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**CPTED, But Not As We Know It:
Investigating the Impact of Conflicting Frameworks and Terminology
in Crime Prevention through Environmental Design**

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CPTED, But Not As We Know It: Investigating the Impact of Conflicting Frameworks and Terminology in Crime Prevention through Environmental Design

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Introduction

Crime Prevention Through Environmental Design (CPTED) has become a familiar field in contemporary crime prevention, evidenced particularly in English Speaking and Northern European countries; but more recently expanding south to Eastern Europe, Turkey and the Middle East, where crime prevention has traditionally adopted more offender and community orientated approaches (Ekblom 2011a). Definitions of CPTED vary, but the most common was given by Timothy Crowe of the U.S. National Institute for Crime Prevention: *CPTED is the proper design and effective use of the built environment that can lead to a reduction in the fear and incidence of crime and an improvement in the quality of life... The goal of CPTED is to reduce opportunities for crime that may be inherent in the design of structures or in the design of neighbourhoods* (2000:46).

More recently the concept has been re-defined by Paul Ekblom, Professor and Co-Director of the Design Against Crime Research Institute:

CPTED is reducing the possibility, probability and harm from criminal and related events, and enhancing the quality of life through community safety, by the process of planning and design of the environment... on a range of scales and places, to produce designs fit for purpose and contextually appropriate, whilst achieving a balance between the efficacy of avoiding crime problems before construction, and the adaptability of tackling them through subsequent management and maintenance. (2009:11)

At the heart of the overall concept of CPTED is the ability to *reduce opportunities for crime* through effective *planning and design* to produce a *built environment* that provides and encourages *empowerment to legitimate users* and the *marginalisation of the illegitimate*.

CPTED is not therefore something that is done by the individual, nor is it a 'bolt on' accessory to the built environment to be considered when the time comes to reduce criminal opportunities.

Instead it is a necessary part of the overarching process of urban design, and it naturally follows that the integration of CPTED principles into the built environment requires understanding and co-operation between the diverse actors involved in that process.

However there is a demonstrable paucity of studies that have attempted to develop a holistic CPTED framework for academic research and practice. Given that the CPTED concepts derive from over 40 years of consideration, this is perhaps surprising and a potential obstacle for both theoretical development and practical implication. Examples of the few date from Westinghouse 1977 demonstrations (See Bickman et al 1978 & Kaplan et al 1978), Crowe (2000) and Ekblom (2009), but these evidence the lack of structured development in the first few decades of exploration and operationalisation as they have limited redress to an accepted framework and strategy design known and used today. For this purpose a framework can be seen as *a set of concepts organised to facilitate the understanding and operationalisation of a complex overlapped crime prevention approach*. It aims to set out the component parts of the approach in a suitable format leading to the understanding of the relationships and drivers behind them. Without such an established, evidence based and clearly understood framework it becomes almost inevitable that diversity in approaches will follow, leading to the significant risk of losing sight of the core CPTED precepts and weak prevention focused design.

Research presented here originated from a need within a wider body of research to establish an applicable, current CPTED framework in order to identify a benchmark from which further work could be aligned. Instead it became apparent that academically focused CPTED frameworks were lacking. Those which had been iterated were at times confusing and at odds with each other, using a myriad of terms to describe and delineate similar features. Whilst this paper does not seek to consider such definitions in detail, it does set out to consider the framework that lies behind the concepts of CPTED and in so doing will put forward a new improved CPTED framework. This is designed to serve as a supporting and guiding mechanism to the achievement of crime prevention through the design of the environment. It offers the academic and the professional alike understanding of the system of CPTED and describes in detail, their interrelatedness.

Having considered the academic and found it to be wanting in terms of transferability to professionalisation a second project was developed to examine the use of CPTED in that professional arena. In England & Wales this is a statutory requirement. Local authorities must consider the prevention of crime throughout all areas of activity, including the planning process. To this end, planners, designers, architects and developers must therefore incorporate crime prevention in to their designs but the question considered was what knowledge base do such professionals draw upon to follow this requirement? Internationally the use of crime prevention in design may not be so formally incorporated in urban planning processes but such activity is practised, and samples were forthcoming from beyond the U.K.

This paper will propose a potential remedy to the lack of a suitable CPTED framework through the development of a deeper, improved and further integrated framework, useful for both practice and research and developed through phase one of the study. It will then report on the findings of the second phase of research into the knowledge base currently drawn upon by professionals in the field when considering crime prevention within urban design. As with the academic literature examined for CPTED frameworks significant diversity was found to exist in professional practice, providing a very mixed and often lacking crime prevention approach to design. We do not seek to be critical of professional practice in this aspect of the work but put these results forward as evidence of the potential risk posed to the accomplishment of a holistic

crime prevention strategy in urban design resulting, at least in part, from the lack of a suitably defined and communicated CPTED framework.

