THE COMPREHENSIVE APPLICATION OF THE LAWN ECOLOGY OF THE FOOTBALL FIELD IN ENHANCING THE INTENTION OF SPORTS CONSUMPTION

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ABSTRACT

With the continuous progress and development of society and the outstanding achievements of football in the field of competitive sports in recent years, the enthusiasm of citizens to participate in sports and fitness has become higher and higher. The course turf ecology is a multi-layered organic whole composed of many natural and social factors, which is an important symbol of football competitiveness. It can be predicted that the relationship between sports and the environment and the impact of environmental changes on consumer intentions are global and long-term. Therefore, according to the annual change status and formation factors of ecological benefits such as carbon sequestration and oxygen release, transpiration water release, and heat absorption in the turf of a football field in a city, the time series stability test method and the multiple regression analysis method are used to discuss the comprehensive application of the lawn ecology of the football field in enhancing the intention of sports consumption. The experimental results verify that the ecological benefits of lawns have a significant positive effect on sports consumption intentions, which can not only optimize the unreasonable sports consumption structure, improve the level of sports consumption, and increase the proportion of consumption amount of more than 5,000 yuan from 5.06% to 23.34%, but also make the leading sports consumption motivation from a more symbolic display of personality, status symbols, and social entertainment to a sportsmanlike physique, entertainment, spiritual enjoyment, and positive guidance of sports consumption motivation.

KEYWORDS

INDEX

1.   INTRODUCTION

China's economy and society continue to lead through new consumption, emphasizing the in-depth excavation of sports consumption potential, promoting the development of the fitness and leisure industry, accelerating the transformation and upgrading of residents' consumption structure and industrial structure, and laying a good policy foundation for the transformation and upgrading of the sports industry [1-3]. With the continuous strengthening of residents' awareness of sports consumption, the vitality of the sports consumption market has been stimulated, sports fitness and leisure activities, sports venues and facilities management, physical education and training and other sports service industries have rapidly developed into the core links of the sports industry, the development and growth of the sports service industry, continuously meet the needs of residents for sports and fitness, and accelerate the transformation and upgrading of the sports consumption structure [4-8].

The report of the Nineteenth National Congress pointed out that it is necessary to continuously promote green development, strengthen environmental governance, increase the protection of ecosystems, seek a dynamic balance between environmental benefits, economic benefits, and social benefits, promote high-quality economic development with a high level of ecological environment, accelerate the formation of new formats, and promote consumption transformation [9-11]. As an important part of economic consumption, sports consumption is an important booster for promoting the optimization of consumption structure [12]. Therefore, it is of great significance to clarify the impact of the ecological environment on the upgrading of sports consumption [13].

The awareness of sports consumption among urban and rural residents has been continuously strengthened, sports consumption behavior has gradually developed, and the sports consumption structure has begun to be optimized and upgraded, continuously promoting the development and growth of the sports industry [14-15]. Sports consumption belongs to a higher level of demand, and only after meeting physiological, safety, and other needs will people consume sports to meet the needs of self-realization [16]. In essence, the upgrading of the sports consumption structure is mainly reflected in the transformation from physical consumption to participatory and ornamental consumption, and through the pursuit of high-quality sports products and services, driving the rise of high-end sports consumption brands [17-23]. From the perspective of macro, mesoscopic, and microscopic, the upgrading of sports consumption structure includes the optimization of the sports market structure, the adaptation of the supply structure and demand structure of the sports industry, and the improvement of the supply level of enterprise services and products [24].

There are few studies at home and abroad on the influencing factors of improving sports consumption intentions, and most of the studies are analyzed from the perspective of sports consumption behavior. For example, the literature [25] aims to analyze the characteristics of consumer behavior, as well as the relationship between purchase motivation, perceived risk, and behavioral intention, and after statistical

analysis, it is found that sneakers are the main products purchased by consumers online. There are no differences between genders in purchase motivation, perceived risk, and behavioral intent. Consumers of different ages have different motivations to buy and perceive risks. Consumers' purchase motivation and perceived risk have a predictive effect on behavioral intentions. The literature [26] in the study directly verified that the income level of residents has a significant impact on residents' sports consumption decisions. Literature [27] uses the literature survey method, descriptive statistics method, spatial Darwinian model Moran discrete graph, and Lisa cluster graph to summarize the correlation and influence mechanism between real estate price and the improvement of residents' sports consumption, and studies the influence of real estate price on the growth of residents' sports consumption from a macro perspective. Literature [28] analyzing the current situation of mass fitness sports consumption in Jiangxi province, introducing the extended linear expenditure system, from the perspective of consumer demand, the new growth point of sports consumption in Jiangxi province, and puts forward proposals for the development of sports consumption of, increase public choice of sports consumption, provide reference for promoting diversified sports consumption in Jiangxi province. Literature [29], using an independent sample t-test and variance, the sports consumption motivation of college students was analyzed, and the score of the sports consumption motivation scale showed that the consumption demand caused by the phenomenon of motivation and motivation played a positive role in the sports consumption motivation behavior that met the requirements of individual socialization, self-proof and self-acceptance. From the existing research, it can be found that the improvement of sports consumption intentions mainly depends on the transformation of residents' sports consumption behavior, that is, from frequent purchase of sports clothing and supplies to frequent viewing of sports competitions, participation in sports skills training and other service-oriented consumption, while the influencing factors of the change in consumer behavior mainly include the level of economic development, the level of development of urban sports facilities and events, and the awareness of sports participation [30], and the existing research is less involved in the study of the impact of the level of ecological environment development on sports consumption behavior.

