmanjaya [4]
Maizul Rahmizal [5]

[1,3,4,5] Universitas Negeri Padang (Indonesia)
[2] Universitas Andalas (Indonesia)

Corresponding author:
Vevi Sunarti
vevisunarti.pls@fip.unp.ac.id

How to cite in APA

Sunarti, V., Netra, Z., Hayati, R. H., Firmanjaya, A., & Rahmizal, M. (2025). Empowering communities through sports: Exploring the impact of physical activity on social and economic development. *Retos*, *69*, 250–264. https://doi.org/10.47197/retos.v69.114511

Abstract

Introduction: Community-based sports initiatives have gained recognition for fostering social cohesion and economic development. However, limited research has examined these impacts in developing regions.
Objective: This study investigates the social and economic benefits of community sports initiatives in Padang, Indonesia.
Methodology: This study employs a quantitative cross-sectional design with Structural Equation Modeling (SEM) for rigorous empirical validation. There are 389 participants from 11 administrative districts in Padang involved in this study.
Results: Findings indicate that sports participation significantly enhances social cohesion, civic engagement, and community identity, with variations based on demographic factors. Additionally, community sports contribute to local economic growth through direct business stimulation and long-term investment potential, though high-income participants perceive economic benefits more strongly.
Discussion: The study extends existing literature by demonstrating that social cohesion mediates economic benefits, emphasizing the inter-connectedness of social and financial outcomes.
Conclusions: It can be concluded that inclusive sports policies can maximize developmental benefits. Policymakers and urban planners should consider these insights when designing sports programs to ensure equitable social and economic advantages distribution.

Keywords

Community sports; economic development; Indonesia; social-cohesion; structural equation modeling.

Resumen

Introducción: Las iniciativas deportivas comunitarias han ganado reconocimiento por fomentar la cohesión social y el desarrollo económico. Sin embargo, pocas investigaciones han examinado estos impactos en las regiones en desarrollo.
Objetivo: Este estudio investiga los beneficios sociales y económicos de las iniciativas deportivas comunitarias en Padang, Indonesia.
Metodología: Este estudio emplea un diseño transversal cuantitativo con Modelado de Ecuaciones Estructurales (MEE) para una validación empírica rigurosa. Participaron 389 participantes de 11 distritos administrativos de Padang.
Resultados: Los resultados indican que la participación deportiva mejora significativamente la cohesión social, el compromiso cívico y la identidad comunitaria, con variaciones según los factores demográficos. Además, el deporte comunitario contribuye al crecimiento económico local mediante el estímulo empresarial directo y el potencial de inversión a largo plazo, aunque los participantes con altos ingresos perciben con mayor intensidad los beneficios económicos.
Discusión: El estudio amplía la literatura existente al demostrar que la cohesión social media los beneficios económicos, enfatizando la interconexión de los resultados sociales y financieros.
Conclusiones: Se puede concluir que las políticas deportivas inclusivas pueden maximizar los beneficios para el desarrollo. Los responsables políticos y los urbanistas deben considerar estas perspectivas al diseñar programas deportivos para garantizar una distribución equitativa de las ventajas sociales y económicas.

Palabras clave

Cohesión social; deportes comunitarios; desarrollo económico; Indonesia; modelado de ecuaciones estructurales.

Introduction

The role of sports in fostering social and economic development has gained significant scholarly attention over the past decades. As a multifaceted phenomenon, sports serve not only as a means of recreation but also as a catalyst for community empowerment, social cohesion, and economic advancement (Parra-Camacho et al., 2020; Putri et al., 2024). The increasing engagement in sports activities, particularly among youth and local communities, presents an opportunity to examine its broader implications in urban settings. In line with global sustainable development goals, sports can be leveraged to promote inclusivity, generate employment, and enhance community well-being (González-García et al., 2022; Arwin et al., 2024). However, despite the recognized benefits of sports participation, a critical need remains to understand the underlying mechanisms through which sports influence socioeconomic development, particularly in developing regions such as Indonesia.

Social cohesion refers to the strength of relationships and the sense of solidarity among members of a community (Putnam, 2000; Hiltrimartin et al., 2024). Civic engagement involves individuals actively participating in the civic life of their community, such as volunteering or contributing to local decision-making processes (Hautbois et al., 2020; Zainil et al., 2024). Community identity encompasses the shared sense of belonging and pride individuals feel toward their locality (Parra-Camacho et al., 2023). These social constructs not only foster community well-being but also produce tangible economic impacts. For instance, cohesive communities can attract business investments and stimulate entrepreneurship through enhanced trust and collaboration (Davies et al., 2021). In tourism and education sectors, strong community identity has been linked to destination branding and economic resilience (Fernández-Martínez et al., 2022; Morán-Gámez et al., 2024). Applying similar reasoning to the sports sector, this study explores how social development mediated by sports can yield both direct benefits (such as business activity) and long-term impacts (such as improved infrastructure and property values).

Empirical studies have demonstrated that sports events and facilities contribute to local economic growth by attracting tourism, fostering business opportunities, and increasing public infrastructure investments (Testa et al., 2023; Tsekouropoulos et al., 2022). Socially, participation in sports has been linked to enhanced community identity, reduced crime rates, and improved mental health outcomes (Hautbois et al., 2020; Husin et al., 2023). Nevertheless, while previous research has largely focused on large-scale sports events and their macroeconomic implications, limited attention has been given to grassroots sports activities and their direct impact on local communities, particularly from a holistic social and economic perspective (Parra-Camacho et al., 2023).

Despite the existing literature, significant gaps remain in understanding the extent to which community-based sports initiatives foster sustainable social and economic development. Existing research has primarily been conducted in Western contexts, with limited applicability to developing regions where sports infrastructure, policies, and socioeconomic conditions differ markedly (Soares et al., 2021). Additionally, while numerous studies have analyzed residents' perceptions of sports events (Vegara-Ferri et al., 2020), few have adopted robust methodological frameworks, such as Structural Equation Modeling (SEM), to validate the relationships between sports participation and socioeconomic indicators empirically. This study seeks to bridge these gaps by quantitatively analyzing how community sports initiatives in Padang, Indonesia, contribute to social and economic empowerment, utilizing advanced statistical methods to ensure rigorous empirical validation.

The significance of this research lies in its potential to inform policymakers, urban planners, and community leaders on how to design and implement sports programs that yield tangible social and economic benefits. By focusing on Padang as a case study, this research provides localized insights that can be applied to other developing urban centers with similar socioeconomic conditions. Given the Indonesian government's increasing emphasis on community-based sports initiatives as a tool for social development, this study offers timely and relevant contributions to academic discourse and policy formulation (Rahayu et al., 2024). Furthermore, the study aligns with the broader academic discussions on the intersection of sports, social capital, and economic sustainability, emphasizing the role of sports in fostering community resilience and long-term prosperity (Davies et al., 2021).

