

Review of: "How Urban Heat Islands Effect Crime: Understanding the Implications of Temperature, Population Density, and Green Canopy Cover in Shaping Built Environments"

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Potential competing interests: No potential competing interests to declare.

The authors have presented a study that aims to analyze the relationship between urban heat islands, crime, and various factors such as population density and green canopy cover. The study takes place in Midland, a suburb of Perth, Western Australia. While the research topic is intriguing and relevant, several concerns have been raised by the reviewers that should be addressed before the manuscript can be considered. *Noting that I noticed some of these have been handled during the revision process, however, I'll keep them here for review purposes.*

1. Methodological concerns:

- The monthly average temperature data used in the analysis is inadequate to characterize the urban heat island phenomenon, which varies with season, weather conditions, and time of day. The temperature difference between urban and suburban areas should be considered, as well as the air temperatures on the day and at the time of the crime.
- It is necessary to ensure that the air temperature data used is representative of the spatial distribution of air temperatures in the target district.
- The urban heat island studies section requires clarification on the relevance of the listed studies to the scope of the paper.

2. Literature review and theoretical foundation:

- The literature review should be more systematic and focused, clearly outlining the research gap and highlighting the novelty of the research.
- The reasons for the expected correlation between the rise in temperature and crime rates should be clearly explained.
- The relationship between heat, crime, green cover, and shade should be supported with relevant literature and evidence.

3. Language and presentation:

- Moderate spell-checking and improvement in language clarity are required, as some sentences are lengthy and complex.
- The introduction should provide more information on the research background, question, and novelty.
- Tables and figures should be improved for clarity, with units of numbers and axes provided.

4. Analysis and findings:

- The manuscript should provide more information on the case study area and clarify the uniqueness of the chosen location.
- Additional details on data sources and collection process should be provided.
- The policy and practical implications of the research should be emphasized in the discussion.

5. Minor revisions:

- The abbreviation "HIE" should be introduced with its full name before its first usage.
- Citations should be provided for each sentence that does not express the findings of the research.
- Consider presenting the literature review in a table format for better understanding.

Overall, the authors have taken on an ambitious and pertinent research topic that has the potential to provide valuable insights into the complex relationship between urban heat islands, crime, and other factors such as population density and green canopy cover. The study has its merits, such as an extensive literature review and the use of a mixed-methods research approach.

Nevertheless, to strengthen the manuscript and ensure its contribution to the field, the authors should address the methodological concerns raised, clarify the theoretical foundation, and improve the clarity and presentation of the manuscript. By doing so, the paper can provide a solid basis for further research and have meaningful implications for urban planning and environmental policy.

In addition, it is crucial to emphasize the practical applications of the research findings in the discussion section, as understanding the potential impacts of local heat and canopy cover on urban criminal behavior could lead to positive outcomes in the design and planning of urban environments. Such information can help inform decision-making for sustainable social development, environmental planning, and development strategy among urban designers and planners.

Finally, the authors are encouraged to consider the interdisciplinary nature of their research and seek opportunities for collaboration with experts from various fields, such as urban planning, criminology, and environmental psychology. This will allow for a more comprehensive understanding of the interrelated factors contributing to crime in urban settings and foster the development of effective strategies to mitigate the consequences of urbanization and global warming.

Addressing these concerns will strengthen the manuscript and contribute to a more robust analysis of the relationship between urban heat islands, crime, and related factors. The findings of this research can potentially inform decision-making in urban planning and environmental policy.

Thank you for your hard work!