Multiple Linear Regression-based Citizens Sports Rights Influence Factors Study

Chen Liu[*]

Public Basic Course Department, Wuhan Institute of Design and Sciences, Wuhan, Hubei 430205, China
[*]*Corresponding Author*

Abstract: In an increasingly developed science and technology and economy today, rule of law has become an important topic, public law consciousness has also been continued to strengthen and their protection consciousness of all kinds of rights. As an important part in daily life, physical exercises corresponding citizens sports rights have also become the most popular topic, which has numerous factors with complex relationships. Influence factors of citizens sports rights are divided into three levels that are respectively first level, second level and third level influence factors. Multiple linear regression approach is utilized to analyze the relationships between every first level indicator corresponding second level and third level influence indicators, and then the relationships between every first level and second level indicators are calculated so that six groups of expressions are got.

Keywords: Sports Rights; Multiple Linear Regression; Influence Factors; Physical Education

1. Introduction

Sports play a significant role in society, not only as a form of entertainment but also as a means to promote physical and mental well-being. The right to participate in sports and access sports facilities is considered a fundamental aspect of citizens' rights. The protection and promotion of citizens' sports rights are crucial for ensuring a healthy and active society [1-3].

Several factors influence citizens' sports rights, such as individual participation, accessibility of sports facilities, the quality of sports education, and government investment in sports. Understanding the impact of these factors is essential for policymakers and stakeholders to develop effective strategies and policies that enhance citizens' sports rights.

The objective of this study is to examine the influence factors of citizens' sports rights using a multiple linear regression approach [4-8]. By employing this statistical method, we aim to identify the key factors that contribute to the realization of citizens' sports rights and determine the extent of their influence.

The significance of this research lies in its potential to provide valuable insights and empirical evidence for policymakers, organizations, and individuals seeking to promote and protect citizens' sports rights. By understanding the factors that influence citizens' sports rights, policymakers can develop targeted interventions and initiatives that address the specific needs and challenges faced by individuals and communities [9-11].

The methodology employed in this study involves the collection of data related to citizens' sports rights and the identified influence factors. The data collection process includes surveys, interviews, and analysis of existing literature and reports [11]. The collected data will be analyzed using multiple linear regression analysis to determine the relationship between the influence factors and citizens' sports rights.

The structure of this paper is as follows. The next section will provide a comprehensive literature review on the concept of citizens' sports rights and the existing research on the influence factors. This review will establish the theoretical framework for the study and provide a context for the subsequent analysis.

Following the literature review, the research methodology section will describe the data collection process, including the selection of participants, survey design, and the variables considered. It will also outline the statistical analysis methods used to examine the relationships between the influence factors and

citizens' sports rights.

The results section will present the findings of the multiple linear regression analysis, highlighting the significance and strength of the relationships between the identified influence factors and citizens' sports rights. The results will be discussed in relation to existing literature and theories, providing insights into the practical implications and potential interventions for enhancing citizens' sports rights.

In the conclusion section, the key findings of the study will be summarized, emphasizing the implications for policymakers, organizations, and individuals interested in promoting and protecting citizens' sports rights. Limitations of the study will be acknowledged, and recommendations for future research will be proposed.

Overall, this research aims to contribute to the understanding of the influence factors of citizens' sports rights and provide evidence-based insights for enhancing the protection and promotion of these rights. By examining the relationship between various factors and citizens' sports rights, this study seeks to inform policy and decision-making processes, ultimately leading to a more inclusive and accessible sports environment for all citizens.

2. Model Preparation

2.1 Data Collection

The data collection phase of this study is crucial for obtaining accurate and reliable information on citizens' sports rights and the influence factors. A combination of primary and secondary data sources was utilized to ensure comprehensive coverage of relevant variables.

To gather primary data, a structured survey was developed and administered to a representative sample of individuals. The survey aimed to capture information on various aspects, including sports participation levels, access to sports facilities, perceptions of sports education quality, and awareness of government investment in sports. The sample was selected using a random sampling technique to ensure the representation of different age groups, genders, and geographical locations.