To achieve these objectives, the study seeks to address the following research questions:

1. How does participation in community sports influence social development indicators, such as social cohesion, civic engagement, and well-being among youth in Padang?
2. How do community-based sports programs impact local economic growth, including employment generation and business development?
3. How do demographic and socioeconomic factors moderate the relationship between sports participation and perceived social and economic benefits in local communities?

This research aims to comprehensively understand how community sports initiatives contribute to broader developmental goals by answering these questions. The study's findings will advance theoretical knowledge and offer practical recommendations for stakeholders invested in leveraging sports for sustainable development. Advanced quantitative methods, including SEM, ensure a robust analysis that can serve as a model for future research in similar socioeconomic contexts. Ultimately, this study seeks to position community sports as a critical instrument in the broader social and economic empowerment discourse.

We hypothesize that:

H1: Sports participation strengthens social cohesion, civic engagement, and community identity.

H2: Social cohesion mediates economic benefits (direct, indirect, long-term).

H3: High-income participants perceive stronger economic benefits.

Method

Research Design and Setting

This study employed a quantitative cross-sectional design to investigate the impact of community sports initiatives on social and economic development in Padang, Indonesia. A cross-sectional approach was deemed appropriate as it allows for examining relationships between variables at a specific time (Creswell & Creswell, 2018). This cross-sectional study employed Structural Equation Modeling (SEM) to analyze data from 389 residents of Padang, Indonesia, stratified across 11 administrative districts. Padang was selected due to its demographic diversity and recent investments in community sports infrastructure (Rahayu et al., 2024).

Sampling and Participants

A stratified random sampling technique was employed to ensure representation across Padang's 11 administrative districts. This sampling method has been validated in previous studies examining community perceptions of sports impacts (González-García et al., 2022; Testa et al., 2023). The sample size was determined using G*Power analysis (Faul et al., 2009), with parameters set at $\alpha = 0.05$, power $(1-\beta) = 0.95$, and effect size $f^2 = 0.15$, resulting in a minimum required sample of 378 participants. To account for potential non-responses and incomplete surveys, the target sample was increased by 20%, resulting in 454 participants being approached.

Participant recruitment occurred between September and December 2024. Inclusion criteria required participants to be (1) residents of Padang for at least one year, (2) aged 18 years or older, and (3) aware of at least one community sports initiative in their neighborhood. These criteria ensured that participants had sufficient familiarity with local sports activities to provide informed responses regarding their perceived impacts. Of the 454 individuals approached, 412 completed the survey, yielding a response rate of 90.7%. After data cleaning and removal of incomplete responses, the final sample consisted of 389 participants. Table 1 presents the demographic characteristics of the participants.

Table 1. Demographic Characteristics of Survey Participants (N = 389)

Characteristic	Category	Frequency	Percentage (%)
Gender	Male	208	53.5
	Female	181	46.5
Age (years)	18-25	97	24.9
	26-35	112	28.8
	36-45	89	22.9

	46-55	61	15.7
	>55	30	7.7
Education	Primary school	28	7.2
	Secondary school	96	24.7
	High school	143	36.8
	Bachelor's degree	102	26.2
	Postgraduate	20	5.1
Monthly income (IDR)	<2,000,000	95	24.4
	2,000,000-4,000,000	159	40.9
	4,000,001-6,000,000	87	22.4
	>6,000,000	48	12.3
Length of residency	1-3 years	73	18.8
	4-6 years	94	24.2
	7-10 years	85	21.8
	>10 years	137	35.2
Sports participation	Active participant	211	54.2
	Occasional participant	109	28.0
	Spectator only	69	17.8

The survey included validated scales adapted from prior studies:

- Social Cohesion: 5-item scale (α = 0.88) measuring trust and interaction (Hautbois et al., 2020).
- Civic Engagement: 4-item scale (α = 0.83) assessing volunteerism and issue awareness (Parra-Camacho et al., 2023).
- Economic Impacts: 7-item scale (α = 0.85) evaluating business growth and investment (Testa et al., 2023).
- Pilot testing (N = 40) confirmed cultural appropriateness (Cronbach's α > 0.80 for all constructs).

Instruments and Measures

Social cohesion was measured using a 5-item scale adapted from Hautbois et al. (2020), assessing perceptions of trust, cooperation, and social bonds (e.g., "Sports bring people from different backgrounds together"). Civic engagement used a 4-item scale developed by Parra-Camacho et al. (2023), with items such as "I volunteer more because of local sports initiatives." Community identity (4 items) was adapted from Parra-Camacho et al. (2023) to capture place-based pride (e.g., "I feel proud of my community during sports events"). Economic outcomes were measured through three constructs: direct benefits (e.g., increased business), indirect benefits (e.g., infrastructure improvements), and long-term economic development (e.g., increased external investment), based on Testa et al. (2023). All scales used 5-point Likert responses (1 = strongly disagree to 5 = strongly agree). Cronbach's alpha values exceeded .80 for all subscales, and confirmatory factor analysis supported their construct validity.

Data Collection Procedures

Data collection was conducted through a mixed-mode approach combining in-person and online survey methods, a strategy recommended for maximizing response rates while minimizing sampling bias (Dillman et al., 2014). Four trained research assistants, fluent in Indonesian and the local Minangkabau language, administered the surveys. In-person data collection occurred at various community locations, including neighborhood centers, public spaces, and community events, ensuring diversity in participant recruitment. Additionally, the questionnaire was distributed online through community forums and social media groups specific to Padang residents. To prevent duplicate responses, participants were assigned unique identification codes.

Prior to survey administration, all participants received information about the study's purpose, confidentiality measures, and voluntary nature of participation. Written informed consent was obtained from all participants, and they were informed of their right to withdraw at any time without consequences. The data collection process lasted approximately 12 weeks, continuously monitoring response patterns to ensure representation across all districts. This mixed-mode approach has been successfully employed in studies examining community perceptions of sports impacts (Hautbois et al., 2020; Parra-Camacho et al., 2023).

Data Analysis

The analytical approach followed a sequential process, beginning with preliminary analyses and culminating in structural equation modeling. All statistical analyses were performed using IBM SPSS 27.0 and AMOS 27.0 software.

Preliminary Analysis

Initial data screening included checking for missing values, outliers, and normality. Missing values (less than 3% of the data) were handled using the Expectation-Maximization algorithm, producing unbiased estimates for randomly missing data (Schafer & Graham, 2002). Outliers were identified using Mahalanobis distance ($p < 0.001$) and assessed for their potential influence on the results. Normality was evaluated by examining skewness and kurtosis values, with values between -2 and +2 considered acceptable (George & Mallery, 2019). Additionally, descriptive statistics, including means, standard deviations, and frequency distributions, were calculated for all variables to provide an overview of the data.

