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한국형 범죄예방환경설계를 위한 장소프로파일링 기법 개발 연구

Place-Based Profiling for the Korean CPTED

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SUMMARY

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According to the 2018 police crime statistics released by the National Police Agency, the total number of crimes excluding traffic crimes has been on the decline. Despite this overall decrease in crime, intrusion crime has continued to increase every year. In the case of intrusion crime including simple theft crimes, there is a possibility that it will develop into a violent crime, such as robbery, if a offender met with a person. In order to prevent this, the crime prevention through environmental design(CPTED) project has been actively carried out. However there are difficulties in utilizing it by working-level officials due to a wide variety of vulnerable space diagnosis standards and types used in the project. In addition, there are some cases where facilities and techniques are applied to other places instead of spaces or buildings that require strengthening the performance of crime prevention, which may hinder the effectiveness of the CPTED project. In order to enhance effectiveness of the project, diagnostic tools are needed to compress various criteria on the perspective of criminals, and to derive priorities among them to improve utilization in practice, and to apply evidence-based crime prevention through environmental design.

This research aims to establish a profile of the place where the vulnerable space can be

analyzed from the perspective of criminals to quickly diagnose the vulnerable space in the project area, and to secure the sustainability and effectiveness of the CPTED project. To this, we plan to establish a place profile through literature reviews and expert advices, and select a case area for Seoul City, where the most crimes occur and various single-person households are located.

The place in this research means a space that can give criminals the perception that crime is possible, and it is an active analysis method that proactively analyzes the micro-risk factors of a place rather than geographical profiling to derive the crime possibility. That is, place-based profiling is to identify the factors considered in the criminal investigation process, and diagnose the vulnerable space on crime. In order to derive the factors of profiles for place-based profiling, literature review and consultations were conducted with police officers, experts in the architecture and urban space, detectives and profilers who are expert at serial thieves.

Through this process, various factors were relocated to 'regional', 'building', and 'individual dwelling' based on factors considered in the criminal process. First of all, at the regional level, it is focused on the overall planning part of the crime, classified it into escape, concealment, risk of detection, and compensation factors, and established related details. Next, buildings were classified into items that could explain each factor in terms of ease, risk, and economic compensation in relation to 'intrusion' since it is subject to crime. Finally, for the individual dwelling, the factors were identified by focusing on the part of the final intrusion. Among these factors, there are factors that criminals consider a lot or search first. To figure out this, AHP survey was conducted on front-line police officers who have been dispatched to the scene of intrusion crimes, including criminal department workers. Based on the results of the survey, additional MC simulation analysis was performed to supplement the limitations of the uncertainty of AHP analysis.

Using the profile of intrusion crime place derived through the above process, we applied place-based profiling to Seoul, where the most crimes occur and various single-person households are congested. To this end, three areas were selected according to the three criteria for selection, reflecting the characteristics of the residential environment, street characteristics, and humanities and social characteristics among the crime-weak spots in Seoul. Second, based on the profile, we performed site exploration and drawing analysis to predict the possibility of an intrusion crime. Finally, a correlation analysis

was performed to determine whether the crime risk space derived from place exploration could account for the actual crime-causing place.

As a result of place-based profiling of the target site, there were differences in the risk level of each site, and the degree of possibility of intrusion crime was different within the site. This derived risk space is shown to have a significant amount of correlation with the actual degree of crime, indicating that the previously derived profile somewhat accounts for the actual occurrence of an intrusion crime.

Chapter 5 summarizes the previous results and constructs a checklist to identify the possibility of an intrusion crime in a particular space based on a profile related to the place of the intrusion crime. Among the comprehensive checklist, various and detailed diagnostic cards are proposed comprehensively, with a combination of factors that can account for about 80% of the physical environment affecting intrusion crimes at the target site, focusing on the factors of high priority. Looking at the previously divided region, building, and individual dwelling, the regional level includes factors related to escapeability, risk of detection, hiding reliability and compensation. Specifically, the regional unit includes public transportation accessibility, grid-type road network, street accessibility, the ratio of vacant buildings, and police activities. In the level of buildings, it was found that the presence of external intrusion prevention facilities, the opening or closing of front door, and the presence of high-end housing and vehicles related to compensation were considered preferentially. Next, night lighting and CCTV conditions were selected as diagnostic criteria for factors that could affect both the level of region and building at the same time. Finally, level of individual dwelling includes condition of window and door, and rooftop availability.

The proposed use of place-based profiling in this research is as follows. First, CPOs, who are the main users of place-based profiling, can quickly and accurately analyze vulnerable space to crime. The place-based profile diagnostic tool, which is more compressed than the existing checklist with diverse and complex criteria, can quickly identify the risks to the each space you want to identify and the overall risk to the area with limited resources. This means that risk measurements for areas with relatively high risk enable in-depth analysis of buildings and individual dwellings. Also it can reduce the time to select vulnerable place to crime, meaning they can focus more on analyzing high risk areas instead of low risk risk areas to crime.

Second, it can be used efficiently for CPTED projects linked to government-led projects to revitalize underdeveloped areas such as urban regeneration New Deal, safe village making project, Saeddeul Maeul and fishing village New Deal 300 projects. The installation of techniques and facilities to strengthen crime prevention performance from the most crime-prone places by calculating crime risk in each location within the target site for revitalizing underdeveloped areas through place-based profiling is an efficient way to reduce the crime risk in the region.

Third, place-based profiling can be used as a estimating suitability and monitoring tool for existing CPTED projects. Place-based profiling can be used to evaluate the appropriateness of the selection of project areas, buildings where crime prevention facilities are installed and individual dwellings. In addition, the transfer of techniques and facilities incorrectly applied to areas and buildings with low crime risk will ensure the efficiency of the project.

Keywords : CPTED, Place-based profiling, Intrusion Crime, Single Household