

城市森林步道植被特征健康效益研究

—以福州市森林步道为例

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摘 要:【目的】从健康效益的视角开展城市森林游憩研究,了解福州市森林步道(福道)的植被特征概况,探讨城市森林步道植被特征对环境健康因子以及游人心理健康的影响,为城市森林步道的规划与建设提供参考。【方法】选取福道为研究样地,借助相关仪器设备采集环境健康因子(空气颗粒物、负离子、气候舒适度与声环境)的客观数据,通过问卷调查方法采集游人心理健康的主观评价数据;在野外调查的基础上,利用方差分析、多元逐步回归分析等方法探讨植被特征的影响与作用。【结果】调结果显示主要乔木共有 26 种,分别属于 17 科 24 属,其中,常绿乔木 15 种,落叶乔木 9 种。树种组成上主要以无患子科以及柏科、松科为主;从数量上,台湾相思的数量最多,其次为樟树;不同月份以及不同植被特征样地对于环境健康因子以及游人心理健康的影响存在显著性差异;胸径、常绿占比、郁闭度、叶面积指数以及树种多样性显著影响了环境健康因子,而常绿树种占比以及树种多样性显著影响了游人心理健康。【结论】城市森林步道植被特征对不同的环境健康因子以及游人心理健康存在显著影响,但影响机制存在一定的差异;植被特征对于健康效能的影响并非取决于单一因素,它是由不同的植被特征之间相互协同,共同影响;这些结果反映了影响健康效益的关键植被特征,为未来城市森林步道的路线规划与建设、步道周边的树种配置以及植被景观营造提供科学指导与借鉴。

关键词:城市森林步道;植被特征;环境健康因子;心理健康;森林游憩

Research on the Health Benefits of Urban Forest Trails Vegetation Characteristics —Case Study of Fuzhou City Forest Trail

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Abstract: 【Objective】The study of urban forest recreation was carried out from the perspective of health benefits, to understand the vegetation characteristics overview of forest trails (Fu Forest Trail) in Fuzhou City, to explore the influence of urban forest trail vegetation characteristics on environmental health factors and tourists' mental health, and to provide reference for the planning and construction of urban forest trails. 【Method】The influence and function of vegetation characteristics were investigated using analysis of variance and multiple stepwise regression analysis on the basis of field surveys. Objective data on environmental health factors (air particulate matter, negative air ions, climate comfort and sound environment) were collected with the help of relevant instruments and equipment, and the subjective evaluation data of tourists' mental health were collected by questionnaire survey method by selecting Fu Forest Tail as the research sample site. 【Result】The results of the survey show that there are 26 species of major trees, belonging to 17 families and 24 genera, among which, 15 species of evergreen trees and 9 species of deciduous trees. From the species composition mainly Sapotaceae as well as Cypress and Pine, in terms of numbers, *Acacia confuse* is the most abundant, followed by *Cinnamomum camphora*. There were significant differences in the effects of different months and vegetation characteristics on

environmental health factors and tourist mental health. Diameter at breast height, percentage of evergreen, canopy depression, leaf area index and tree species diversity significantly affected environmental health factors, while the percentage of evergreen trees and tree species diversity significantly affected tourist mental health. **【Conclusion】** The vegetation characteristics of urban forest trails have significant effects on different environmental health factors and tourist mental health, but with some differences in the mechanisms of influence. The influence of vegetation characteristics on health effectiveness does not depend on a single factor, it is a synergy between different vegetation characteristics that together influence. These results reflect the key vegetation characteristics that influence health benefits and provide scientific guidance for the planning and construction of future urban forest trails, tree species allocation along the trails and vegetation landscape creation..

Key words: urban forest trail; vegetation characteristics; environmental health factors; tourist mental health; forest recreation;