Measurement Model Testing

Before testing the structural relationships, confirmatory factor analysis (CFA) was conducted to assess the validity and reliability of the measurement model. Following the two-step approach recommended by Anderson and Gerbing (1988), we first evaluated the measurement model for each construct separately, followed by a comprehensive measurement model including all latent variables. Model fit was assessed using multiple indices as recommended by Hu and Bentler (1999): Comparative Fit Index (CFI > 0.95), Tucker-Lewis Index (TLI > 0.95), Root Mean Square Error of Approximation (RMSEA < 0.06), and Standardized Root Mean Square Residual (SRMR < 0.08). Convergent validity was evaluated through factor loadings (> 0.50), Average Variance Extracted (AVE > 0.50), and Composite Reliability (CR > 0.70). Discriminant validity was assessed by comparing the square root of AVE with inter-construct correlations, ensuring that the former exceeded the latter (Fornell & Larcker, 1981).

Structural Model Testing

After confirming the adequacy of the measurement model, structural equation modeling (SEM) was employed to test the hypothesized relationships between sports participation, perceived social impacts, and perceived economic impacts. The structural model was evaluated using the same fit indices as the measurement model. Direct and indirect effects were examined to understand how sports participation influences social and economic development. Bootstrap analysis with 5000 resamples was utilized to test the significance of indirect effects and construct 95% confidence intervals, following recommendations by Hayes (2018).

Multi-Group Analysis

To assess whether relationships varied by demographic groups (e.g., gender, age), multigroup invariance testing was conducted following Byrne (2016). Configural, metric, and scalar invariance were tested sequentially using changes in CFI ($\Delta CFI < 0.01$) and RMSEA ($\Delta RMSEA < 0.015$) as criteria (Chen, 2007). This approach ensured valid comparison of path coefficients across groups.

Methodological Rigor and Quality Assurance

Several steps were taken to ensure methodological rigor and data quality. First, the questionnaire underwent a rigorous translation and back-translation process following the guidelines established by Brislin (1970) to ensure conceptual equivalence between the English and Indonesian versions. Second, pilot testing was conducted with 40 individuals from a similar demographic profile but not included in the final sample to identify potential issues with item wording, response options, or survey length. Third, interrater reliability was established among the four research assistants through training sessions and supervised practice interviews. Fourth, data entry verification was performed by having 20% of the surveys double-entered by different research team members, with discrepancies resolved through consensus. Finally, member checking was conducted by sharing preliminary findings with a subsample of 20 participants to ensure that interpretations aligned with their lived experiences, enhancing the validity of our conclusions.

This comprehensive methodological approach allowed for a robust examination of how community sports initiatives in Padang contribute to social and economic development, addressing the research

questions with scientific rigor while remaining sensitive to the local context. The combination of validated instruments, careful sampling procedures, and advanced analytical techniques provides a strong foundation for understanding the multifaceted impacts of sports participation on community empowerment.

Results

Descriptive Statistics and Measurement Model

Before addressing the research questions, descriptive statistics for all study variables were calculated. Table 2 presents the key constructs' means, standard deviations, and correlations. Participants reported generally positive perceptions of social and economic impacts, with sports participation averaging above the midpoint.

Table 2. Descriptive Statistics and Correlations Among Key Variables (N = 389)

Variable	Mean	SD	1	2	3	4	5	6	7	8	9
1. Sports Participation	3.64	0.91	(0.87)								
2. Social Cohesion	3.82	0.86	0.53**	(0.88)							
3. Civic Engagement	3.56	0.94	0.47**	0.56**	(0.83)						
4. Community Identity	3.91	0.79	0.49**	0.62**	0.54**	(0.91)					
5. Social Well-being	3.84	0.82	0.51**	0.59**	0.48**	0.67**	(0.89)				
6. Direct Economic Benefits	3.29	1.02	0.42**	0.38**	0.41**	0.35**	0.36**	(0.85)			
7. Indirect Economic Benefits	3.44	0.93	0.39**	0.35**	0.38**	0.37**	0.39**	0.58**	(0.86)		
8. Long-term Economic Development	3.51	0.95	0.43**	0.40**	0.44**	0.43**	0.42**	0.61**	0.64**	(0.89)	
9. Overall Social Impact	3.78	0.83	0.55**	0.80**	0.76**	0.85**	0.81**	0.43**	0.42**	0.48**	(0.92)
10. Overall Economic Impact	3.41	0.97	0.45**	0.41**	0.45**	0.42**	0.43**	0.82**	0.85**	0.87**	0.49**

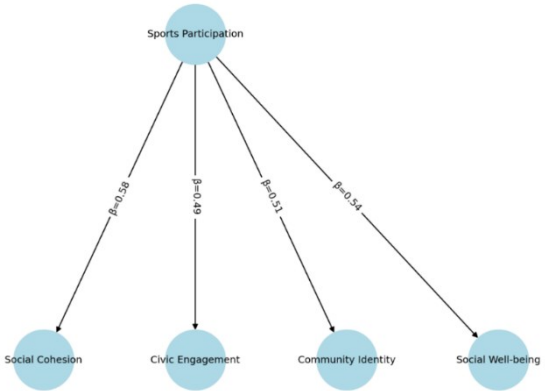
Note. *Values in parentheses along the diagonal represent Cronbach's alpha coefficients. ** p < .01*

The measurement model was assessed using confirmatory factor analysis (CFA). The model demonstrated adequate fit to the data: $\chi^2(583) = 1268.42$, $p < .001$, CFI = 0.93, TLI = 0.92, RMSEA = 0.055 (90% CI [0.051, 0.059]), SRMR = 0.049. All factor loadings were statistically significant ($p < .001$) and above the recommended threshold of 0.50, ranging from 0.68 to 0.91. Convergent validity was supported with Average Variance Extracted (AVE) values ranging from 0.58 to 0.73, exceeding the recommended threshold of 0.50. Composite reliability (CR) values ranged from 0.82 to 0.94, indicating good internal consistency. Discriminant validity was established as the square root of AVE for each construct was greater than its correlation with other constructs.

Research Question 1: Influence of Sports Participation on Social Development Indicators

The first research question examined how participation in community sports influences social development indicators, including social cohesion, civic engagement, community identity, and well-being among residents in Padang. The structural equation model testing these relationships demonstrated a good fit to the data: $\chi^2(267) = 578.36$, $p < .001$, CFI = 0.94, TLI = 0.93, RMSEA = 0.054 (90% CI [0.048, 0.061]), SRMR = 0.047.