People call the football field "green field", the lawn is the key to the design of the entire sports field, the basis of operation, but also the core of the football project. The ecological situation of natural turf is not only related to the performance of athletes and the display of competition level but also related to the consumption intention of the entire sports field. Therefore, based on the improvement and upgrading of sports consumption intentions, adhere to the concept of green development, from the perspective of football fields, explore the impact of lawn ecological level on the improvement and transformation of sports consumption intentions, and pass. The time series stability test method and the multiple regression analysis method are verified, to actively implement the concept of ecological civilization construction, continue to deepen the construction of the ecological environment system, pay attention to the

coordinated development of ecology and sports consumption, and truly realize the transformation and upgrading of sports consumption intentions.
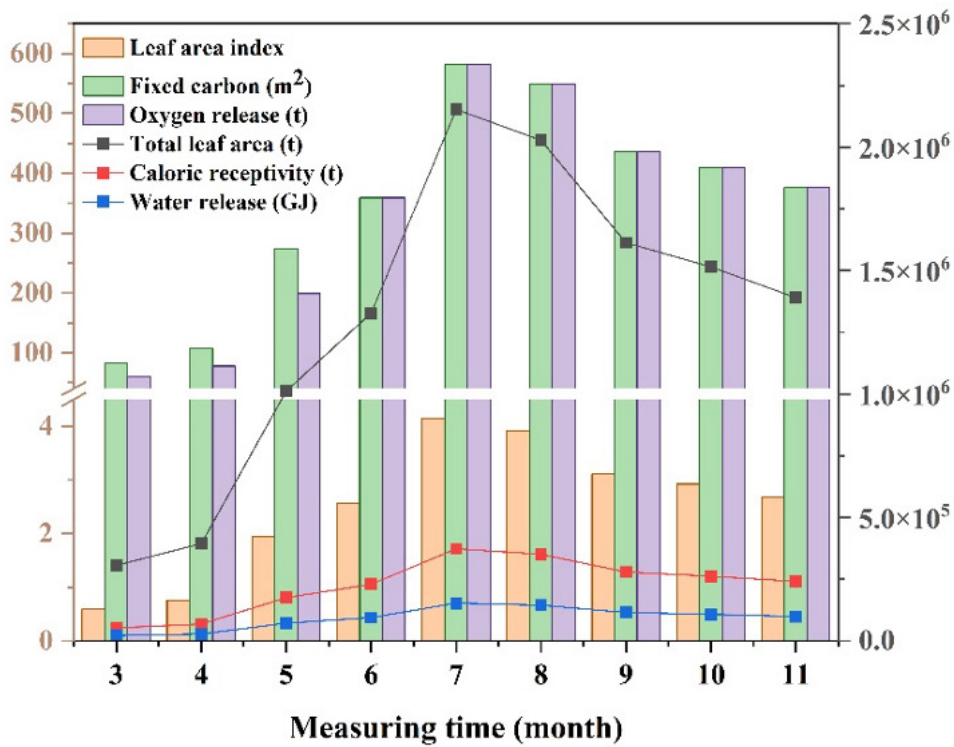
2. THE CURRENT SITUATION OF THE ECOLOGICAL BENEFITS OF THE LAWN OF THE FOOTBALL FIELD

A soccer field covering an area of about 7,500 square meters was selected as the research object, and the green grass species of the course was grassland early maturing grass [31], the soil was mainly brown soil and brown soil, the thickness is unknown, and the sprinkler irrigation conditions are good. According to the terrain and vegetation growth status, the sample collection area was in the area with a rich vegetation community, the lawn grass grew well, and the sunshine was sufficient. The current status of lawn ecological benefits is shown in Figure 1. According to Figure 1 (a), the daily carbon sequestration, transpiration release, and heat absorption per unit area of grassland precocious grass are multiplied by the total leaf area and the number of days of the grassland early maturing grass in the same month, and the cumulative value of 9 months is obtained: the annual carbon dioxide absorption is 3516.13t, the annual oxygen release is 2646.84t, the annual transpiration discharge is 902434.63t, and the annual transpiration heat absorption is 1975642.16GJ. This is shown in Figure 1(b). According to the statistical analysis of the annual oxygen sequestration capacity and transpiration heat absorption capacity of the football field's turf in Figure 1(b), the quantitative data on the ecological benefits of improving the surrounding environment can be calculated, to make the following quantitative evaluation of its ecological benefits.

