What is “Community CPTED”?

“Community CPTED” is a pro-active approach to applying CPTED in a defined geographic area. It examines the interaction of selected physical, social and economic conditions and uses the details of the built environment and social behavior to develop CPTED strategies. It involves the development of community-wide recommendations, that when used collectively will synergistically enhance and sustain safety and well-being.

Minimising Subjectivity: A new Risk Assessment Model for CPTED.

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> "...many people 'practising' CPTED have not been formally taught about CPTED,...or how to implement CPTED when environmental context and situation risks change."

The issue

During the 1960's and 1970's, the design/crime connection was popularised in Australia as elsewhere, by the groundbreaking treatises of Jacobs (1961), Newman (1972) and Jeffery (1971). Armed with newfound knowledge, checklists, and a plethora of design tactics, architects, planners and criminologists set about lancing the boil of Australian crime, or so they thought. Some projects and studies enjoyed degrees of success; many others however were disappointing. Before a decade had passed, interest in *Defensible Space* and *CPTED* began to wain, projects slowed, and a shrinking number of Australian practitioners pursued "the promise" of design and planning based crime prevention.

Commentators such as Merry (1981), Kaplan et al (1978) and Rubinstein, Motoyama and Hartjens (1980) were quick to criticize the theories and work of early researchers, especially Newman. While it is broadly accepted today that the process and outcomes of early CPTED studies were less than ideal, it is also the case that many practitioners were ill prepared and ill equipped to implement CPTED. In Australia for example, there are no records of formal, recognised CPTED training during this period, and there certainly weren't any tools capable of helping practitioners to objectively diagnose 'design and planning' problems, or to identify measured solutions.

During the past ten or so years, CPTED has re-grown in popularity amongst many criminologists, architects, planners and police (McCamley, 1999). Supportive

reports to the New South Wales Government (IRC Report to the NSW Attorney General, 1997), the US Congress (Eck, 1997) and the UK Home Office (Herbert, 1997) underline this fact. An unfortunate legacy carried forward from the 1970's however, is that many people continue to consider design checklists and one-size-fits-all prescriptions as best practice (Saville, 1998, McCamley, 1999). Furthermore, many people practising crime prevention through environmental design today have not been formally taught about CPTED, when or where to use it, how to determine if or when it is the right crime prevention tool to use, or how to implement CPTED when environmental context and situational risks change.

Crime prevention courses in the United States, Canada, Great Britain and Australia have exacerbated this problem by teaching design prescriptions and little about empirical diagnosis. In some respects, the process can be likened to a medical system that teaches doctors how to prescribe medication without teaching them how to diagnose illness. We would find it difficult to imagine a doctor who consistently prescribed the same selection of pills to patients, for prevention and cure - no matter what the patient's age, condition or the cause of their complaint. Yet, CPTED-by-numbers remains common practice today. A cursory examination of web advertisements for CPTED consultants, government and private crime prevention programs and training courses highlights this point.

Saville and Cleveland (1997), and others have referred to contemporary CPTED as "2nd Generation", implying that CPTED needs to be advanced forward from where it was during the 1970's. It is true that CPTED has improved in many ways during the past twenty years. Fundamental requirements such as the widespread availability of useable, useful diagnostic tools however, remain unfulfilled. Until these bread and butter needs are satisfied, it is likely that CPTED will remain tethered to unimpressive aspects of its past.

"crime prevention courses...have exacerbated this problem by teaching design prescriptions and little about empirical diagnosis"