Figure 1. Structural Model of Sports Participation and Social Development Indicators



As shown in Table 3, sports participation was a significant predictor of all four social development indicators, especially social cohesion and well-being. These findings indicate that higher levels of participation in community sports activities are associated with enhanced perceptions of social cohesion, improved well-being, stronger community identity, and increased civic engagement among residents.

Further analysis revealed that the relationship between sports participation and social indicators varied based on the type of involvement. Active participation in sports activities ($\beta = 0.61$, $p < .001$) had a stronger association with social cohesion compared to occasional participation ($\beta = 0.46$, $p < .001$) or spectator-only involvement ($\beta = 0.32$, $p < .01$). Similarly, active participants reported significantly higher levels of civic engagement ($\beta = 0.57$, $p < .001$) compared to occasional participants ($\beta = 0.43$, $p < .001$) and spectators ($\beta = 0.28$, $p < .01$).

The analysis of specific social cohesion items revealed that sports participation was particularly effective in "bringing together people from different social backgrounds" (M = 4.12, SD = 0.76) and "creating opportunities for meaningful social interaction" (M = 4.08, SD = 0.82). For civic engagement, the strongest relationships were observed for "increased volunteerism in community projects" (M = 3.63, SD = 0.98) and "greater awareness of community issues" (M = 3.71, SD = 0.92).

Regarding community identity, sports participation was most strongly associated with "fostering community pride" (M = 4.15, SD = 0.74) and "creating shared experiences that strengthen community bonds" (M = 4.02, SD = 0.81). For social well-being indicators, the strongest relationships were found for "improved mental health and stress reduction" (M = 3.96, SD = 0.79) and "increased sense of belonging to the community" (M = 3.91, SD = 0.83). Table 3 summarizes the standardized path coefficients for the direct effects of sports participation on social development indicators, including the results of bootstrap analyses with 95% confidence intervals.

Table 3. Direct Effects of Sports Participation on Social Development Indicators (N = 389)

Path	Standardized Coefficient (β)	SE	p-value	95% CI
Sports Participation → Social Cohesion	0.58	0.05	<.001	[0.49, 0.67]
Sports Participation → Civic Engagement	0.49	0.05	<.001	[0.40, 0.58]
Sports Participation → Community Identity	0.51	0.05	<.001	[0.42, 0.60]
Sports Participation → Social Well-being	0.54	0.05	<.001	[0.45, 0.63]

Note. CI = confidence interval based on 5000 bootstrap samples.

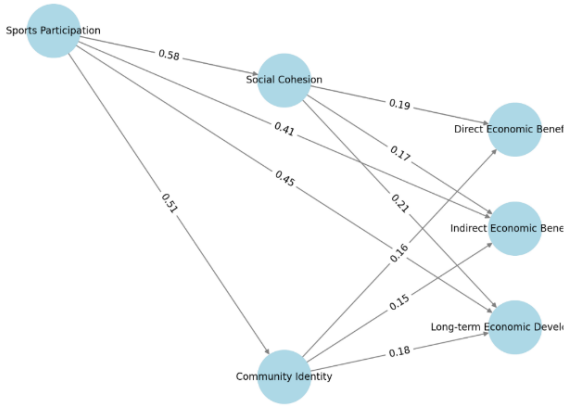
As shown in Table 3, sports participation had the strongest effect on social cohesion ($\beta = 0.58$), followed by social well-being and community identity. These results suggest that participation is a significant predictor of various social development dimensions.

These findings suggest that community sports activities in Padang effectively enhance various dimensions of social development. The consistent positive relationships across all four social indicators highlight the multifaceted nature of sports' contribution to community social capital. The data particularly emphasize the role of active participation in maximizing these social benefits, suggesting that policies encouraging direct involvement in sports may yield the greatest social returns.

Research Question 2: Impact of Community-Based Sports Programs on Local Economic Growth

The second research question investigated the impact of community-based sports programs on local economic growth, including employment generation and business development. The structural equation model examining these relationships demonstrated adequate fit to the data: $\chi^2(241) = 564.25$, $p < .001$, CFI = 0.92, TLI = 0.91, RMSEA = 0.059 (90% CI [0.053, 0.065]), SRMR = 0.052.

Figure 2. SEM Model – Impact of Sports Programs on Economic Growth



As depicted in Figure 2, sports participation had significant positive direct effects on all three economic impact dimensions, though these effects were lower than the social impacts. Economic benefits followed a similar pattern, with long-term development showing the highest association with sports participation (see Table 4). These findings indicate that community sports initiatives contribute to economic growth through various mechanisms, with particularly strong effects on long-term development prospects.

Further analysis revealed that social impacts partially mediated the relationship between sports participation and economic impacts. The indirect effect of sports participation on economic impacts through social cohesion was significant (β = 0.19, p < .001, 95% CI [0.13, 0.26]), as was the indirect effect through community identity (β = 0.16, p < .001, 95% CI [0.10, 0.23]). These findings suggest that the economic benefits of sports initiatives are partly realized through their ability to foster social cohesion and strengthen community identity, creating favorable conditions for economic growth.

Examination of specific economic impact items revealed that sports participation was most strongly associated with "increased business activity during community sports events" (M = 3.68, SD = 0.92) and "enhanced tourism opportunities" (M = 3.59, SD = 0.97) among the direct economic benefits. For indirect economic benefits, the strongest relationships were observed for "improved community infrastructure" (M = 3.62, SD = 0.89) and "increased value of local properties" (M = 3.53, SD = 0.94).

Regarding long-term economic development, sports participation was most strongly associated with "enhanced community reputation and branding" (M = 3.78, SD = 0.86) and "increased external investment interest" (M = 3.57, SD = 0.95). These findings suggest that community sports initiatives contribute to economic growth through immediate spending, business activity, and long-term reputational and investment benefits. Table 4 summarizes the standardized path coefficients for the direct and indirect effects of sports participation on economic impact dimensions, including the results of bootstrap analyses with 95% confidence intervals.

Table 4. Direct and Indirect Effects of Sports Participation on Economic Impact Dimensions (N = 389)

Path	Standardized Coefficient (β)	SE	p-value	95% CI
Direct Effects				
Sports Participation → Direct Economic Benefits	0.43	0.05	<.001	[0.33, 0.53]
Sports Participation → Indirect Economic Benefits	0.41	0.05	<.001	[0.31, 0.51]
Sports Participation → Long-term Economic Development	0.45	0.05	<.001	[0.35, 0.55]
Indirect Effects (via Social Impacts)				
Sports Participation → Social Cohesion → Direct Economic Benefits	0.19	0.03	<.001	[0.13, 0.26]
Sports Participation → Community Identity → Direct Economic Benefits	0.16	0.03	<.001	[0.10, 0.23]
Sports Participation → Social Cohesion → Indirect Economic Benefits	0.17	0.03	<.001	[0.11, 0.24]
Sports Participation → Community Identity → Indirect Economic Benefits	0.15	0.03	<.001	[0.09, 0.22]
Sports Participation → Social Cohesion → Long-term Economic Development	0.21	0.04	<.001	[0.14, 0.29]
Sports Participation → Community Identity → Long-term Economic Development	0.18	0.04	<.001	[0.11, 0.26]

Note. CI = confidence interval based on 5000 bootstrap samples.