According to the statistics, it is estimated that each person consumes about 1506.43g of oxygen per day, and according to the oxygen release carbon sequestration of the grass of the target football field of precocious grass 13.43g/m2, it can be calculated that the turf in the stadium is about 100 square meters, which can meet the oxygen consumption of an adult for a day, including gas and breathing. The heat absorption and cooling benefit of the lawn, such as compared with the air conditioner with a power of 1 kilowatt (calculated by 100% of the refrigeration efficiency), the daily heat absorption of the 1m2 grass precocious grass is 12.16MJ, which is equivalent to the air conditioner working for nearly 3 hours, it shows that the grass of the football field has a very obvious heat absorption and cooling benefit to the surrounding environment.
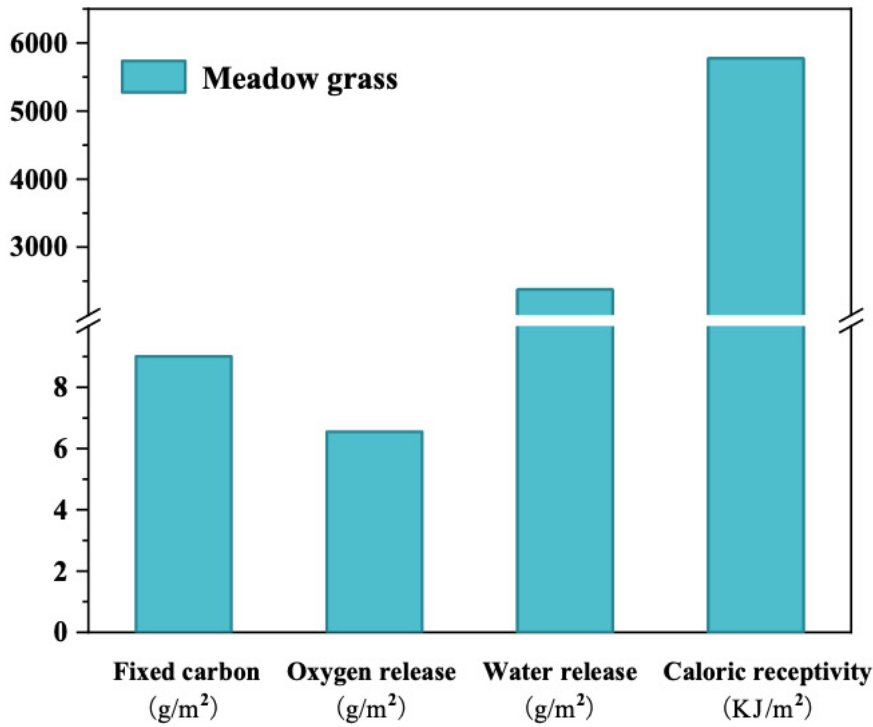
(a) daily ecological benefits per unit area

(b) annual ecological benefits

Figure 1. schematic diagram of the ecological benefits of the turf in the study area

In summary, the evaluation of the ecological benefits of the turf green space of the studied football field is mainly divided into the following aspects:

1. Lawn green space dust retention benefits: plant leaves themselves have a strong ability to hold dust, which is due to their surface characteristics and their wetness. When the airflow containing sand dust passes through the lawn, some of the dust with larger particles will fall on the surface or surface of the plant due to leaf obstruction. Since trees can adsorb and filter dust, the dust in the air is greatly reduced, which also reduces the bacterial content in the air that comes with it. Lawn can be used as a natural "vacuum cleaner", which can continuously filter the dust in the air through acceptance, adsorption, and other effects. The pitch's turf has a daily dust stagnant of 8.11g per square meter. The stadium lawn is also one of the best tools to reduce dust and dust in the air. Large areas of turf grass can absorb dust around itself through the fluff on its leaf surface, or the secretion of grease, etc., to prevent it from flying into the air again. These green plants have been baptized by nature and their recuperation, which can circulate and purify the air and block dust. The dust content over the football field is about 73% lower than that of the lime football field without a paved lawn.

2. Bactericidal effect of lawn and green space: lawn can absorb gases harmful to the human body, and has different degrees of killing and inhibiting of pathogenic microorganisms such as bacteria that live in the air. The green turf environment in the stadium is large, this turf grass can purify the air, can absorb harmful gases in the atmosphere, such as carbon dioxide, sulfur dioxide, ammonia chloride, ammonia, chlorine, and so on. Lawn grass can combine ammonia and ammonia sulfide into proteins. It can oxidize toxic nitrites into useful salts, and the bacteria levels above lawns were only a third of those in public spaces.

3. Lawn green space to reduce noise: the stem and leaf surface of lawn grass are rough and uneven, with a large number of micropores and dense fluff, just like the uneven sound absorber, which can weaken the sound wave transmission or make the sound wave deflect and refract during the transmission process, reducing the energy of the noise. The leaves and upright stems of turf grass have a relatively good effect of absorbing noise and can absorb and weaken by an average of 150~950Hz.

4. The role of lawn green space in purifying soil and conserving water and soil: the lawn grows rapidly on the football field, and the stems and leaves are also very luxuriant, which can cover the rain and prevent the rain from directly hitting the ground during the landing process. The vegetation plants grow densely, slow down runoff, and at the same time can intercept sediment, etc., forming a relatively tight root network, which can loosen the soil, improve the permeability and penetration rate of the soil, and increase the ability to permeability and water storage. At the same time, the residual roots left under

the lawn and the dead branches and leaves on the ground can bring a very rich organic matter to the soil. These substances are decomposed in nature to form a large amount of humus, which significantly increases the soil particle structure, improves the physical and chemical properties of the soil, and also increases the erosion resistance of the soil itself. The leaves of the grass precocious grass can absorb harmful gases, in addition, they can absorb a large number of harmful substances and their root system, which also gives the lawn the ability to purify the soil. At the same time, they also play a positive role in increasing soil fertility. The large green lawn on the course can not only improve the surface environment but also improve the soil conditions underground.