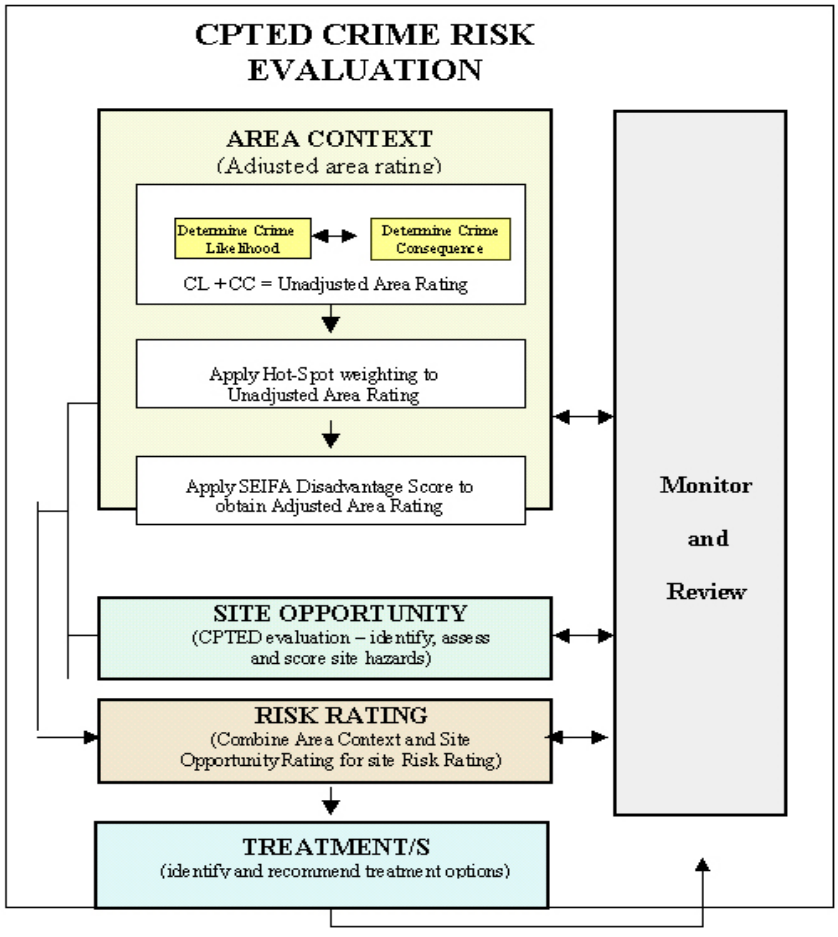
The Project

CPTED Crime Risk Evaluation Kit

In 1999, a CPTED based crime risk evaluation kit was developed in Sydney, Australia with the aim of helping practitioners to better identify, assess and minimise situational crime risk. Based upon Australia and New Zealand Risk Management Standard 4360:1999, the evaluation employs qualitative and quantitative measures of the physical and social environment to create a contextually adjustable approach for the analysis and treatment of crime opportunity (see below).

The evaluation kit contains two documents. *'CPTED Crime Risk Evaluation'* (the instrument) and *'A Companion to CPTED Crime Risk Evaluation'* (guidelines). Section 1 of the instrument uses local crime data to assess the statistical likelihood and consequences of crime within the target area. It then applies a police intelligence 'hot-spot adjustment' that refocuses the crime analysis from a neighbourhood level to the area immediately surrounding the project.

This diagram shows the CPTED Crime Risk Evaluation Matrix



Section 2 of the instrument applies a socio-economic index, or SEIFA rating, developed for communities across Australia by the Australian Bureau of Statistics. The rating is based on local education, occupation, unemployment, home ownership, income and other social conditions. SEIFA scores are available for areas with as few as 225 households. This data is then combined with the unadjusted area score to create an adjusted area score, or context rating (see diagram).

Section 4 is a multi-part assessment of design, space and activity management features (a CPTED site analysis). One hundred and thirty nine (139) location features are assessed and scored in this section using a verbal-graph response scale which targets the appropriateness, quantity and quality (or effectiveness) of each feature. Scores from section 4 are totalled and distilled to create a site opportunity rating. This rating is then combined with the context rating to determine location risk. In practice, the context rating re-weights the section 4 CPTED score depending upon the presence or absence of crime predictors such as social disadvantage and local criminal activity. High predictor levels push the CPTED rating upwards and low levels push it down. Section 6 explores treatment options and provides general guidance to raters. The kit does not offer literal solutions to crime problems.

Church Street Mall

The Second document *'A Companion to CPTED Crime Risk Evaluation'* contains guidance on how to use and interpret the evaluation instrument. It also contains diagrams, tables and photographic examples of design features outlined in section 4.

Field Research

In 1999, drafts of the Evaluation and Companion were circulated for the purpose of clarifying and refining document layout, questions, data tables, instructions and methods of calculating risk. Forty-five (45) raters then tested the evaluation instrument at three Sydney sites. Raters were randomly chosen from targeted occupation groups. These included Local Government Planners and student Town Planners from the University of New South Wales, Police Crime Prevention Officers and Architects/ designers. Three levels of knowledge and experience existed within this larger pool. Raters who were untrained and inexperienced in CPTED (P1), raters who were recently trained but inexperienced (P11), and raters who were both trained and experi-

enced (PX). Data in this paper relates to assessments conducted in the Church Street Mall, a city pedestrian and shopping precinct located within the heart of the Parramatta central business district.

The researcher/control (P1X) conducted evaluations at the site approximately 1 week before other assessments were conducted. P1X data were used as a research benchmark while other results were used to assess rater reliability and the effects of training and prior experience upon rating outcomes.