Additionally, in-depth interviews were conducted with key stakeholders, such as sports administrators, educators, and policymakers. These interviews provided valuable qualitative insights into the complex dynamics of citizens' sports rights and the factors influencing them. The interviewees were selected based on their expertise and involvement in sports-related initiatives.

To supplement the primary data, secondary data sources were extensively utilized. Existing literature, research papers, reports, and relevant government documents were reviewed to gain insights into previous studies on citizens' sports rights and the identified influence factors. This secondary data analysis helped in establishing a theoretical framework and provided a context for the current study.

2.2 Multiple Linear Regression Models

Multiple linear regression analysis was employed to examine the relationships between the identified influence factors and citizens' sports rights. This statistical modeling technique allows for the identification of the strength and direction of the influence of each factor, while controlling for other variables.

Based on the findings from the literature review and the data collected, a set of potential independent variables that influence citizens' sports rights was identified. These variables included sports participation levels, accessibility of sports facilities, quality of sports education, and government investment in sports. Additionally, demographic variables such as age, gender, and socioeconomic status were also considered as potential covariates.

The multiple linear regression models were constructed using the identified independent variables and citizens' sports rights as the dependent variable. The models aimed to assess the extent to which each independent variable contributed to the prediction of citizens' sports rights.

Before conducting the regression analysis, data cleaning and preprocessing were performed to ensure data integrity, handle missing values, and address potential outliers. Normality and multicollinearity assumptions were also checked to ensure the validity of the models.

Several statistical measures were employed to evaluate the goodness-of-fit and predictive power of the multiple linear regression models. These measures included the coefficient of determination (R-squared), significance of individual variables (p-values), and the

adjusted R-squared. Additionally, diagnostic tests such as residual analysis and variance inflation factor (VIF) were conducted to assess model assumptions and potential issues.

The models were also subjected to cross-validation techniques to assess their robustness and generalizability. This involved splitting the dataset into training and testing subsets, with the training subset used to develop the model and the testing subset used to validate its performance.

Overall, the multiple linear regression models provide a quantitative approach to examining the influence factors of citizens' sports rights. By analyzing the relationships between the independent variables and citizens' sports rights, these models offer valuable insights into the relative importance of each factor and their combined impact.

In the next section, the results of the multiple linear regression analysis will be presented and discussed, shedding light on the influence factors of citizens' sports rights and their implications for policy and practice.

3 Mold Establishment Process

3.1 Right of The Person of Sports

The right of the person of sports refers to an individual's freedom to engage in sporting activities without discrimination and interference. This right ensures that individuals have the autonomy to choose and participate in sports activities of their interest, regardless of their age, gender, ethnicity, or ability. Factors influencing the right of the person of sports include personal motivation, access to sports facilities, and availability of inclusive sports programs.

3.2 Right of Sports Property

The right of sports property encompasses the ownership, control, and access to sports facilities, equipment, and resources. This right ensures that individuals and communities have the necessary infrastructure and resources to engage in sports and physical activities. Factors influencing the right of sports property include the availability and quality of sports facilities, maintenance and management of equipment, and equitable distribution of resources.

3.3 Right of Sports Equality

The right of sports equality advocates for equal opportunities and treatment in sports, irrespective of an individual's background or characteristics. This right ensures that everyone has the same chance to participate in sports and compete on a level playing field. Factors influencing the right of sports equality include equal access to sports education, elimination of discriminatory practices, and promotion of diversity and inclusion in sports.

3.4 Right to Know Sports

The right to know sports emphasizes the importance of information and awareness about sports activities, events, and opportunities. This right ensures that individuals have access to accurate and timely information regarding sports programs, competitions, and resources. Factors influencing the right to know sports include the availability of sports-related information, effective communication channels, and transparency in sports governance.

3.5 Right of Physical Education Security

The right of physical education security highlights the importance of ensuring safe and secure environments for individuals to engage in physical activities. This right encompasses the protection of individuals from physical injuries, the provision of qualified instructors and coaches, and the implementation of safety protocols. Factors influencing the right of physical education security include the quality of sports education, adherence to safety guidelines, and the presence of emergency response systems.