5. Lawn green space regulation microclimate: the main performance of the stadium lawn to regulate the microclimate is: first, it can intercept precipitation, and the penetration rate is much higher than that of the open ground, which has a very positive effect on the water in the conserving soil. Second, due to the transpiration of lawn grass, the lawn can regulate air temperature and humidity in the air. Compared with bare ground, the humidity on the lawn is generally about 18.12% higher than that on the bare ground. Third, because the lawn can absorb the heat of the radiation field surface, the surface temperature in summer is about 5 ° lower than that of the bare ground, while in winter, the lawn is about 6 ° higher than the bare ground, which makes the green lawn play a very positive role in regulating the microclimate. Through the transpiration of moisture in the air, the lawn reduces the temperature in the air and increases the humidity, creating a cooler, comfortable, and pollution-free climate environment.

6. Lawn green space beautification environment: football field as part of urban greening, applied to urban planning and construction, its purpose is to make the city look more beautiful, and people live more comfortably. Such a green environment can play a positive role in everyone's physical health. To improve the quality of human settlements, it is necessary to increase the construction of green spaces. The construction of the football field lawn and the quality of the living environment are directly proportional, and the better the ecological benefits of the lawn, the better the quality of the living environment. Conversely, the worse the benefits, the correspondingly reduced the quality of the human settlement environment.

3. TIME SERIES STATIONARITY TEST MODEL

Based on calculating the ecological benefit index and the sports consumption intention index, the cointegration model and error correction model between the natural environment index of the stadium lawn, the sports consumption structure index, the sports consumption level index, and the sports consumption motivation index are constructed, and the long-term equilibrium relationship and short-term

fluctuation relationship between the ecological benefits of the lawn and the sports consumption intention are analyzed.

1.   Data stability analysis: in real life, because most of the time series data are unstable, to avoid the occurrence of pseudo-regression, before taking the correlation test, a stability test is required to examine whether the lawn ecological benefit index, sports consumption structure index, sports consumption level index, and sports consumption motivation index are stable. The results of the stationarity test of the unit root time series of the turf ecological benefit index sequence and the sports consumption intention index sequence are obtained, which are shown in the following Table 1.

Table 1. unit root test results

Variable	Unit root statistic	Conclusion
Lawn natural environment index	1.651355	smooth
Sports consumption structure index	0.509842	smooth
Sports consumption level index	0.854573	smooth
Sports consumption motivation index	0.438995	smooth

The unit root test [32] was carried out by the time series stationarity test method, and the test results showed that the index of the four dimensions of sports consumption intention and the lawn ecological benefit index sequence were all first-order single-integer sequences, so the sports consumption intention index and the lawn ecological benefit index could be cointegration tested.

(2) Cointegration test: first, the residual sequence is extracted, and then the unit root test is performed on the extracted residual sequence to obtain the unit root test results. The value of the unit root test statistic is -3.038522, below the critical value of 1% of the significance level of -2.541505, indicating that the significance level is 1%, the residual sequence can be considered to be a stable time series, and there is a long-term equilibrium cointegration relationship between the ecological benefits of the lawn and the intention of sports consumption, the equation is as follows:

$$Y = 0.17X_{1t} + 1.288X_{2t} + 0.121X_{3t} + 1.011 + ecm_t \qquad (1)$$

Where Y represents the lawn ecological benefit index; X_{1t}, X_{2t}, X_{3t} indicate the sports consumption structure index, sports consumption level index, sports consumption motivation index; ecm_t indicates the error correction factor.

(3) Error correction: according to the above analysis results, it can be learned that there is a long-term equilibrium relationship between the ecological benefits of lawns and the structure of sports consumption, the level of sports consumption, and the motivation of sports consumption, but it is impossible to know the short-term fluctuation link between lawn ecological benefits and sports consumption intentions.

Therefore, based on constructing a cointegration model, the short-term fluctuation relationship between the indicator variables is analyzed by creating an error correction model, and the error correction model is constructed as follows:

$$\Delta Y_t = 0.113 \Delta X_{1t} + 0.586 \Delta X_{2t} + 0.114 \Delta X_{3t} + 0.452 ecm_{t-1} \qquad (2)$$

Where, ΔY_t indicates the revised lawn ecological efficiency index; ΔX_{1t}, ΔX_{2t}, ΔX_{3t} indicates the revised sports consumption structure index, sports consumption level index, sports consumption motivation index; ecm_{t-1} represents the historical error correction factor.

The results showed that the change in the sports consumption intention index not only depended on the change of the turf ecological benefit index but also depended on the deviation of the previous turf ecological benefit index to the sports consumption intention index. The fitting coefficient of the error correction item ecm_t was -0.385, indicating the improvement of the deviation. As the coefficient of the error correction term is less than 0, when there is a deviation between the float of the sports consumption intention index in a short time and its equilibrium point in a long time, the error correction term will make a negative adjustment to it, and the adjustment strength is the absolute value of the coefficient. From the size of the fitting coefficient, it can be seen that the turf ecological construction of a football field has the greatest influence on the sports consumption level index and the least influence on the sports consumption structure index.

4. MULTIPLE REGRESSION ANALYSIS MODELS

Multiple linear regression methods are also commonly used to analyze problems where one variable affects multiple variables at the same time [33]. For different problems, a variety of specific analysis methods have been derived, such as: the entry method, deletion method, forward method, backward method, stepwise regression analysis method, etc. [34-38]. If the linear regression analysis equation is optimal, all the independent variables in the range will be considered, and the regression equation will be introduced into the regression equation from largest to smallest according to the degree of significant influence on the dependent variable, so that the regression equation will be optimal. The method is divided into the following steps:

1. Establish an equation between the independent and dependent variables based on assumptions.

2. Solve the parameters of the regression equation.

3. The significance of the regression effect is tested, and the linear effect of each variable on the dependent variable is analyzed significantly.

