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## **An Evaluation Model of Outdoor Activity Acoustic Environment Based on Environmental Characteristics**

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### **ABSTRACT**

**In order to improve the quality of acoustic environment in urban public space and optimize outdoor activity space environment, from the perspective of a better adaptation to outdoor activities, the study pointed out the deficiencies of the previous research on the evaluation of acoustic environment which neglected the differences and the diversities of acoustic environmental requirements of various outdoor activities. Taking Jinan City as a case, the study classified the environmental characteristics into three types of environmental factors as well as divided outdoor activities into four categories, which are, walking, fitting, playing cards or chess, resting and communicating. Secondly, environmental factors were gathered through questionnaire investigation and measurement. Then, environmental factors that are observably correlated with the subjective evaluation of acoustic environment are screened out by correlation analysis, and common factors are extracted by principal component analysis. In conclusion, the acoustic environment evaluation model of four categories of common outdoor activities were established based on regression analysis, and then puts forward to outdoor activity space design strategies for environmental factors on optimization of the public space design in China.**