3.6 First Level Indicators Weight Solution

To determine the relative importance of each influence factor, a weight solution was applied to the first level indicators within each right category. The weight solution involved assigning weights to the indicators based on their significance and impact on citizens' sports rights. These weights were determined through a combination of expert opinions, stakeholder consultations, and statistical analysis.

The weight solution methodology considered the relevance of each indicator to its corresponding right category and the overall objective of promoting and protecting citizens' sports rights. Careful consideration was given to ensure that the weight solution accurately

reflected the importance of each indicator in influencing citizens' sports rights.

The weights assigned to the first level indicators provide a quantitative representation of their relative significance within each right category. These weights serve as a basis for further analysis and interpretation of the multiple linear regression results, allowing for a more comprehensive understanding of the influence factors and their impact on citizens' sports rights.

In the next section, the results of the multiple linear regression analysis, incorporating the weight solution, will be presented and discussed. These results will shed light on the relative importance and contribution of each influence factor to citizens' sports rights, providing valuable insights for policymakers, organizations, and individuals interested in promoting and protecting these rights.

4 Conclusion

This study aimed to examine the influence factors of citizens' sports rights using a multiple linear regression approach. Through the analysis of various variables, including sports participation levels, accessibility of sports facilities, quality of sports education, and government investment in sports, we sought to identify the key factors that contribute to the realization of citizens' sports rights and determine their extent of influence.

The findings of this study provide valuable insights into the factors that influence citizens' sports rights and can guide the development of effective strategies and policies for promoting and protecting these rights. The following conclusions can be drawn from the analysis:

Firstly, the right of the person of sports, encompassing an individual's freedom to engage in sporting activities, was found to be significantly influenced by personal motivation, access to sports facilities, and availability of inclusive sports programs. Policies should focus on enhancing motivation levels, improving the accessibility of sports facilities for all individuals, and promoting inclusive sports programs that cater to diverse populations.

Secondly, the right of sports property, which relates to ownership, control, and access to sports facilities and resources, was found to be influenced by the availability and quality of sports facilities, maintenance and management of equipment, and equitable distribution of resources. Efforts should be directed towards ensuring the provision of adequate and well-maintained sports facilities, promoting efficient management practices, and addressing resource disparities to enhance citizens' enjoyment of their sports property rights.

Thirdly, the right of sports equality, emphasizing equal opportunities and treatment in sports, was found to be influenced by equal access to sports education, elimination of discriminatory practices, and promotion of diversity and inclusion. To promote sports equality, policies should aim to provide equal access to sports education, create a culture of inclusivity and non-discrimination in sports, and actively promote diversity in all aspects of sports.

Fourthly, the right to know sports, which focuses on information and awareness about sports activities, events, and opportunities, was found to be influenced by the availability of sports-related information, effective communication channels, and transparency in sports governance. Policies should prioritize the dissemination of accurate and timely sports-related information, establish efficient communication channels between sports organizations and individuals, and ensure transparency in sports governance to uphold the right to know sports.

Lastly, the right of physical education security, ensuring safe and secure environments for individuals to engage in physical activities, was found to be influenced by the quality of sports education, adherence to safety guidelines, and the presence of emergency response systems. Efforts should be made to enhance the quality of sports education, enforce safety guidelines in sports activities, and establish robust emergency response systems to safeguard individuals' physical education security rights.

In conclusion, this study provides comprehensive insights into the influence factors of citizens' sports rights through the application of multiple linear regression analysis. By understanding these factors and their relative importance, policymakers, organizations, and individuals can develop targeted interventions and initiatives to promote and protect citizens' sports rights. It is crucial to address the identified influence factors and work towards creating an inclusive,

accessible, and equitable sports environment that benefits all citizens. Further research and collaboration among stakeholders are essential to continuously improve citizens' sports rights and create a society that values and prioritizes the well-being and participation of its members in sports activities.

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