

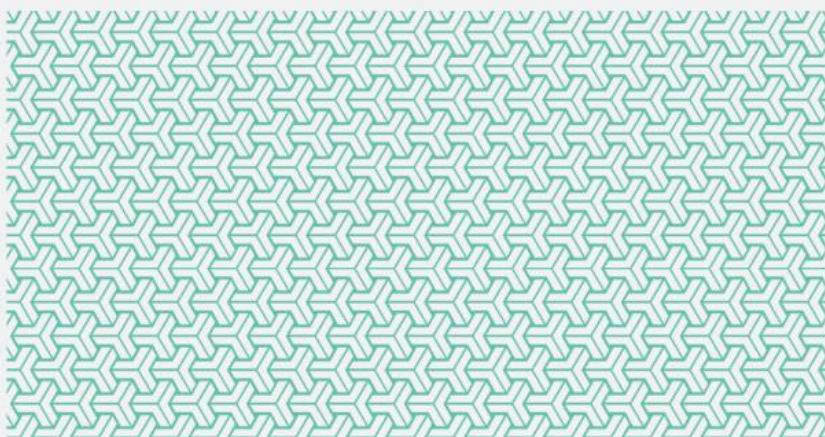
가상환경을 활용한 범죄예방환경설계 요소 도출 연구

A Study on Crime Prevention Through Environmental Design(CPTED) Factors Utilizing Virtual Environment

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About 40 percent of the population in South Korea lives in fear of crime. As an attempt to mitigate this, the Crime Prevention Through Environment Design (CPTED) project in South Korea has been widely implemented throughout the country, yet, its limitation is merely following the traditional practice, blindly applying standards without considering the authentic regional characteristics in South Korea. Especially, CPTED studies, built based on foreign cities and not adaptable to South Korea, is being applied. Thus, this research proposes CPTED-related factors on crime involvement and the appropriate street lighting standards reflecting regional contexts using Virtual Reality(VR) techniques.

This study constructed a virtual environment of a low-rise residential area, a typical housing type in Seoul, South Korea. Using this virtual environment, we explored (1) the relationship between the CPTED factors in housing and burglars' target selection and (2) the impact of street lighting on fear of crime. In the first experiment, we analyzed the burglar's daytime decision-making factors based on CPTED elements. The second experiment explored the relationship between street lighting and fear of crime.

The experiment was conducted in three steps with 100 participants; First, we asked about the participant's personal information and background. Second, they were asked about residential burglars' decision-making and fear of crime. Final survey was conducted with questions asking the validity of VR experiments.

We found the CPTED factors that affect burglars' decision-making: Housing location; Door lock(door number lock); Window (window bars or safety bars); Home security signs; Public space design; Home fence height. Also, burglars were less likely to select their target with natural illuminance/lighting, street lights, and building lightings nearby.

This study has its contribution in that the experiment explores the most typical national single/multi-family housing. It uses CPTED theory to explain the relationship between CPTED factors and residential burglars' target decision-making. Also, we explored how street lighting factors affect the fear of crime. Additionally, this research confirmed and contributed to how to use VR experiments for the CPTED project for further studies.

Keywords :

Crime prevention, CPTED, home invasion, theft, crime fear, illumination, virtual environment