4. Eliminate the variables with less significant secondary effects, and re-establish the variables containing the significant influences for the regression equation solution test.

5. Through multiple rejections and equation reconstruction, the independent variable factors of significant regression are selected.

Define a univariate linear regression model using the following expressions:

$$Y_i = a + b_1 X_{1i} \tag{3}$$

The basic calculation process of multiple linear regression is the same as that of univariate linear regression, so the formula for constructing a multiple linear regression model is as follows:

$$Y_i = a + b_1 X_{1i} + b_2 X_{2i} + \ldots + b_{i\pi} X_{\pi i} \tag{4}$$

Where, Y_i represents the estimated value of the dependent variable; a, b_i are regression coefficients; X_i are the independent variable.

5. RESULTS AND ANALYSIS

5.1. EFFECT VERIFICATION OF THE COMPREHENSIVE APPLICATION OF THE TIME SERIES STATIONARITY TEST MODEL

Through the calculation of the time series stationarity test model, the variation trend of sports consumption intention with the ecological benefits of football turf was obtained, as shown in Figure 2. To better fit the actual situation, consumption structure, and consumption motivation are not unique, there will be a phenomenon of coexistence of multiple consumption patterns and consumption motives, so the total proportion of the two indicators will be greater than 100%.
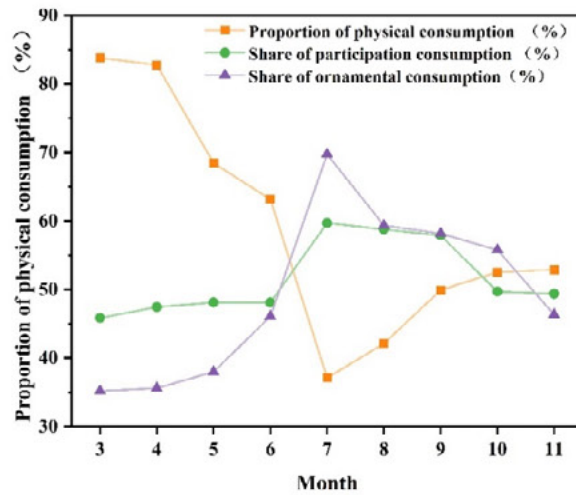
(a) consumption structure
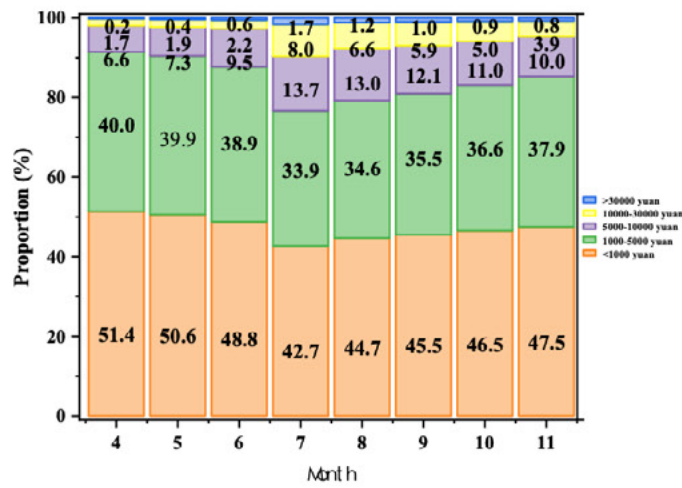
(b) level of consumption
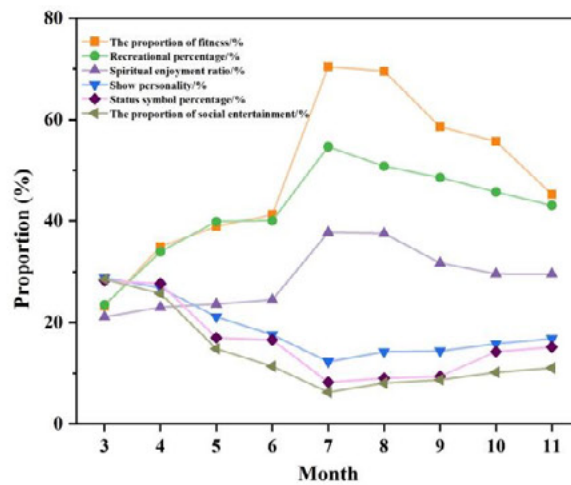
(c) consumption incentives

Figure 2. Effect diagram of turf ecology improving sports consumption intention

Figure 2 (a) shows that when the ecological benefits of the football field turf are at the lowest, the sports consumption structure is unbalanced, and the physical sports consumption mode in the sports consumption structure accounts for a relatively large proportion, accounting for 83.82%. The proportion of participatory sports consumption was 45.86%. The proportion of watching physical activity was 35.2%. Overall, in the sports consumption structure, the proportion of physical consumption is the highest, and the proportion of participatory sports consumption and ornamental sports consumption is the lowest, which also shows that sports consumption is mainly based on physical consumption, while participatory consumption and ornamental consumption still have broad room for development. When the ecological benefits of the stadium lawn continue to improve, and reach the peak in July, by weakening the sound wave transmission or making the sound wave deflection and refraction in the transmission process, reducing the energy of the noise, through the transpiration of the moisture in the air, so that the temperature in the air is reduced, the humidity increases, creating a cooler, comfortable, no pollution climate environment, so that people are more willing to participate in sports activities, so that the sports consumption structure gradually tends to balance, and develop in a positive direction. The proportion of physical sports consumption patterns in the sports consumption structure is relatively small, accounting for 37.12%. The proportion of participatory sports consumption was 59.71%. The proportion of watching sports activities was 69.74%. On the whole, the consumption structure has been greatly optimized and upgraded, so that the proportion of physical consumption in the sports consumption structure is the lowest, while the proportion of participatory sports consumption and ornamental sports consumption is the highest, which has vigorously promoted participatory consumption and ornamental consumption.