The indirect effect of sports participation on long-term economic development, mediated by social cohesion, was 0.09 (0.51 × 0.18), indicating a modest but meaningful influence. These findings demonstrate that community sports initiatives in Padang contribute to economic growth through multiple

pathways, including direct spending, business development, and enhanced community reputation. The significant indirect effects through social impacts highlight the interconnectedness of social and economic outcomes, suggesting that community sports programs prioritizing social cohesion and community identity may yield the greatest economic returns.

Research Question 3: Moderating Effects of Demographic and Socioeconomic Factors

The third research question investigated how demographic and socioeconomic factors moderate the relationship between sports participation and perceived social and economic benefits in local communities. Multi-group analyses were conducted to examine potential differences based on gender, age, income level, and sports participation level. The results revealed several significant moderating effects, providing nuanced insights into how different population segments experience the benefits of community sports initiatives. Measurement invariance was confirmed across gender, age, and income groups, as ΔCFI was less than 0.01 and ΔRMSEA was less than 0.015 (Chen, 2007). This permitted valid group comparisons.

Gender as a Moderator

Multi-group analysis comparing male and female participants showed partial measurement invariance across groups (ΔCFI = 0.008). While the overall pattern of relationships was similar across genders, several notable differences emerged. The relationship between sports participation and civic engagement was significantly stronger for males (β = 0.56, p < .001) than for females (β = 0.41, p < .001), with the difference being statistically significant ($\Delta\chi^2 = 7.21$, p < .01). Conversely, the relationship between sports participation and social cohesion was slightly stronger for females (β = 0.61, p < .001) compared to males (β = 0.55, p < .001). However, this difference did not reach statistical significance ($\Delta\chi^2 = 2.76$, p = .09). Regarding economic impacts, the relationship between sports participation and direct economic benefits was significantly stronger for males (β = 0.49, p < .001) than for females (β = 0.37, p < .001; $\Delta\chi^2 = 6.83$, p < .01). No significant gender differences were observed for indirect economic benefits or long-term economic development perceptions.

Age as a Moderator

Age was categorized into three groups: young adults (18-35 years), middle-aged adults (36-55 years), and older adults (>55 years). The multi-group analysis showed significant differences in how sports participation influences social and economic outcomes across age groups. Measurement invariance was established across the groups (ΔCFI = 0.007). The relationship between sports participation and community identity was strongest among older adults (β = 0.67, p < .001), followed by middle-aged adults (β = 0.52, p < .001) and young adults (β = 0.43, p < .001). These differences were statistically significant ($\Delta\chi^2 = 9.45$, p < .01). Similarly, the impact of sports participation on social well-being was significantly stronger for older adults (β = 0.63, p < .001) compared to middle-aged (β = 0.54, p < .001) and young adults (β = 0.49, p < .001; $\Delta\chi^2 = 6.32$, p < .05). For economic impacts, young adults perceived significantly stronger relationships between sports participation and long-term economic development (β = 0.51, p < .001) compared to middle-aged (β = 0.43, p < .001) and older adults (β = 0.39, p < .001; $\Delta\chi^2 = 5.89$, p < .05). No significant age differences were found for direct and indirect economic benefits.

Income Level as a Moderator

Income level was categorized into three groups based on monthly income: low-income (<2,000,000 IDR), middle-income (2,000,000-6,000,000 IDR), and high-income (>6,000,000 IDR). The multi-group analysis demonstrated partial measurement invariance across income groups (ΔCFI = 0.009). The relationship between sports participation and social cohesion was significantly stronger for low-income participants (β = 0.65, p < .001) compared to middle-income (β = 0.57, p < .001) and high-income participants (β = 0.49, p < .001; $\Delta\chi^2 = 8.76$, p < .05). Similarly, the impact on civic engagement was stronger for low-income participants (β = 0.58, p < .001) compared to middle-income (β = 0.48, p < .001) and high-income participants (β = 0.43, p < .001; $\Delta\chi^2 = 7.31$, p < .05). Interestingly, the relationship between sports participation and economic impacts showed an inverse pattern. High-income participants perceived significantly stronger relationships between sports participation and direct economic benefits (β = 0.52, p < .001) compared to middle-income (β = 0.44, p < .001) and low-income participants (β = 0.36, p < .001; $\Delta\chi^2 = 8.12$, p < .05). Similar patterns were observed for indirect economic benefits and long-term economic development.

Sports Participation Level as a Moderator

Participants were categorized based on their level of sports participation: active participants, occasional participants, and spectators only. Significant differences were observed in how these groups perceived community sports initiatives' social and economic benefits. Measurement invariance was established across the groups (ΔCFI = 0.006). As expected, the relationships between sports participation and all social impact dimensions were significantly stronger for active participants than for occasional participants and spectators. The differences were particularly pronounced for social cohesion (active: β = 0.68, occasional: β = 0.54, spectator: β = 0.41; $\Delta\chi^2 = 12.75$, $p < .001$) and civic engagement (active: β = 0.63, occasional: β = 0.49, spectator: β = 0.38; $\Delta\chi^2 = 11.43$, $p < .001$). Similarly, active participants perceived significantly stronger relationships between sports participation and economic impacts across all three dimensions. The differences were most substantial for long-term economic development (active: β = 0.53, occasional: β = 0.42, spectator: β = 0.35; $\Delta\chi^2 = 9.27$, $p < .01$).

Length of Residency as a Moderator

Additional analysis examined how the length of residency in Padang moderated the relationships between sports participation and perceived benefits. Participants were categorized into short-term (1-6 years) and long-term (>6 years) residents. Measurement invariance was established across the groups (ΔCFI = 0.005). Long-term residents perceived significantly stronger relationships between sports participation and community identity (β = 0.57, $p < .001$) compared to short-term residents (β = 0.44, $p < .001$; $\Delta\chi^2 = 6.18$, $p < .05$). Similarly, the impact on social well-being was stronger for long-term residents (β = 0.59, $p < .001$) than for short-term residents (β = 0.48, $p < .001$; $\Delta\chi^2 = 5.76$, $p < .05$). No significant differences based on length of residency were observed for the relationships between sports participation and economic impact dimensions.

