Background: Although environmental factors play an important role in the quality of life of the elderly, no currently available scale has been adequate for comprehensively assessing the environments of community-living elderly in Japan. This study developed a Comprehensive Environmental Questionnaire to assess factors affecting quality of life, and examined its reliability, criterion-related validity and construct validity among community-living elderly with healthcare needs.

Methods: Participants were 178 elderly adults without dementing disorders aged 60 years and older, who were currently using day care services or home-visit rehabilitative services. Participants were selected from 5 regions of Japan. We asked participants to complete the Comprehensive Environmental Questionnaire provisional version twice (with a month interval in between) and World Health Organization Quality of Life brief form at baseline.

Results: Based on exploratory factor analysis, we restructured the Comprehensive Environmental Questionnaire provisional version to the final version, with 14 items and a three-factor structure. Cronbach’s alpha for internal consistency for all items was 0.82. Spearman’s rank correlation coefficients for test-retest reliability were 0.4 or greater for 10 items, and were statistically significant (p < 0.001) for all items. Correlation coefficient of the total score of the Comprehensive Environmental Questionnaire and the environment domain score of the World Health Organization Quality of Life brief form was 0.63 (p < 0.001). Confirmatory factor analysis indicated that the Comprehensive Environmental Questionnaire as a second-order factor model was an adequate fit to the data. All standardized path coefficients in the model were statistically significant (p < 0.01).

Conclusion: This study established high levels of reliability, criterion-related validity and construct validity for the Comprehensive Environmental Questionnaire, with the exception of test-retest reliability for 4 items among community-living elderly with healthcare needs.