Figure 2 (b) shows that the ecological benefit of the football field lawn in March is the worst, the sports consumption capacity is insufficient, although there is still a certain degree of sports consumption expenditure, the amount of sports consumption expenditure below 1000 yuan is 53.45%, the amount of consumption expenditure between 1,000 and 5,000 yuan is 41.49%, the amount of sports consumption expenditure between 50,001 and 10,000 yuan is 3.65%, and another 1.21% is 3.21%. The amount of sports consumption expenditure is between 10,001 and 30,000 yuan, and only 0.2% of the amount is spent on sports more than 30,000 yuan. This shows that most of the funds spent on sports are below 5,000 yuan, which shows that when the ecological benefits of the football field lawn are not good, the overall level of sports consumption is not high. When the ecological benefits of the course lawn are in the best state, the lawn can achieve loose soil, improve the permeability and penetration rate of the soil, increase the ability of water permeability and water storage and soil retention, improve the surface environment and underground soil conditions, make the city look more beautiful, people live more comfortably, therefore, as far as possible to balance the two consumption levels based on 5,000 yuan, reduce the amount of sports consumption below 5000 yuan. Significantly increased the amount of consumption of more than 5,000 yuan in sports, increasing the proportion of sports consumption expenditure below 1,000 yuan to 42.73%, the proportion of consumption

expenditure between 1,000 and 5,000 yuan to 33.93%, the proportion of sports consumption expenditure between 50,001 and 10,000 yuan to 13.7%, and the proportion of sports consumption expenditure between 10,001 and 30,000 yuan to 7.98%. The proportion of spending more than $30,000 on sports increased to 1.66%. Although the five sections of consumption level have not been completely improved, most of the capital expenditure on sports is still below 5,000 yuan, but it has actively promoted consumption and significantly improved the overall level of sports consumption.

According to Figure 2(c), it can be found that when the ecological benefits of the football field lawn are getting lower and lower, the motivation for sports consumption is becoming increasingly alienated, showing a symbolic consumption trend from rational consumption to emotional consumption. At this time, the top three sports consumption motivations are "highlighting personality" (accounting for 28.79%), "status symbols" (accounting for 28.28%), and "social entertainment" (accounting for 28.54%). On the one hand, the results of the obtained data show that residents have different motivations for sports consumption, on the other hand, it shows that sports consumption has been given more special significance, reflecting that sports consumption is not only physical activities and spirits, but also in social and personality. In a sense, it shows the trend of sports consumption to symbol consumption. On the side, it also directly shows that the ecological benefits of the lawn of the football field affect the changing trend of sports consumption motivation, and there is a certain guiding effect on sports consumption motivation. In July, the ecological benefits of the lawn of the football stadium were the best, and the motivation for sports consumption showed a healthy consumption trend from emotional consumption to rational consumption. This is because the lawn has a strong ability to hold dust so that the dust in the air is greatly reduced, and thus also reduces the bacterial content in the air, through the transpiration of the moisture in the air, so that the temperature in the air decreases, the humidity increases, creating a cooler, comfortable, no pollution climate environment, the external consumption symbol evolves into inner sportsmanship, therefore, the improvement of ecological benefits will be the top three of the sports consumption motivation from "highlighting personality", "status symbol", "social interaction" to "physical fitness", "recreation" and "spiritual enjoyment" increased the proportion of the three active consumption motivations from 23.22%, 23.48%, and 21.15% to 70.42%, 54.68%, and 37.79%. It can be seen from this that the ecological benefits of the lawn of the football field have an effective role in promoting and promoting the motivation of sports consumption in addition to guiding.

5.2. MULTIVARIATE REGRESSION ANALYSIS MODEL COMPREHENSIVE APPLICATION EFFECT VERIFICATION

Using the univariate and multiple linear regression models, the intentional improvement effect of the turf ecology of the football field on the sports consumption