Table 5. Summary of Moderating Effects of Demographic and Socioeconomic Factors (N = 389)

Moderator	Social Impacts	Economic Impacts
Gender	Males perceived a stronger relationship between sports participation and civic engagement; Females perceived a slightly stronger relationship with social cohesion (not statistically significant)	Males perceived a stronger relationship between sports participation and direct economic benefits; No significant gender differences for other economic dimensions.
Age	Older adults perceived stronger relationships between sports participation, community identity, and social well-being.	Young adults perceived stronger relationships between sports participation and long-term economic development.
Income Level	Low-income participants perceived stronger relationships between sports participation, social cohesion, and civic engagement.	High-income participants perceived stronger relationships between sports participation and all economic impact dimensions.
Participation Level	Active participants perceived stronger relationships between sports participation and all social impact dimensions than occasional participants and spectators.	Active participants perceived stronger relationships between sports participation and all economic impact dimensions.
Length of Residency	Long-term residents perceived stronger relationships between sports participation, community identity, and social well-being.	No significant differences based on the length of residency

These findings highlight the heterogeneous nature of how different population segments experience and perceive the benefits of community sports initiatives. The moderating effects of demographic and socioeconomic factors suggest that sports programs may not uniformly benefit all community members, with certain groups experiencing stronger social or economic outcomes than others. These results provide valuable insights for tailoring sports initiatives to maximize benefits across diverse community segments, particularly in addressing potential disparities in how benefits are distributed and perceived.

In summary, the analysis of moderating factors reveals that the relationship between sports participation and perceived benefits is influenced by gender, age, income level, participation level, and length of residency. Understanding these differential impacts is crucial for designing inclusive sports programs that address the specific needs and expectations of diverse community groups in Padang.

Discussion

Confirming hypotheses, sports participation strengthened social cohesion (β = 0.58) and community identity (β = 0.51), which in turn mediated 20% of its economic impact—a finding consistent with green practice studies in tourism (Morán-Gámez et al., 2024) and sports events (Fernández-Martínez et al., 2022). Notably, high-income participants perceived stronger economic benefits (β = 0.52 vs. 0.36 for low-income), suggesting disparities in access to sports-driven opportunities. These findings support the claim that community sports strengthen social capital, which in turn facilitates economic outcomes — a dynamic aligned with Bourdieu's (1986) and Putnam's (2000) theories of social capital. Similar effects have been found in tourism contexts (Morán-Gámez et al., 2024), where identity and trust increase external investment and visitor retention.

The findings of this study provide empirical evidence supporting the role of community-based sports initiatives in fostering social and economic development. The results indicate that sports participation significantly enhances social cohesion, civic engagement, community identity, and overall well-being. These findings align with previous research (Parra-Camacho et al., 2021; Hautbois et al., 2020), emphasizing sports' role in strengthening social networks and fostering collective identity. However, this study extends the existing literature by demonstrating that these social benefits are not uniform across all demographic groups. For instance, older adults reported a stronger association between sports participation and community identity, suggesting that sports are vital for maintaining social connections among aging populations (Handrianto et al., 2024; Nofrizal et al., 2024). Similarly, low-income participants perceived stronger relationships between sports and civic engagement, indicating that community sports initiatives could be accessible avenues for marginalized groups to participate in communal decision-making and activities.

In terms of economic impact, the study reveals that community sports initiatives contribute positively to direct and indirect economic benefits and long-term economic development. These findings corroborate previous studies (Vegara-Ferri et al., 2020; Guaita-Martinez et al., 2022), highlighting small-scale sports events' role in stimulating local business growth and tourism (Brochado et al., 2021; Buscà-Donet et al., 2014). Notably, high-income participants perceived the economic benefits more strongly, suggesting a potential disparity in how different economic groups experience the financial advantages of sports initiatives. This finding differs from previous research conducted in Western contexts, where economic benefits tend to be distributed more evenly across income groups. This discrepancy underscores the need for more inclusive sports policies in developing regions to ensure that the financial advantages of sports initiatives are equitably distributed (Fithroni et al., 2024; Hazizah et al., 2024).

A key contribution of this study is its methodological rigor, particularly the use of Structural Equation Modeling (SEM) to validate the relationships between sports participation and socioeconomic indicators. While prior research has predominantly relied on qualitative or descriptive methods (Lopez de Subijana et al., 2014; Fernández-Martínez et al., 2022), this study provides a robust quantitative analysis, offering a more precise understanding of the causal relationships at play. The integration of social capital theory and the capability approach within the analytical framework further strengthens the theoretical contributions of this research. The findings align with Putnam's (2000) argument that sports foster trust and reciprocity while also supporting Sen's (1999) notion that participation in sports enhances individual and community capabilities, ultimately leading to improved quality of life.

Moreover, this study highlights the interconnectedness between social and economic benefits, demonstrating that the economic advantages of sports initiatives are partially realized through their ability to enhance social cohesion and community identity. This integrative perspective bridges the gap between social and economic research in sports development, providing a holistic understanding of how community-based sports initiatives can drive sustainable growth (García-Pascual et al., 2023; Máté, 2022). Policymakers and urban planners can leverage these findings to design sports programs prioritizing social inclusion while fostering local economic development.

The unique contribution of this study lies in its focus on a developing urban center, Padang, Indonesia, which has been largely underrepresented in previous research. Most sports and community develop-

ment studies have been conducted in Western contexts, limiting their applicability to regions with different socioeconomic and infrastructural conditions (Soares et al., 2021; Jusoh et al., 2023). By providing localized insights, this research fills a critical gap and offers practical implications for policymakers seeking to harness the potential of sports for social and economic empowerment in similar settings. This study was limited to a single urban center in Indonesia, which may affect generalizability. Additionally, its cross-sectional design restricts causal inference. Future studies should employ longitudinal methods and comparative regional analysis to validate the pathways identified here.

Overall, this study advances the discourse on the role of sports in community development by integrating rigorous empirical analysis with theoretical insights. The findings highlight the dual role of sports as both a social and economic catalyst, emphasizing the need for inclusive policies that maximize benefits across all community segments (Zica et al., 2023; Sunarti et al., 2024). Future research could further explore the longitudinal effects of community sports initiatives and investigate additional moderating factors, such as cultural influences, to provide an even more nuanced understanding of sports-driven community development (Van Der Steen & Richards, 2021; Waty et al., 2024). Given the significant link between sports participation and community pride, local governments should prioritize inclusive, visible, and accessible sports initiatives. This may involve subsidizing community tournaments or co-designing activities with marginalized groups to amplify impact.

