

# A geographic ecological momentary assessment of how park engagement affects wellbeing and sleep quality

Thursday, July 18, 2024 10:40 AM (20 minutes)

**Background:** Parks and recreational facilities are critically important places as they provide opportunities to connect with nature, pursue recreational activities, and facilitate social connections for the entire population. North American medical professionals are also considering the value of “park prescriptions” to address a wide range of chronic health conditions. However, there is a weak cross-sectional evidence base linking park engagement to wellbeing or sleep quality. **Methods:** Our study makes use of a novel geographic ecological momentary assessment protocol. Participants were asked to install an app on their smartphone for two weeks, logging their device’s locations every two minutes. They would receive prompts to complete a short survey about their wellbeing (WHO-5 Index) and sleep quality (Pittsburgh Short-Form) twice per day. In addition, they received a similar survey prompt every time they were determined to be inside the boundaries of a park, and again shortly after they left a park. **Results:** 38 individuals completed the full two-week study protocol, with sufficient geospatial data for inclusion, between August to October 2023. A generalized linear mixed-effect modelling approach revealed engagement with a park in the past 24 hours led to an increase in overall wellbeing, however, no effects were observed for sleep quality. **Discussion:** This study makes several methodological advances over prior dose-response studies related to parks and health, including directly collecting geospatial data logs alongside in-situ survey responses. In addition, the study provides further justification for park prescriptions to be carefully studied before recommending their adoption within broader general medical practice.

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**Session Classification:** Paper Presentations

**Track Classification:** Innovation in Methods: Geospatial Analysis