

A Method of Designing Reassurance from Crime in Urban Street Spaces to Encourage Outdoor Activity by Children

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1. Focus on users' evaluation of street spaces

In the Urban Planning Department, we regard urban streets as three-dimensional spaces including privately-owned roadside land as well as public open space, and have been seeking effective ways to make street spaces comfortable for various pedestrians.

Here we introduce a study in which we analyze the use of urban street spaces by children (elementary school 3rd graders), focusing on their parents' evaluation of reassurance from crime.

The study proved that whether children go outside a lot or not is affected by their parents' sense of reassurance (from crime and car accidents), and that 90% of parents set restrictions on the directions and routes for children's outdoor activities. In other words, it is important that routes leading to parks and other places frequented by children are spaces where parents can feel reassured. In that case, what are the compositional elements of urban street spaces that contribute to a sense of reassurance?

2. Elements related to reassurance from crime

We conducted a questionnaire survey on children's outdoor activity and their parents' awareness, in terms of both crime prevention and road safety. The survey targeted the parents of children in all 3rd grade classes of two elementary schools whose catchment areas included ordinary residential areas developed by a land readjustment project in a regional hub city (217 valid responses).

Figure 1 shows urban street segments where anxiety is felt and those where reassurance is felt, in terms of crime prevention, with the individual responses entered on the map aggregated for each segment. The segments with



Figure 1. Reassurance segments (blue) and anxiety segments (red)

the most respondents expressing reassurance are shown in blue, and those with the most expressing anxiety are shown in red.

We also conducted a field survey to ascertain spatial compositional elements (street structure and roadside conditions) as well as the amount of street traffic. We then used multiple regression analysis to analyze the relationship between these "physical factors" and "psychological factors" connected with reassurance or anxiety in terms of crime prevention. Fig. 2 shows the impact of each spatial compositional element on the parents' reassurance from crime (t value) (1% significance elements only, $R^2=0.59$).

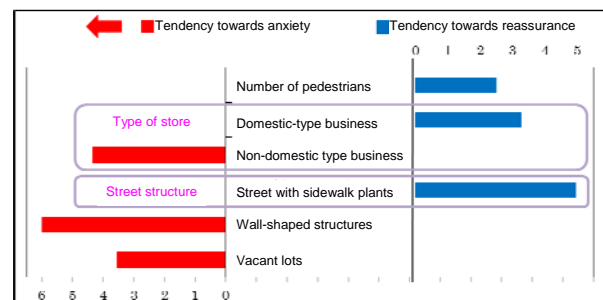


Figure 2. Impact of each element on reassurance or anxiety

From this analysis, we identified urban street spaces with elements that would give parents reassurance in terms of crime prevention and persuade them to let their children go outdoors. These are street spaces that have services for neighbors such as daily requisite stores arranged at the roadside, are structurally separate from passing motorized traffic, and have pleasant sidewalks containing plants.

As a result of this study, we found that the category of land use along neighbourhood streets firmly affects the sense of reassurance among parents, so that it should be planned carefully in order to encourage the sound growth of children.

[Reference]

Takayanagi & Akashi "Spatial Components on Safer Street Space for Children in Terms of Crime Prevention" Toshi Keikaku Ronbunshu (Papers on City Planning). Vol.46. No. 3 (Oct. 2011)