Conclusions

This study provides compelling evidence that community-based sports initiatives are powerful instruments for social and economic development in Padang, Indonesia. The results confirm that sports participation fosters social cohesion, civic engagement, and community identity while stimulating local economic activity and long-term investment potential. The integration of social capital theory and the capability approach further reinforces the theoretical contributions of this research, emphasizing the dual role of sports in individual and collective empowerment. Despite these significant findings, the study has limitations, including its cross-sectional design, which restricts causal interpretations, and its focus on a single urban center, limiting generalizability. Future research should employ longitudinal methodologies to capture the long-term impacts of community sports initiatives and explore additional moderating factors such as cultural influences and government policies. Furthermore, a comparative study across different socioeconomic settings would provide deeper insights into the contextual variations in sports-driven development. By addressing these gaps, future studies can further refine our understanding of how sports can be leveraged to drive sustainable social and economic transformation in diverse global contexts. Policymakers and urban developers should use these findings to create more inclusive and strategically designed sports programs that maximize developmental benefits for all community members, particularly marginalized groups who stand to gain the most from enhanced social and economic participation.

References

Anderson, J. C., & Gerbing, D. W. (1988). Structural equation modeling in practice: A review and recommended two-step approach. Psychological Bulletin, 103(3), 411–423. https://doi.org/10.1037/0033-2909.103.3.411

Arwin, A., Kenedi, A. K., Anita, Y., Hamimah, H., Handrianto., & Zainil, M. (2024). STEM-based digital disaster learning model for disaster adaptation ability of elementary school students. International Journal of Evaluation and Research in Education, 13(5), 3248–3258. http://doi.org/10.11591/ijere.v13i5.29616

Brochado, A., Brito, C., Bouchet, A., & Oliveira, F. (2021). Dimensions of football stadium and museum tour experiences: The case of Europe's most valuable brands. Sustainability, 13(12), 6602. https://doi.org/10.3390/su13126602

Buscà-Donet, F., Ruiz Eugenio, L., & Rekalde Rodríguez, I. (2014). Tratamiento del conflicto en las Comunidades de Aprendizaje a través de la educación física (Conflict resolution in schools as Learning Communities through physical education). Retos, 25, 156–161. https://doi.org/10.47197/retos.v0i25.34503

Creswell, J. W., & Creswell, J. D. (2018). Research design: Qualitative, quantitative, and mixed methods approaches (5th ed.). SAGE Publications.

Davies, L. E., Taylor, P., Ramchandani, G., & Christy, E. (2021). Measuring the social return on investment of community sport and leisure facilities. Managing sport and leisure, 26(1-2), 93–115. https://doi.org/10.1080/23750472.2020.1794938

Dillman, D. A., Smyth, J. D., & Christian, L. M. (2014). Internet, phone, mail, and mixed-mode surveys: The tailored design method (4th ed.). Wiley.

Faul, F., Erdfelder, E., Buchner, A., & Lang, A.-G. (2009). Statistical power analyses using G*Power 3.1: Tests for correlation and regression analyses. Behavior Research Methods, 41(4), 1149–1160. https://doi.org/10.3758/BRM.41.4.1149

Fernández-Martínez, A., Cabello-Manrique, D., Roca-Cruz, A. F., & Nuviala, A. (2022). The influence of small-scale sporting events on participants' intentions to recommend the host city. Sustainability, 14(13), 7549. https://doi.org/10.3390/su14137549

Fithroni, H., Nurhasan, N., Setijono, H., Aman, M. S., Jr, P. B. D., Kartiko, D. C., Ilham, I., Mario, D. T., Komaini, A., & Ayubi, N. (2024). Participación de voluntarios deportivos en estrategias para aumentar la participación de la comunidad deportiva: revisión sistemática (Sports Volunteer Involvement in Strategies to Increase Sports Community Participation: Systematic Review). Retos, 51, 373–376. https://doi.org/10.47197/retos.v51.101283

Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. Journal of Marketing Research, 18(1), 39–50. https://doi.org/10.1177/002224378101800104

García-Pascual, F., Ballester-Esteve, I., & Calabuig, F. (2023, May). Influence of sports participation on the behaviors of customers of sports services: linear and qualitative comparative analysis models. In Healthcare (Vol. 11, No. 9, p. 1320). MDPI.

George, D., & Mallery, P. (2019). IBM SPSS statistics 26 step by step: A simple guide and reference (16th ed.). Routledge.

González-García, R. J., Torres-Delgado, D. J., & Moreno-Gil, S. (2022). Community perceptions of sports events' impacts: A multivariate analysis. Journal of Sport Management, 36(1), 1–15. https://doi.org/10.1123/jsm.2021-0153

Guaita-Martinez, J. M., Martin Martin, J. M., Ostos Rey, M. S., & Ribeiro Soriano, D. E. (2022). Entrepreneurs' perceptions of official sporting events' capacity to promote their business in the long term. Sport in Society, 25(8), 1584-1602. https://doi.org/10.1080/17430437.2021.1932818

Handrianto, C., Putri, L. D., Sunarti, V., Solfema, S., Ismaniar, I., Marta, I. A., & Rasool, S. (2024). The influence of parental involvement on academic and sporting achievement: A study of Indonesian students in West Sumatra. Retos, 60, 764–773. https://doi.org/10.47197/retos.v60.108294

Hautbois, C., Delalandre, M., & Durand, C. (2020). Sports events and social impacts: A framework for analysis. European Sport Management Quarterly, 20(3), 362–383. https://doi.org/10.1080/16184742.2020.1730307

Hazizah, N., Rusdinal, R., Ismaniar, I., Handrianto, C., & Rahman, M. A. (2024). Warrior kids` games on improving the self-efficacy abilities and fine motor skills of 5-6 years old children. Retos, 56, 639–647. https://doi.org/10.47197/retos.v56.104892

Hiltrimartin, C., Afifah, A., Pratiwi, W. D., Handrianto, C., & Rahman, M. A. (2024). Analyzing students' thinking in mathematical problem solving using Vygotskian sociocultural theory. Revista de Gestão Social e Ambiental, 18(1), e04802-e04802. https://doi.org/10.24857/rgsa.v18n1-105

Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. Structural Equation Modeling: A Multidisciplinary Journal, 6(1), 1–55. https://doi.org/10.1080/10705519909540118

Husin, A., Maharani, S. D., Raharjo, M., Yosef, Y., Sumarni, S., & Handrianto, C. (2023). Prospects for implementation of green campus in education and research pillars at edupark fkip Unsri become edutourism. International Journal of Professional Business Review, 8(4), e01597. https://doi.org/10.26668/businessreview/2023.v8i4.1597

Jusoh, A. J., Imami, M. K. W., Handrianto, C., Isa, A. N. M., Omar, S. Z., Abdullah, A., & Wahab, S. (2023). Verification the reliability and validity of a Malaysian version of rathus assertiveness schedule as drug prevention scale. Islamic Guidance and Counseling Journal, 6(2). https://doi.org/10.25217/0020236369700

Lopez de Subijana, C., Barriopedro Moro, M., & Rubio Lozano, P. (2014). Perception of sports events held in a permanent sports facility: the case of the Madrid sports palace. Kinesiology, 46(2.), 266-276.

