

# Feeling safe from crime linked with lower risks of heart attack and death

August 24 2023

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Feeling safe from crime is associated with a 9% lower risk of premature death and 6% lower likelihood of a heart attack, according to a study in more than 35,000 adults presented at [ESC Congress 2023](#).

"There is increasing evidence that the neighborhood we live in affects our health," said study author Dr. Mengya Li of the National Center for Cardiovascular Diseases, Beijing, China. "This study highlights the importance of many aspects of our surroundings for [heart health](#) and longevity, including feeling safe, having shops, transport and parks close by, cleanliness, and feeling that our neighborhood is a good place to live and to raise children."

The researchers used data from the PURE-China study to investigate the association between neighborhood characteristics, cardiovascular disease (CVD) and death. The study included 35,730 adults aged 35 to 70 years from 115 communities (70 urban and 45 rural) in 12 provinces of China between 2005 and 2009. The average age of participants was 51 years and 60% were women.

Trained research staff conducted face to face interviews to collect baseline information on the neighborhood environment using the Neighborhood Environment Walkability Scale (NEWS). The questionnaire contains eight subscales. Scores for each subscale were added up to obtain a total NEWS score. High scores reflected positive perceptions about the community.

The eight subscales covered: 1) how long it took to walk to shops, restaurants, banks, pharmacies, work, transport stops and parks; 2) perceived ease of walking to shops and transport stops; 3) the distance between intersections (which indicates ease of getting around); 4) infrastructure for walking/cycling (e.g. pavements to walk on); 5) aesthetics (e.g. trees shading the pavement, interesting things to look at while walking, freedom from litter); 6) safety from traffic (e.g. the amount of traffic, safety crossing the street); 7) safety from crime (e.g. street lighting at night; crime rate and safety walking during the day and night); and 8) community satisfaction (e.g. with public transportation, commute to work, access to shopping, a good place to live and to raise

children).

Participants were followed up for all-cause death, death due to CVD, major CVD events (defined as death from cardiovascular causes, non-fatal myocardial infarction, stroke, or heart failure), myocardial infarction, stroke and heart failure. The primary outcome was a composite of major CVD events and all-cause mortality.

The researchers analyzed the associations between each subscale and the [total score](#) and [health outcomes](#) after adjusting for factors that could influence the relationships including age, sex, body mass index, education, [household income](#), [marital status](#), [tobacco consumption](#), [alcohol consumption](#), [physical activity](#), household cooking fuel, pollution, history of CVD, [high blood pressure](#), diabetes and regular medications.

During a median follow up of 11.7 years, there were 2,034 (5.7%) all-cause deaths, of which 765 were attributed to CVD, and 3,042 (8.5%) major CVD events. A higher neighborhood environment score was associated with a 6% lower risk of the primary outcome of major CVD events and all-cause mortality, a 12% lower likelihood of death during follow up, and a 10% reduced risk of death due to CVD.

The subscale with the greatest association with health outcomes was safety from crime. A higher neighborhood safety score was associated with a 9% lower risk of death during follow up, 10% lower risk of death from CVD, 3% reduced likelihood of major CVDs, 6% reduced risk of myocardial infarction and 10% lower likelihood of heart failure.

For all subscales, a high score was linked with a lower risk of all-cause death during follow up, with percentages ranging from 2% to 9% lower risk. In addition, a high score on the subscale covering how long it takes to walk to amenities was also associated with 1% lower risks of [death](#)

due to CVD, major CVDs and heart attack.

Dr. Li said, "While some of the percentage reductions in risk are small, they affect large numbers of people and therefore could have a wide-ranging impact. The findings can be used by policymakers to take action to mitigate the adverse effect of poor community conditions on health, such as improving local amenities and transport connectivity, providing green spaces and [street lighting](#), and building paths for walking, running and cycling."

**More information:** The abstract "Associations of built environment characteristic using NEWS questionnaires with major cardiovascular diseases and all-cause mortality" will be presented during the session [Environmental and occupational aspects of heart disease](#), which takes place on Friday 25 August from 14:15 to 15:00 CEST at Station 10.

Provided by European Society of Cardiology

Citation: Feeling safe from crime linked with lower risks of heart attack and death (2023, August 24) retrieved 28 April 2024 from <https://medicalxpress.com/news/2023-08-safe-crime-linked-heart-death.html>

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