A Friedman statistical test was used to determine whether the 139 'field' questions were answered differently as a group. It was discovered that, generally, raters from different groups did rank the questions differently. Additional statistical tests were then applied to data to assess the effect of training on rater reliability, also known as the variance. The results were examined for all groups of raters.

"evidence is supportive of the notion that both training and experience reduce variance"

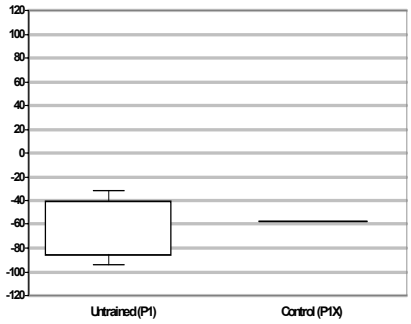
As **Table 1** shows, the variance of the trained/inexperienced raters was less than one quarter of the variance achieved by the untrained group (P1), and the standard deviation was approximately half that of the untrained group. The trained/ experienced group on the other hand (PX), produced a rating variance 31 times lower than the untrained/inexperienced group (P1) and 7 times lower than the trained/ inexperienced group (P11).

	Variance	Standard Deviation
Untrained/inexperienced raters (P1)	663.083	25.750
Trained/inexperienced raters (P11)	159.417	12.626
Trained/experienced raters (PX)	21.000	4.583

Table 1

Box plot tables highlight scoring variance between rater groups and the control. Y-axis data on the left side of each table represent only part of the total scoring range of -417 to +417.

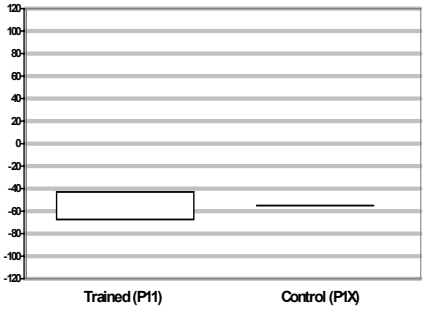
Table 2



The lower the score, the lower the number of problematic CPTED features identified by raters at the site. **Table 2** highlights variance between the untrained/inexperienced group (P1) and the researcher (P1X). There is notable variation within the group, and the mean is approximately 20 points below the control (P1X).

Table 3 compares ratings from the trained/inexperienced group with the control. As can be seen, variance between raters within this group is significantly less than variance between raters in the untrained/ inexperienced group (in table 2). The mean between the trained group and the researcher is also much closer.

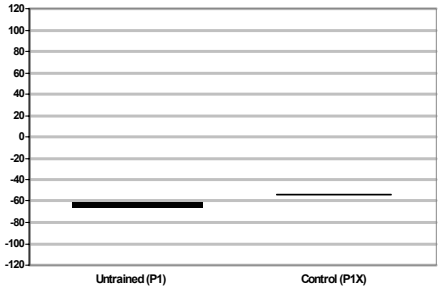
Table 3



In **Table 4**, statistical variance between trained/experienced raters is marginal and the mean between the raters and the researcher is also close. As data in these tables show, training appears to have a strong 'qualitative' effect in limiting the variability of responses between raters.

There was notable difference between variance levels in the trained/ inexperienced group (P11) and the trained/experienced group (PX). Experience was the major difference between these groups. It could be argued therefore, that this variable also minimises rater variance. As experience cannot explain differences between the two inexperienced groups, evidence is supportive of the notion that both training and experience reduce variance.

Table 4



Scoring differences of up to 60 standard points were achieved between raters in the untrained group. Arguably, this difference is not *large* given that the maximum scoring range is 834 points (139 questions x 6 scoring options) and the maximum variance for trained raters was 30. Further reductions of variance however, are desirable.

Rater characteristics and subjectivity

An assessment of raters by gender produced some interesting and unexpected results. It has long been argued that women are more sensitive to 'negative' elements within their surroundings and more fearful of those elements than males (Grabosky, 1995; Hickie & Leonard, 1994; Valentine, 1990). As CPTED assessment totals and averages were more positive for female raters than males, this would not appear to be the case all the time.

"There was little collective difference between planners and police"

Approximately 30% of raters were from non-English speaking backgrounds. An assessment of ratings from this group showed that raters had greater variability in responses but against the above-mentioned trend, non-English speaking females rated sites more negatively than other females.

Of all groups, non-English speaking background males rated the site most positively, which introduces an interesting cultural dimension to "perceptions" of crime risk within the built environment. Studies have shown that visible minorities commonly fear crime, particularly violent race-hate crimes (Human Rights and Equal Opportunity Commission, 1991). Little has been documented, however, about the effects of the built environment upon fear amongst males and females from non-English speaking backgrounds. Results from this study suggest that further research is warranted, and that CPTED strategies should not depend solely on the perceptions of one group over another.

