Additional file 1. STROBE checklist (cross-sectional studies)

Green-space design and recreational running, walking and cycling: an ecological analysis of fitness-tracking trajectories in Nanchang, China

Item wording is abbreviated from the STROBE statement (von Elm et al., Lancet 2007;370:1453–7). Because the units of analysis are green spaces (an ecological design), "participants" refers to study sites and activity records. Section names refer to the revised manuscript.

Section/topic	Item	Recommendation (abbreviated)	Where reported
Title and abstract			
Title and abstract	1	(a) Indicate the study design in the title or abstract; (b) provide an informative and balanced summary	Title ("an ecological analysis"); Abstract, Methods ("ecological cross-sectional study"); structured Abstract
Introduction			
Background/rationale	2	Explain the scientific background and rationale	Background, paragraphs 1–4
Objectives	3	State specific objectives or hypotheses	Background, research questions RQ1–RQ3
Methods			
Study design	4	Present key elements of study design early	Methods: Study design and setting
Setting	5	Describe setting, locations, relevant dates and periods of data collection	Methods: Study design; Trajectory data (1 Sep 2020–31 Dec 2022); Table 1
Participants	6	Eligibility criteria and sources/methods of selection	Methods: Study sites and spatial units (site eligibility); Trajectory data (record inclusion criteria). Units are green spaces, not individuals
Variables	7	Define outcomes, exposures, predictors, potential confounders and effect modifiers	Methods: Trajectory data (activity volume); Green-space indicators; Additional file 2: Tables S2–S4
Data sources/measurement	8	Sources of data and details of measurement for each variable	Methods: Data sources and spatial framework; Table 1; Validation of trajectory-derived counts; Facial-expression data and PRI
Bias	9	Describe efforts to address potential sources of bias	Methods: Validation; Indicator screening (selection bias acknowledged); Spatial dependence; Discussion: Strengths and limitations
Study size	10	Explain how the study size was arrived at	Methods: Study sites and spatial units (eligibility, $n = 50$); power statement in the PLS-SEM paragraph
Quantitative variables	11	Explain how quantitative variables were handled	Methods: Trajectory data (outcome definition); Green-space indicators; PLS-SEM (sign alignment of indicators)
Statistical methods	12	(a) All statistical methods; (b) subgroups and interactions; (c) missing data; (d) sampling strategy; (e) sensitivity analyses	(a) Methods: Statistical analysis; (b) activity-specific models, no interaction terms; (c) all 50 sites contributed to every model; (d) not applicable (all eligible sites analysed); spatial dependence addressed in Methods: Spatial dependence; (e) Methods: Robustness checks; Spatial scale
Results			
Participants	13	Numbers at each stage; reasons for non-participation; flow diagram	Methods: Trajectory data (1,423,357 records retrieved, 729,670 retained, 50 sites); Figure 3
Descriptive data	14	Characteristics of study units; number with missing data for each variable	Results: Table 2; Figure 4
Outcome data	15	Report numbers of outcome events or summary measures	Results: Table 2; Figure 4
Main results	16	Unadjusted and adjusted estimates with precision; category boundaries	Results: Figure 5 (unadjusted correlations); Table 3 (PLS-SEM estimates with bootstrap SE); indirect associations with 95% CIs in Table 3 and Figure 7
Other analyses	17	Other analyses (subgroups, interactions, sensitivity)	Results: Sensitivity and spatial-dependence analyses
Discussion			
Key results	18	Summarise key results with reference to objectives	Discussion: Principal findings
Limitations	19	Discuss limitations, sources of bias or imprecision	Discussion: Strengths and limitations
Interpretation	20	Cautious overall interpretation	Discussion; Conclusions

Section/topic	Item	Recommendation (abbreviated)	Where reported
Generalisability	21	Discuss generalisability	Discussion: Transferability to other settings; Strengths and limitations (single city)
Other information			
Funding	22	Source of funding and role of funders	Declarations: Funding