structure, sports consumption motivation, and sports consumption level is discussed, and the regression factor number analyzed by the linear regression model is shown in Figure 3.
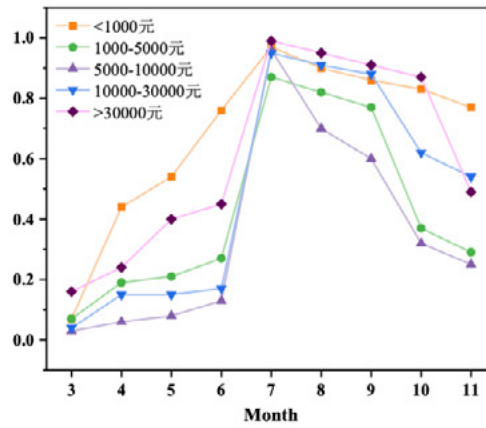
(a) the impact of lawn ecology on the level of sports consumption
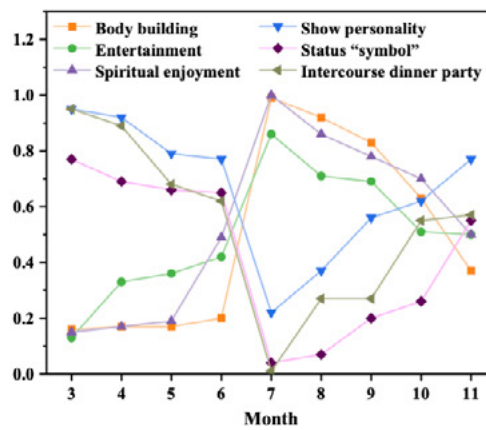
(b) the influence of lawn ecology on the motivation of sports consumption
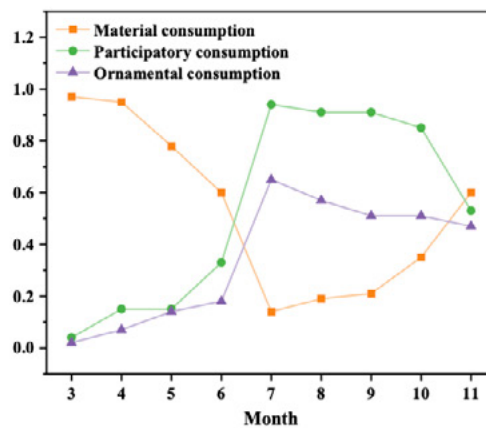
(c) the influence of lawn ecology on the structure of sports consumption

Figure 3. Schematic diagram of the effect of lawn ecology to enhance sports consumption intention based on multiple regression analysis methods

The regression coefficient shown in Figure 3(a) is the result of the regression analysis method used to explore the influence of the ecological benefits of football field turf on the level of sports consumption, and the regression model can be expressed as:

$$Y = 1.488 + 0.632X_1 + 0.354X_2 + 0.428X_3 + 0.249X_4 + 0.513X_5 \qquad (5)$$

Where, Y indicates the ecological benefits of the pitch turf; X_1, X_2, X_3, X_4 and X_5 represents different consumption intervals in the sports consumption level, respectively.

According to the regression model, the lawn ecology of the football field has a positive effect on the level of sports consumption. Because the regression coefficient with a consumption level below 1,000 yuan is the largest, and the regression coefficient of 10,000 yuan to 30,000 yuan is the smallest, it is further explained that the ecological benefits of the football field lawn have the greatest impact on the sports consumer groups below 1,000 yuan, and the sports consumer groups of 10,000 yuan to 30,000 yuan have the least impact.

Because the lawn through its foliage fluff, or secretion of grease, etc., can adsorb dust around itself, to prevent it from flying into the air again, for those living in the air bacteria and other pathogenic microorganisms, with different degrees of killing and inhibition, football field as part of the urban greening, applied to urban planning and construction, can make the city look more beautiful, people live more comfortably, and the quality of the living environment to improve the construction of green space. Therefore, the higher the ecological benefit of the football field lawn, the more people are willing to spend more money on the construction of projects in the field of sports.

Therefore, the number of regression factors corresponding to each level of sports consumption level is increasing with the improvement of ecological benefits, which is greatly improved from 0.07, 0.07, 0.07, 0.03, 0.04, and 0.16 at low lawn ecological benefits to 0.97, 0.87, 0.96, 0.95 and 0.99 at high lawn ecological benefits, respectively, which greatly improves the sports consumption level at each stage, and the experimental conclusions obtained are consistent with the comprehensive application verification effect of the time series stability test method.

Figure 3(b) Using sports consumption motivation as an independent variable and stadium turf ecology as the dependent variable, multiple linear regression analysis was carried out to explore the influence mechanism of football field turf ecology on sports consumption motivation. The regression equation can be expressed as:

$$Y = 1.923 + 0.515X_1 + 0.602X_2 + 0.654X_3 + 0.448X_4 + 0.396X_5 + 0.751X_6 \qquad (6)$$

Among them, Y represent the ecological benefits of the stadium turf; X_1, X_2, X_3, X_4, X_5 and X_6 respectively represent different consumption purposes in the sports consumption motivation.

From the regression equation, it can be seen that the regression coefficients of the independent variables are all positive, and the ecological benefits of the stadium turf have a positive impact on the motivation of sports consumption. The regression coefficient of social entertainment (i.e., 0.751) is greater than that of mental enjoyment (i.e., 0.654), entertainment (i.e., 0.602), physical fitness (i.e., 0.515), personality (i.e., 0.448), and status symbols (i.e., 0.396), further indicating that the ecological benefits of football field turf on the sports consumption motivation of social entertainment are more influential than other consumption motivations. Because the lawn is a natural "vacuum cleaner", through acceptance, adsorption, and other effects, continuously filters the dust in the air, by absorbing harmful gases in the atmosphere, reducing the bacterial content in the air, ammonia, sulfide ammonia into protein. It can oxidize toxic nitrite into useful salts, so that the stadium environment becomes a healthy place in the true sense of the body, so the higher the ecological benefits of the football field lawn, the easier it is to strengthen the body, recreation, spiritual enjoyment and other positive and positive motivations for consumption, therefore, the leading sports consumption motivation from the more symbolic display of personality, status symbols, social entertainment into sportsmanlike physical fitness, recreational entertainment, spiritual enjoyment, effectively positive physical fitness, recreational entertainment. The number of regression factors for mental enjoyment of the three sports consumption motivations increased from 0.16, 0.13, and 0.15 when the ecological benefit was poor to 0.99, 0.86, and 1. The experimental results verified the analysis conclusion of the comprehensive application effect of the time series stationarity test method again, which is enough to show that the turf ecology of the football field has a strong promotion effect on sports consumption intention.