Student Planners and Council employees had skewed distributions towards the negative, but other occupation groups achieved reasonably symmetrical distributions. When occupation and gender were combined, some statistically significant results were obtained. Male police officers for example, rated the site much more negatively than female police officers and male Council employees rated the site more negatively than female employees. There was little collective difference between planners and police. Male and female planners were also close, although there was marginally greater variance between females. Male student planners were more positive than female student planners, but as a high proportion of students were from non-English speaking backgrounds, these figures reaffirm comparisons already identified.

Conclusions and implications

Experience in New South Wales, as in other parts of the world has shown that design checklists and cookbook approaches to CPTED cannot discriminate for the many different social, community and situational conditions that influence crime in our neighbourhoods. The nature, extent and methods of crime continuously change between locations and within locations over time. The activity of crime prevention practitioners therefore, like the activity of criminals, should be tailored to suit the conditions and needs of different places and communities. To do this however, practitioners need the right knowledge, practical skills and tools.

When the field-research was completed, raters completed a post-assessment survey that measured the useability and usefulness of the evaluation kit. 96% of respondents believed the kit will help planners, designers and crime prevention practitioners to better understand CPTED. 92% of raters believed the evaluation kit will help planners, architects and crime prevention practitioners to identify and address crime opportunities within the built environment, and 97% believed that raters will be more likely to use the kit if they are formally trained in CPTED.

Special Point of Interest

"...variance in crime risk ratings is likely to be affected by gender, ethnicity, and occupation in spite of directive evaluation instruments."

Open-ended comments from the post-assessment survey include:

"The process makes you check against a framework. This is very important when dealing with familiar scenarios. It 'opens your eyes' and when dealing with unfamiliar scenarios, gives you a handle to start grappling with. It objectifies a subjective issue" (Architect).

An Urban Planner stated *"The Evaluation and Companion are comprehensive and take a logical, step by step approach".*

A Police Crime Prevention Officer concluded, *"Easy to apply. Excellent Package".*

Arguably, this study has demonstrated the importance of diagnostic tools in CPTED practice. Statistical results have shown however, that people see manifestations of crime risk in different ways. Moreover, variance in crime risk ratings is likely to be affected by gender, ethnicity and occupation in spite of the use of directive evaluation instruments.

It is reasonably clear that use of the evaluation (alone) will not reduce rater subjectivity to optimally low levels. The evaluation kit (in its current form at least), is not recommended for use by unskilled persons, although the study positively highlighted the ability of CPTED training and experience to greatly reduce variance between

raters using the evaluation kit.

Those most likely to benefit from this process are experienced, trained CPTED practitioners. For beginners, the evaluation kit will be more useful, and assessment outcomes more valid if they are formally trained in CPTED.

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The CPTED Evaluation Model Using Space Syntax Theory

By Joowon Kim & Youngki Park
South Korea

Jowoon Kim and Youngki Park conducted this research as part of university graduate research in Seoul, South Korea. They are members of the ICA and have interests in the emerging field of space syntax theory. This article was summarized from a graduate thesis on this topic.

"Space syntax theory...has been used as a methodology to analyze "space", such as inner city space."

It is easier to understand through common knowledge, rather than prove through rigorous means, relationships between environmental factors and crime. Most of us have more first-hand experience around "crime-ridden districts" rather than experience with testing theories related to crime prevention. In order to prove the existence of places of chronic criminal offending, researchers and practitioners have had mixed success in their ability to cite causal relationships. In spite of the persistence of crime hotspots in many urban areas, it is difficult to find sufficient evidence to prove the correlation between environmental design and crime.

CPTED is rooted in the basic premise that human behavior is influenced by the environment. CPTED has contributed greatly to the theories of crime prevention by explaining not only why some places are crime-ridden, but also by suggesting safer design strategies for crime prevention. On the edge of criminology and architectural design, the value and necessity of CPTED research is that the results of research can help to prevent and reduce the crime. As the "broken window theory" and "bubble effect" attests, the improvement of relatively minor design elements can make a great reduction in crime.

Purpose and method: Development of application on Space Syntax Theory to CPTED

Space syntax theory, which has a topological orientation, has been used as a methodology to analyze "space", such as inner city space. Many researchers, including some at the space syntax laboratory in the UK, have carried out research related to CPTED, and most arrived at conclusions indicating relationships between space syntax indices and crime rates and fear of crime. However, they could not suggest how to make improvements to the diagnosis of the place context of crime. In this

paper we will try to offer such improvements. This paper is on a CPTED evaluation model using space syntax theory. The model would expose the possibility of space syntax theory in CPTED.

