Towards a safe and inclusive street environment:
Students’ perception of safety in Sejong City’s urban-rural campus town

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1. Summary

The goal of SDG 11 (Sustainable Cities and Communities) is to “make cities and human settlements inclusive, safe, resilient, and sustainable”, targeting to “by 2030, provide universal access safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities” (11.7). This study investigates the gendered effect of the physical street environment and smart crime prevention solutions (CCTV, on-site emergency bells, street lighting, etc.) on the perception of pedestrian safety of students in a urban-rural campus town in the outskirts of Sejong Administrative City.

2. Relevance

Even though smart solutions are widely used to solve urban problems and improve quality of life by utilizing ICT technology, gender differentiated evaluation of their effects are scarce. This study examines the gendered effects of a 2019 CPTED (Crime Prevention Through Environmental Design) project involving smart solutions for crime prevention (CCTV, on-site emergency bells, street lighting, etc.) in creating safer and more inclusive street environments.

3. Aims & Objectives

This study examines the street environment and how smart crime prevention solutions are currently installed in an urban-rural campus town. The objective of the study is to show the gendered effects of the street environment and a CPTED project including smart crime prevention solutions.

4. Methods

1) Student questionnaire
2) Environmental audit
3) Streetlighting level mapping

- Notably, the student survey is a follow-up of a 2018 survey conducted before the implementation of a CPTED project by the government.
- A questionnaire survey of 74 architecture students was conducted in June 2020.
- Questions were asked about (1) pathway taken to campus at daytime and nighttime, (2) frequency of use, (3) sense of safety, and (4) favored locations. The 2018 survey was replied by 202 students, which included 92 architecture majors.
- The environmental audit and streetlighting level measurements were conducted in July 2020. The results are referenced to Sejong City’s ‘Guidelines for Women-friendly Public Facilities’.

5. Findings

<table>
<thead>
<tr>
<th>Category</th>
<th>2018 (Male)</th>
<th>%</th>
<th>2018 (Female)</th>
<th>%</th>
<th>2020 (Male)</th>
<th>%</th>
<th>2020 (Female)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vary Safe</td>
<td>6</td>
<td>5.0</td>
<td>10.0</td>
<td>5.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Safety</td>
<td>10</td>
<td>8.3</td>
<td>10.0</td>
<td>8.0</td>
<td></td>
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<td></td>
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<tr>
<td>Relatively Neutral</td>
<td>23</td>
<td>19.2</td>
<td>15.0</td>
<td>12.5</td>
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<tr>
<td>Relatively Unsafe</td>
<td>12</td>
<td>9.9</td>
<td>20.0</td>
<td>16.0</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Total</td>
<td>36</td>
<td>29.7</td>
<td>25.0</td>
<td>22.0</td>
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</tbody>
</table>

The results show that the physical street environment and smart crime prevention solutions impact students’ perception of safety differently according to gender. Even though fear of crime has diminished since 2018, female students still experience greater fear of crime than male students and are actual targets of crime. Smart city infrastructure is effective in combination with traditional measures to reduce crime, such as CPTED and management of the physical environment.

6. Conclusion

Findings highlight gender differences regarding the effects of the physical street environment and CPTED projects. They also suggest a need for a gendered perspective in the planning and implementation of smart crime prevention solutions.

7. Contact information

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