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A rainbow of livability: A systematic review and meta-analysis

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Wang, HN; Zhao, Q.

Corresponding author:

Qing Zhao

zhaoq@psych.ac.cn

Author Affiliation:

State Key Laboratory of Cognitive Science and Mental Health, Institute of Psychology, Chinese Academy of Sciences, Beijing, China.

ADMINISTRATIVE INFORMATION

Support - The Scientific Foundations of the Institute of Psychology, Chinese Academy of Sciences (NO. E1CX4815CX) to Qing Zhao.

Review Stage at time of this submission - Data analysis.

Conflicts of interest - None declared.

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Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 6 February 2026 and was last updated on 6 February 2026.

INTRODUCTION

Review question / Objective The current review aims to reveal the elements of livability stressed by regions and countries worldwide. In addition, this review examines the evolution of livability since Jane Jacobs first introduced the concept of the 'livable city' in 1961. The specific research questions of the current review included: whether the criteria of livability varied significantly across cultures; whether the standards of livability increased significantly in a synchronic manner as the global economy developed; and whether the term of livability has been consistently evolving since its proposal.

Rationale Livability has become a growing concern for people worldwide. In 1961, Jane Jacobs first raised and popularized the concept of livability in her book 'The Death and Life of Great American Cities'. In the 1970s, the WHO first proposed the concept of livability to draw global attention to the living conditions in developing

regions of Africa. Since the proposal, international organizations, governments, and ordinary residents have started to pay attention to the standard and development of livability. According to research on livability, the standard criteria and developmental rates varied across cultures. An intriguing research question is whether the above aspects of livability vary across residents' cultural backgrounds, global economic development, and the term's evolving meaning since 1961. Answers to the above research questions can help us reveal the core concerns of people regarding their living conditions and related physical and mental wellness. A better understanding of the key elements of livability can inform future urban design and related policies and ultimately improve global well-being.

Condition being studied The conditions under review and those evolved in the meta-analyses are elements of livability reported in previous standards, reports, and empirical studies. Specifically, it included: (1) the standards of livability proposed by international organizations

for specific regions or for global; (2) the criteria presented by governments of countries and regions for local areas; (3) the pool of livability investigated by governments or national organizations based on the residents; (4) empirical studies conducted by researchers with residents of a specific living environment. The elements reported in studies within the above categories were summarized and analyzed in the current study to reveal potential variations in livability across cultural, economic, and temporal dimensions.

METHODS

Search strategy The literature was searched from three research databases: namely, Web of Science, EBSCO, and PubMed. All search duration was since 1961 until the latest date of each database, and search was restricted to literature presented in English. Boolean operations were designed for the current study and appropriately moderated to fit each database. The keywords used for searching mainly included two groups of terms under categories of “livability” and “standard”, and synonyms and alternative terms used by researchers in the relevant research areas were retrieved and applied in the Boolean operations.

Participant or population Participants in studies targeted by the current review were ordinary residents from various countries and regions with diverse cultural backgrounds.

Intervention The current systematic review studies mainly included standards, reports, and studies with and without intervention. The potential intervention was city or community renovation and expansion. It should be noted that these upgrades were for the living environment rather than residents or participants per se. Hence, they should be regarded as a distinct type of intervention, as they were in the current systematic review and meta-analysis.

Comparator The current study aims to identify the factors that significantly influence the concept of livability across regions worldwide. Especially, the comparisons were made between: (1) regions with different cultural backgrounds (e.g., Western vs. Asian countries); (2) areas with different economic situation (e.g., developed vs. developing areas); (3) geographic regions (e.g., East Asian vs. Southeast Asian); (4) region types (e.g., city vs. suburb); and (5) chronological periods since 1961 by every decade (i.e., a categorical variable; further, the chronological information was also treated as a

continuous variable to reveal the potential linear impact).

Study designs to be included The current review covered four types of studies, and they are: (1) the standards of livability proposed by international organizations for specific regions or for global; (2) the criteria presented by governments of countries and regions for local areas; (3) the pool of livability investigated by governments or national organizations based on the residents; (4) empirical studies conducted by researchers with residents of a specific living environment.

Eligibility criteria The inclusion criteria of the current review and meta-analyses were: (1) peer-reviewed publications; (2) presented in English or in multi-languages, including English; (3) clearly stated the standards or criteria for assessing the livability; (4) clearly stated that the standards or criteria was proposed for local regions or community, rather than a simply review of previous published standards; (5) the publication date was on or afterward the year of 1961.

Information sources Publications covered by the three electronic databases (viz., Web of Science, EBSCO, and PubMed) and references used by the identified publications considered by the current review and meta-analysis.

Main outcome(s) The study is currently at the data analysis stage. The preliminary results suggested that the criteria for livability have expanded significantly since 1961. Meanwhile, the standards varied significantly across regions with different cultural backgrounds, economic conditions, and geographic contexts.

Additional outcome(s) None.

Data management All records retrieved from the database will be exported into an EndNote document. The data coded from each study for the systematic review were stored in an Excel format. The data used for meta-analyses were stored and processed by Comprehensive Meta Analysis (CMA). When the current study was published, all of the above documents (i.e., EndNote, Excel, and CMA documents) would be presented on the Science Data Bank (<https://www.scidb.cn/>), ensuring transparency and accessibility for all interested parties.

Quality assessment / Risk of bias analysis Study quality was assessed according to the Standards for Quality Improvement Reporting Excellence (SQUIRE 1.0; Davidoff et al., 2008) and its revised

version (SQUIRE 2.0; Ogrinc et al., 2015). A data quality checklist with 10-20 items was used for the systematic review and meta-analysis. The potential of publication bias in the meta-analysis was evaluated using the funnel plot.

Strategy of data synthesis For the systematic review, data coded from all identified publications included (1) information of the publication (e.g., the year of publication and the organization of the authorship); (2) the information of the proposer (e.g., international organizations or governments); (3) the information of the usage of the standard (e.g., global wide or for a specific age group, with further detail); (4) the item number covered by the standard; (5) the item details covered by the standard. For the meta-analysis, the above information was digitized and analyzed using the conventional meta-analysis, grouping comparison, and meta-regression analysis functions installed in CMA.

Subgroup analysis Subgroup analyses were conducted using the Grouping function of CMA to verify the potential impact of cultural background (e.g., Western vs. Asian countries), economic situation (e.g., developed vs. developing areas), geographic regions (e.g., East Asian vs. Southeast Asian), community types (e.g., city vs. suburb), and chronological periods (e.g., the earliest vs. the latest decade).

Sensitivity analysis The sensitivity of the meta-analyses was gauged by the "remove one" analysis of CMA.

Language restriction English.

Country(ies) involved China and the United Kingdom.

Other relevant information None.

Keywords livability, standard, index, systematic review, meta analysis.

Dissemination plans The findings of this review will be disseminated as a peer-reviewed journal article submitted to an interdisciplinary academic journal in the research areas of public health and urban studies. Results may also be presented at relevant academic conferences to reach a wider research audience. Through the aforementioned platforms, the current findings will be disseminated to researchers in the relevant areas.

Contributions of each author

Author 1 - Hainuo Wang - Wang HN. was responsible for preliminary literature screening and synthesis, identifying studies eligible for meta-analysis, and for data extraction, organisation, and summarisation. Wang HN. also contributed to subsequent statistical analyses.

Email: hainuo.wang.24@ucl.ac.uk

Author 2 - Qing zhao - Zhao Q. conceived the original idea for this study and was responsible for its design. Zhao Q. also managed the overall research project.

Email: zhaoq@psych.ac.cn