"Space syntax theory is a tool for quantifying architectural space..."

CPTED is more practical rather than academic, and positive rather than normative. This study aims to examine from a practical view if space syntax theory can help with the application of CPTED and contribute to developing a community crime prevention strategy.

Space Syntax Theory

Space syntax theory (SST) is a tool for quantifying architectural space and does so by organizing spatial systems and their structure. This paper selects three CPTED projects to consider that used SST. Two are from Korea, and one is from the UK Space Syntax Lab. Ideally, what has been abstracted from these studies using this model would provide aid to architects, designers, police officers, and others.

In 1984, B.Hillier and his colleagues developed an architectural theory called space syntax. This engaging theory measures architectural space quantitatively, and explains relations between human behavior and spatial use from the view of sociology. They asserted that spaces are extended fields of everyday lives and must be analyzed by topological relations rather than physical characteristics. The more important element in the architectural experience is not the visual characteristics, but sequence of characteristics throughout the spatial structure and system. They suggested space syntax theory as a mathematical model of measuring architecture, which could explain certain human behaviors.

"...which could explain certain human behaviors through the correlations of space cells and their organized patterns."

This model premises the fact that space structure is an important social concern because it is the physical base in which many social interactions occur. On the basis of this concept, the space syntax model has been developed to explain the relations between space and society.

This theory supposes that the practical usage of space is a very important element of spatial structure, as it can indicate entrance and exit pathways and how they are utilized. In a sense, we can read social character of space through the practical use patterns of the space. Space syntax theory has four main indices to explain these re-

lations: Connectivity, Integration, Control Value, and Intelligibility.

The basic elements of Space Syntax

Cell & Link

The basic elements of Space syntax are the cell and link. The cell is a space unit which expresses visually limited convex space. The link is the connection between two cells (see **figure 1**).

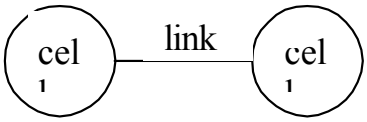

Fig.1. cell and link

We can show spatial organization as a network of cells and links. There are space systems consisting of 4 rooms as shown in **figure 2**. Although these spatial organizations have similar visual characters, they could be shown differently as tree diagrams according to linkage patterns.

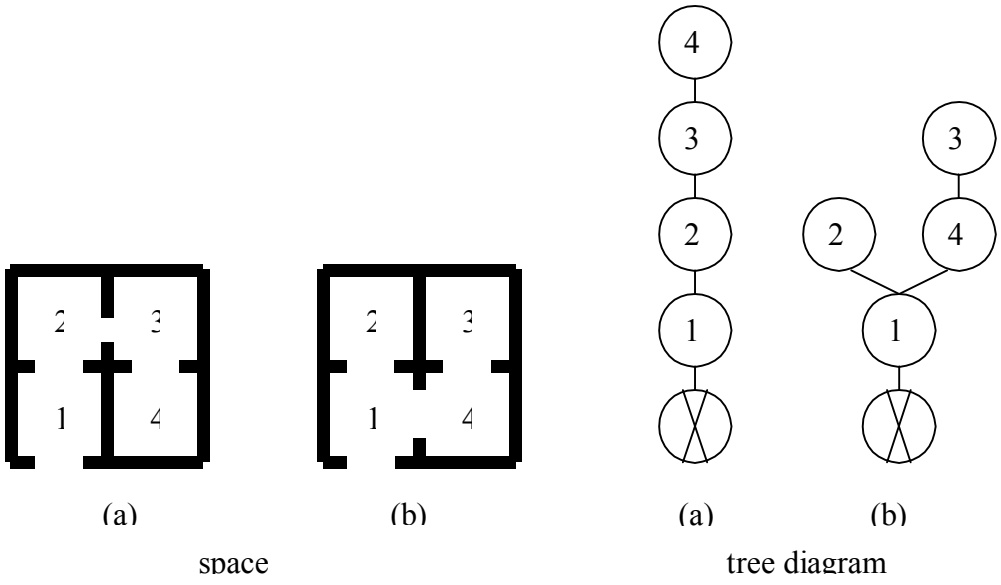

Fig.2. space organizations have similar visual characters could be shown as different tree diagrams according to linkage patterns

Depth of space

The depth of space refers to the number of links from one space to another space.

MD is the mean of depths from one space to all other spaces in the system.

(a)	D	MD
1	1	2
2	2	4/3
3	3	4/3
4	4	2

(b)	D	MD
1	1	4/3
2	2	2
3	3	2
4	2	4/3

Axial maps and Convex maps

There are two ways to express space systems using cells and links: axial maps and convex maps.