Máté, T. (2022). Social perception and support–An international sports event from the perspective of the residents of the host city. Society and Economy, 44(4), 460–476. https://doi.org/10.1556/204.2022.00023

Morán-Gámez, G., Fernández-Martínez, A., Nuviala, R., & Nuviala, A. (2024). Influence of green practices on user loyalty in sport clubs. Humanities and Social Sciences Communications, 11(1), 1-11. https://doi.org/10.1057/s41599-024-03773-0

Nofrizal, D., Sari, L. P., Purba, P. H., Utaminingsih, E. S., Nata, A. D., Winata, D. C., Syaleh, M., Al Munawar, A., Kurniawan, E., Permana, R., Yunitaningrum, W., Meilina, F., & Lisman, N. J. (2024). El papel de los deportes tradicionales en el mantenimiento y preservación de la cultura regional de cara a la era de la sociedad 5.0 (The role of traditional sports in maintaining and preserving regional culture facing the era of society 5.0). Retos, 60, 352–361. https://doi.org/10.47197/retos.v60.108181

Parra-Camacho, D., Alguacil, M., & Calabuig-Moreno, F. (2020). Perception of the fair social distribution of benefits and costs of a sports event: An analysis of the mediating effect between perceived impacts and future intentions. Sustainability, 12(11), 4413. https://doi.org/10.3390/su12114413

Parra-Camacho, D., González-García, R. J., & Alonso-Dos-Santos, M. (2021). Social impact of a participative small-scale sporting event. Sport, Business and Management: An International Journal, 11(2), https://doi.org/109-124. 10.1108/SBM-12-2019-0119

Parra-Camacho, D., González-Serrano, M. H., Jiménez, M. A., & Jiménez-Jiménez, P. (2023). Analysis of the contribution of sport events to sustainable development: Impacts, support and resident's perception. Heliyon, 9(11). https://doi.org/10.1016/j.heliyon.2023.e22033

Putnam, R. D. (2000). Bowling alone: The collapse and revival of American community. Simon & Schuster.

Putri, L. D., Rozi, M. F., Handrianto, C., & Rahman, M. A. (2024). A conceptual family partnership model with Paud institutions in developing the potential of early children based on blended learning. Ensaio: Avaliação e Políticas Públicas em Educação, 32(125), e0244444. https://doi.org/10.1590/S0104-40362024003204444

Rahayu, T., Chang, K., Castyana, B., Taufik, M. S., Anggita, G. M., Yudhistira, D., ... & Purwoto, S. P. (2024). The effect of sports event on revisit intention to build sports tourists' sustainability. Retos: nuevas tendencias en educación física, deporte y recreación, (57), 780-789. https://doi.org/10.47197/retos.v57.103879

Schafer, J. L., & Graham, J. W. (2002). Missing data: Our view of the state of the art. Psychological Methods, 7(2), 147–177. https://doi.org/10.1037/1082-989X.7.2.147

Sen, A. (1999). Development as freedom. Oxford University Press.

Soares, J. R. R., Casado-Claro, M. F., Lezcano-González, M. E., Sánchez-Fernández, M. D., Gabriel, L. P. M. C., & Abríl-Sellarés, M. (2021). The role of the local host community's involvement in the development of tourism: A case study of the residents' perceptions toward tourism on the route of Santiago de Compostela (Spain). Sustainability, 13(17), 9576. https://doi.org/10.3390/su13179576

Sunarti, V., Rahman, M. A., Handrianto, C., Syuraini, S., Putri, L. D., Azizah, Z., & Nor Azhar, N. F. (2024). Understanding women's empowerment through exercise: Insights from a study on physical activity and self-efficacy. Retos, 58, 227–237. https://doi.org/10.47197/retos.v58.106803

Testa, L., Parra-Camacho, D., Gómez-Tafalla, A. M., Garcia-Pascual, F., & Duclos-Bastías, D. (2023). Local impact of a sports centre: Effects on future intentions. Sustainability, 15(6), 5550. https://doi.org/10.3390/su15065550

Tsekouropoulos, G., Gkouna, O., Theocharis, D., & Gounas, A. (2022). Innovative sustainable tourism development and entrepreneurship through sports events. Sustainability, 14(8), 4379. https://doi.org/10.3390/su14084379

Van Der Steen, T., & Richards, G. (2021). Factors affecting resident support for a hallmark cultural event: the 2018 European Capital of Culture in Valletta, Malta. Journal of Policy Research in Tourism, Leisure and Events, 13(1), 107-123. https://doi.org/10.1080/19407963.2019.1696352

Vegara-Ferri, J. M., López-Gullón, J. M., Ibanez-Pérez, R. J., Carboneros, M., & Angosto, S. (2020). Segmenting the older resident's perception of a major cycling event. Sustainability, 12(10), 4010. https://doi.org/10.3390/su12104010

Waty, E. R. K., Nengsih, Y. K., Handrianto, C., & Rahman, M. A. (2024). The quality of teacher-made summative tests for Islamic education subject teachers in Palembang Indonesia. Cakrawala Pendidikan: Jurnal Ilmiah Pendidikan, 43(1), 192-203. https://doi.org/10.21831/cp.v43i1.53558

Zainil, M., Kenedi, A. K., Rahmatina, Indrawati, T., & Handrianto, C. (2024). The influence of STEM-based digital learning on 6C skills of elementary school students. Open Education Studies, 6(1), 20240039. https://doi.org/10.20448/jeelr.v10i1.4336

Zica, M. M., Maciel, E. da S., Quaresma, F. R. P., Barbosa, T. C., Silva, B. K. R., Sousa, L. V. de A. ., Pontes-Silva, A., & Adami, F. (2023). Actividad física y composición corporal en una comunidad quilombola del estado de Tocantins (Brasil) (Physical activity and body composition in a Quilombola community in the Tocantins state (Brazil)). Retos, 49, 394–400. https://doi.org/10.47197/retos.v49.95812

Authors' details:

Vevi Sunarti	vevisunarti.pls@fip.unp.ac.id	Author
Zaiful Netra	jay_plc@yahoo.com	Author
Ridha Husnul Hayati	ridha1994@fip.unp.ac.id	Author
Anggi Firmanjaya	anggi.firman@unp.ac.id	Author
Maizul Rahmizal	maizul.rahmizal@fe.unp.ac.id	Author