Figure 3(c) takes the sports consumption structure as the independent variable and the ecological benefit of the football field lawn as the dependent variable, and further uses the one-factor analysis of variance to explore the relationship between the ecological benefit of the football field lawn and the sports consumption structure, which is of statistical significance. In this study, a univariate linear regression analysis of the ecological benefits of football field turf and the structure of sports consumption was carried out, and the regression coefficient was greater than 0, indicating significance. Therefore, further research on physical consumption patterns of the consumption structure of sports consumption patterns, the participated consumption patterns, ornamental type correlation test, the correlation coefficient is 0.711, multicollinearity relationship between independent variables are, therefore, the research to a yuan linear regression model to explore the ecological benefits of football field grass affect sports consumption structure. The regression coefficient equation of turf ecological benefit on sports consumption structure is as follows:

$$Y = 1.272 + 0.503X_1 + 0.537X_2 + 0.418X_3 \qquad (7)$$

Among them, Y represents the ecology of the stadium lawn, X_1, X_2 and X_3 different types of the sports consumption structure.

According to the regression coefficient of the regression equation, it can be seen that the ecological benefits of the turf of the football field have a positive impact on the structure of sports consumption. The regression coefficient (i.e., 0.537) for participatory consumption is the largest, while the regression coefficient for ornamental consumption (i.e., 0.418) is the smallest. Therefore, it is further explained that the ecological benefits of the football field lawn have the greatest impact on the participatory consumption model and the least impact on the ornamental consumption model. Because the lawn can intercept precipitation, and the penetration rate is much higher than the empty ground, its transpiration effect and the absorption of radiation surface heat can regulate the temperature and humidity in the air, so that the temperature in the air is reduced, the humidity increases, compared with the bare ground, the summer surface temperature is about 5 ° lower than the bare ground, on the contrary, in winter, the lawn is about 6 ° higher than the bare ground, and the humidity on the lawn is generally about 18.12% higher than the bare ground, creating a cooler, comfortable, no pollution sports environment, so the higher the ecological benefit of the football field lawn. Easier it is to promote participatory and ornamental consumption patterns, therefore, the sports consumption structure is effectively upgraded and optimized. When the ecological benefits are not good, the regression factors of the physical consumption mode, the participatory consumption mode, and the ornamental consumption mode are 0.97, 0.04, and 0.02, respectively. When the ecological benefits of the lawn are getting better and better over time, the regression factors of the participatory consumption mode and the ornamental consumption mode reach a peak state in July, and the value is as high as 0.94 and 0.65, while the regression factor of the physical consumption mode is 0.14. The ecological benefits of lawns have a good balancing effect on the structure of sports consumption.

6. DISCUSSION

Under the concept of "green water and green mountains are golden mountains and silver mountains" and the development concepts of innovation, coordination, green, openness, and sharing, China's ecological civilization construction has entered a period of victory. To deepen reform and achieve progress in the construction of ecological civilization, it is necessary to vigorously improve the ecological environment. At present, the development of China's sports industry is in a critical period of structural transformation, to promote the high-quality development of the sports industry, starting from the ecological benefits of the stadium lawn, the following development suggestions are proposed:

1. Continue to deepen the construction of the lawn ecological benefit system, vigorously advocate the concept of healthy sports consumption, and promote the positive growth of the economy in the sports field to enhance the level of ecological benefits in China and enhance its positive role in promoting the transformation and upgrading of residents' sports consumption.

2. Actively implement the concept of ecological civilization construction, give play to its coordinated role in promoting the upgrading of sports consumption, scientifically formulate ecological environment planning policies in the context of the new development stage, new development concept, and new development pattern, adhere to the concept of green development in the process of sports industry development, promote the high-quality development of the sports industry by strengthening ecological benefits, and realize the transformation and upgrading of the sports consumption structure.

7. CONCLUSION

As a way of socializing in people's daily lives, sports are inevitably affected by environmental changes, and existing research has not yet introduced ecological and environmental factors into the field of sports consumption and sports industry research. Therefore, this paper studies the influence of the turf ecology of the football field on the consumption level, consumption structure, and consumption motivation of the residents, and uses the time series stationarity test method and the multiple regression analysis method to verify the comprehensive application of the lawn ecology of the football field in enhancing the intention of sports consumption, and finally, the following research conclusions are obtained:

1. With its strong dust retention capacity and adsorption capacity, the stadium lawn can encourage more people to effectively participate in football sports activities, improve the sports consumption structure, change the proportion of physical consumption, participatory sports consumption, and ornamental sports consumption, and change the three proportions from 83.82%, 45.86%, and 35.2% to 37.12%, 59.71%, and 69.74% respectively.

2. Football stadiums as part of urban greening, applied to urban planning and construction are of great significance, lawn ecology can improve the quality of human settlements, to pursue a more comfortable quality of life, and the construction of football stadium funds will have more investment, to a certain extent to increase the consumption level of more than 5,000 yuan.

3. After the purification and absorption of the lawn, part of the harmful gases in the atmosphere are dissipated, and some are beneficially transformed, which strengthens the ecological level and health of the stadium environment, and guides the motivation of sports consumption from a more symbolic display of personality, status symbols, and social entertainment to a sportsmanlike physique, pastime, and spiritual enjoyment.

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