In convex maps, space gets divided into the minimum of convex area. In axial maps, space is expressed for passage routes between crossroads. Generally, convex maps are used for analyzing interior space, while axial maps are used for outer space, especially city space.

The Four major indexes of space syntax

Connectivity

Connectivity refers to the number of relationships that cells have with each other. High connectivity means that a cell is connected frequently to other nearby cells. This index is a localized variable because it could indicate the relations to neighborhood cells.

C=N

C=connectivity

N=number of other cells connected to that cell

Control Value

The control value is represented by relationships of directly connected cells. If a cell is connected to "n" number of cells, then that cell gives its' connected cells 1/n local control value. The connected cell that has been given 1/n local control value is connected to other cells that also have a certain local control values. So control value of a cell is represented by the sum of local control values from connected cells. High control value means that there are many connected cells controlling a particular cell. This index is an extension to the concept of connectivity, and like connectivity, it remains a localized variable.

$E=\Sigma Pi$

E=control value

Pi = 1/n (local control value)

Integration

Integration is represented by the mean of depths to all other cells within a space system. The degree of "RA", or Relative Asymmetry, is used to quantify the relative depth of space. Integration is a reciprocal of RA. High integration means that it is necessary to pas s multiple cells to go to other cells in the system. It can indicate how well space is conne c- ted. While connectivity is a localized variable, integration is a more comprehensive variable, revealing topological relations within a space structure.

$RA=2(MD-1)/k-2$

MD = mean of depth = $\Sigma di/k-1$

k : number of cells in system

di : depth of space to each cell

$(0<RA<1)$

Intelligibility

Intelligibility refers to the ability to understand spatial structure from one point. It is represented by the correlation statistic Pearson's "r", depicting a strength of relationship between connectivity and integration of all cells. High intelligibility means there are high levels of integration and connectivity. This index is also a comprehensive variable, with the purpose of explaining relationships of individual parts of the space system to the total structure.

The logical framework of previous CPTED research using Space Syntax Theory

Space syntax developer, Hillier, and his student Simon Shou, published research in 1999 aiming to promote a better understanding of burglary within the concept of defensible space. They contend that Oscar Newman's 'defensible space' does little to weigh the possibility of victimization by potential criminals. Newman also states that the cul-de-sac design is the best design for safe housing. Hillier and Shou countered by observing that more concentrated districts have more pedestrian interaction and circulation--- which may promote less crime. They have quantified their observations through space syntax theory to respond to Newman's defense of the cul-de-sac design.

Many researchers on CPTED, including Hillier, have used Space Syntax Theory as a measuring tool of architectural space. They have used theories of CPTED because Space Syntax theory could translate architectural space as topological space systems containing criminal activity networks. The following chart highlights some of the CPTED-related research using Space Syntax Theory.

No.	researcher	year	method	Variable X	variable Y	result
1	Y.K.Choi I.H.Kang	1993	space analysis survey observation	Indexes of SST other environmental indexes	crime rate fear of crime	Connectivity and control value is correlated with crime rate. Intelligibility is correlated with fear of crime : the characters within selected 6 co-housing districts
2	M.W.Jung S.P.Kim	1997	space analysis tactical data survey	Indexes of SST other environmental indexes	crime rate consist rate on district	correlation between indexes and crime rate correlation between indexes and consist rate on district : the characters within selected districts
3	B.Hillier S.Shou	1999	space analysis tactical data survey mapping crime location	Control value	Crime	correlation between control value and crime : it is impossible to prove the correlation's between environmental characters and crime through mapping the crime location

In Korea, CPTED research began in the middle of the 1980s. After the president declared a 'war against crime' in 1990, building and transportation administrations commissioned researchers and institutions to study co-housing designs and CPTED. This served as some of the earliest CPTED work in Korea.

Some of the important early works in Korea include:

- *The spatial structure of crime in apartment sites* (Choi & Kang, 1993).
- *A study on the analysis and planning method of public space in multi-family housing in terms of the space syntax model* (Lee & Lee, 1993).
- *A study on the method of alternative estimation in multi-family housing planning in terms of space syntax model* (K.I.Lee, 1995).
- *A study on the crime occurrence and environment characteristics in residential area* (Jung & Kim, 1997).
- *A study on the actual condition of defensible space against crime in high-rise apartment sites* (S.E.Chang, 1997).
- *The development of conceptual model for the relationships between environmental characteristics and fear of crime* (K.H.Lee, 1998).

"(The studies showed that)... districts with varying characteristics of space structure had different crime rates ..."

Some of these works have used space syntax theory for spatial analysis to show correlations between the characteristics of districts as presented by SST indices, and accompanying crime rates. These studies were based on the fact that the districts with varying characteristics of space structure had different crime rates and correlations between SST indices and crime.

Notwithstanding the merit of these studies, the question remains about how SST can serve a function for the practical application of CPTED. After all, how useful is the statement: "let's design the district to increase control value because less control value causes more crime"? More direction is needed for SST to serve as an important tool for crime prevention. The control value may be able to explain the structure of space, but it does not suggest ways to improve space quality for safety.

Although this research could suggest an advanced model for CPTED, there remains a basic unchanged limit for CPTED application. This relates mostly to the level of analysis. Hillier's research explained why certain *regions* tend to become crime-ridden. He measured this using the control value index for SST. Yet, the

characteristics of the *local place* that reside at a smaller level of analysis were not considered. If they were, they would need to be represented on more complex cross-indexes, and the non-explained places would need to be classified into defined spatial types. Below is a general scheme of previous research using SST.

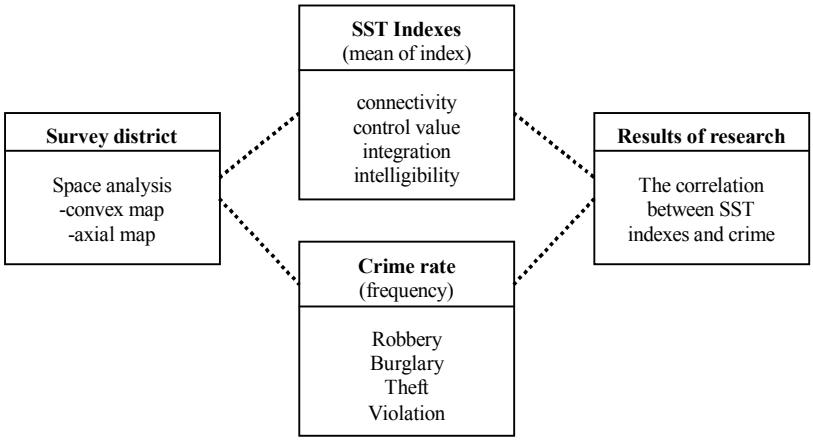

Fig.3. the logical framework of previous CPTED researches using SST

"(Previous research did not consider)... the characteristics of the *local place* that reside at a smaller level of analysis..."

A New model for research in CPTED using Space Syntax Theory

Based upon the limitations of the previous CPTED research using SST, we have four suggestions:

1. The basic unit for spatial analysis must be changed to include local neighborhood characteristics, such as playgrounds, basement parking lots, entrances, elevators, etc.

2. A new index for the degree of crime prevention degree could be developed through the use of more complex cross-indices of SST. The cross-indices would further divide spatial types. The space type is classified through following the cross-index axis map (see fig.4). The axes consist of control value (horizontal axis) and the integration value (vertical axis). The space unit is divided into six classifications. Using the axis map, we could generally get the following descriptions: in the case of integration values, more than "1" indicates concentric space, less than "0.6" indicates side

space. With control values, more than “1” indicates open space, and less tha n “1” equals side space.

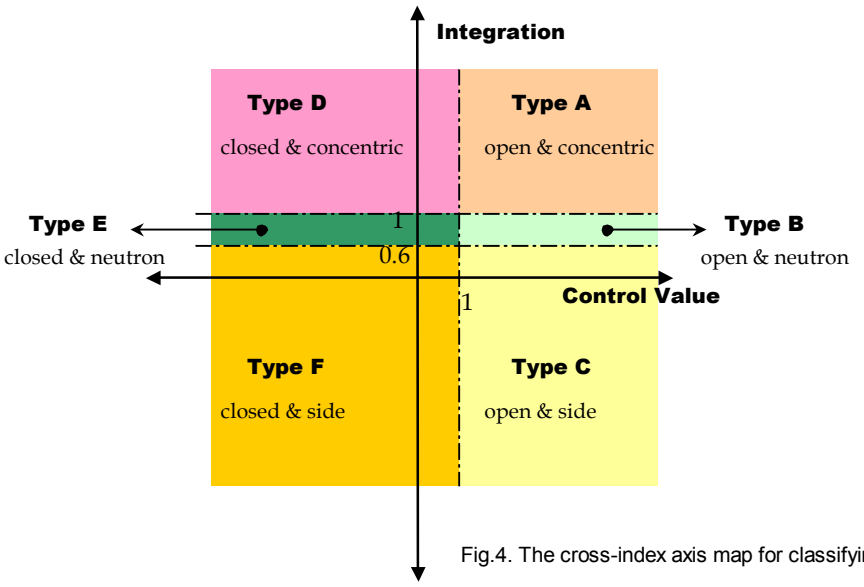

Fig.4. The cross-index axis map for classifying space type

3. Exact crime occurrence locations must be matched on the map. The crime locations must correspond to basic units of spatial typologies. Importantly, we propose that the utility for crime prevention practices may be enhanced from this map through analyzing the correlations of specific crime occurrences with the different spatial topologies.

4. Fourth, the results of this type of research should include design guidelines for making appropriate changes according to the SST model. In Korea, where co-housing is popular, this model for CPTED improvement is especially applicable given the different topologies that co-housing can take.

The new model for CPTED using space syntax theory could be expressed by following diagram.

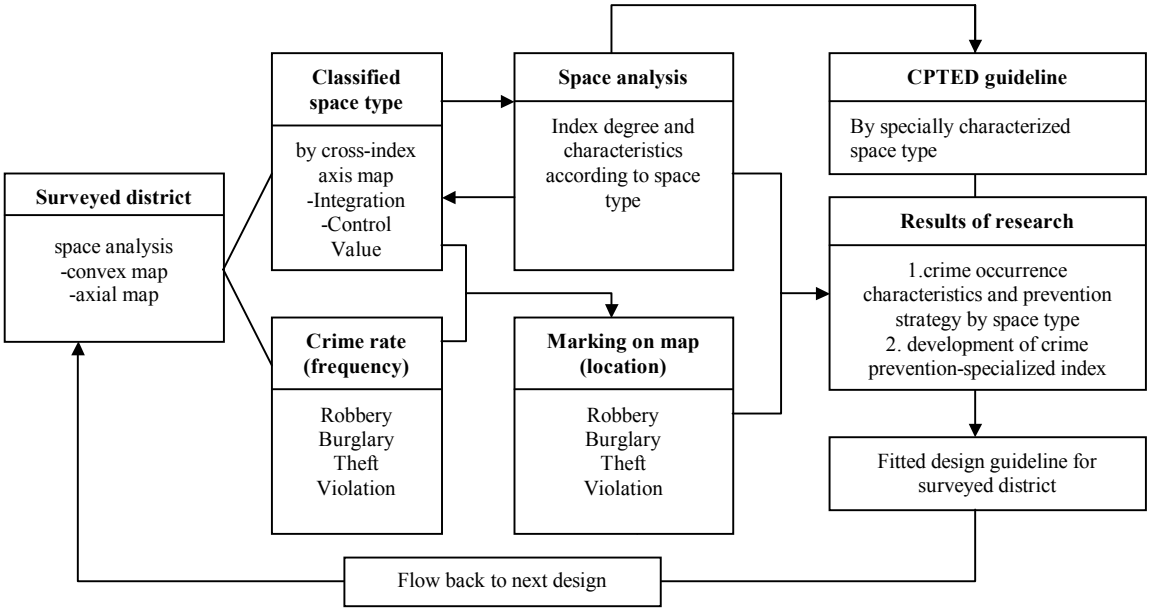

Fig.5. New CPTED evaluation model using space syntax theory

"...we propose that the utility for crime prevention practices may be enhanced from this map through analyzing the correlations of specific crime occurrences with the different spatial topologies"

6. Conclusion

This paper suggests a new evaluation model for CPTED using space syntax theory. It is particularly relevant for the co-housing model in Korea, but can also apply to other local inner city networks. This model builds upon previous SST research in three significant ways:

First, this model could convert spatial analysis from an averaged index degree of districts into a crime prevention-specialized index of space type.

Second, this model would use localized crime occurrence information for a more detailed level of spatial analysis.

Third, this model also would include design guidelines for troubled areas.

Also, this model is flexible enough to extend its application into commercial, public,

and educational spaces. We expect this model to increase the application of space syntax theory on CPTED. If more elaborated logical frameworks are studied through space syntax theory based on topological analysis of spatial structures, then we can build more powerful crime prevention strategies focusing upon the built environment.

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1. The next issue is scheduled to be published in Spring, 2003. If you intend to submit an article, you must notify the editors by September 30, 2002 and submit by the deadline of December 30, 2002.
2. Papers should be composed in a standard font in 10 or 12 pt. size. It is preferred that the "Perpetua" font is used, 11 point, with a line spacing of 1.5.
3. Narratives may be written in either English or American dialect.
4. You are encouraged to include with your paper digital pictures, graphics, and diagrams whenever appropriate. Make certain to include in your narrative where the accompanying media should go.
5. Send company logos in digital format if possible, include a short biographical paragraph, and contact information.
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