Phase one - Academic Frameworks

This first phase aimed to evaluate the diversity of CPTED frameworks in academic literature and to subsequently provide a reconstructed framework to suitably describe the intended role of each concept. The proposed framework facilitates easy definition and transferability throughout cross disciplinary research and practice.

For the purpose of this research, three key terms require definition and clarity at this stage. *Concept* refers to a theory driven classification of common principles with a shared desired goal/aim. *Principle* will be referred to as a fundamental proposition that serves as the foundation for a system or process within the concept. *Framework* can be seen as a set of concepts organised to facilitate the understanding and operationalisation of a complex overlapped crime prevention approach. It aims to set out the component parts of the approach in a suitable format leading to the understanding of the relationships and drivers behind them. A *framework* should be heavily supported by theory which can be used as intellectual structures, it should also organise enough persuasive empirical evidence to predict or hypothesise causes of crime. A *framework* is subsequently presented in this paper which attempts to develop a general understanding with the aid of effective communication. It is important at this stage to clarify the meaning of such terms to keep the framework analysis, development and discussion consistent and understood by all readers.

Methodology

The study utilised a directed content analysis of an exhaustive search of CPTED literature with an inclusion requirement of an existing framework within its content. Further criteria were set which required the document to be a published academic article of any format and to contain at least one developed or referenced framework for CPTED. Excluded were studies not written in English where no translation could be obtained and studies published before 1972- the year that CPTED was initiated. The extracted 64 papers contained all suitable CPTED literature therefore capturing every published framework version in academic literature since 1972. These included academic journals, published magazine articles, government reports and book chapters

The main part of this study used Directed Content Analysis from which frameworks were extracted and analysed in depth. Directed content analysis is a methodology within social sciences used for studying the content of literature in relation to themes, words, authorship, authenticity or meaning. This provides a summarising, quantitative analysis of text which relies on a scientific method with attention to objectivity, reliability, validity, and generalisability. Within directed content analysis the researcher begins the analysis with theory or relevant research findings as guidance for the identification of themes or content. The theory or research being analysed is often incomplete and would benefit from further research; the ultimate goal being to validate or extend conceptually, the framework or theory itself (Hsieh & Shannon 2005). The themes analysed included, framework terminology, concepts, source of reference and concept definitions.

Results

Analysis extracted a total of 58 terms typically used to define concepts within the CPTED frameworks. Such a large number immediately indicated the disparity of terms used throughout academic literature in this field. Examples ranged from such diverse concepts as 'Reinforcing

Natural Kingdom' (Territoriality), 'Deflecting Offenders' (Target Hardening) and 'Communitarianism' (Activity Support) to the more common and understandable 'Natural Surveillance' and 'Target Hardening'.

Ranked by the number of supporting documents, results showed 25 out of 64 papers offered a framework either of the authors own interpretation or completely unreferenced to its source, followed by Timothy Crowe's framework shown in 11 out of 64 papers and Oscar Newman's in 6 out of 64 papers. Of note here are the discrepancies over the coining of CPTEDs first official framework, which was actually initiated by Westinghouse Corporation and later operationalised by their first ever CPTED demonstrations, yet this is scarcely referenced in subsequent literature.

Territoriality is central to CPTED, but unfortunately is often defined in a very limited way (Ekblom 2011b). Research for this paper identified deeper issues with Territoriality in its position within the CPTED framework. Previous frameworks propose territoriality as one of a group of concepts. It is a common notion that CPTED concepts overlap and support each other. Analysing 'territoriality' alone establishes that unless it is a main concept, the suitable environmental designs of remaining concepts naturally facilitate territorial behaviour as a human operation and subsequently the top-level means or mechanism by which the goal of crime prevention is to be achieved.

Within the CPTED community, territoriality has often been referred to through various design features; such as open sightlines, defining public and private space etc. However, territoriality is simply a '*natural behaviour by which organisms characteristically lay claim to an area and defend it against members of their own species*', claimed Henry Eliot Howard (1920) an English Ornithologist who became the first to fully describe the concept. It is therefore proposed that territoriality should not be classified as one of the several CPTED concepts, or labelled with prescriptive design intentions, but the top level means by which a universal goal of crime prevention is to be achieved. The subsequent overlap is due to the need for the remaining concepts to sustain a suitable environment for this behaviour to occur.

For the remaining concepts, definitions were sub-divided and grouped accordingly. Overlap occurred between them which was to be expected because of the nature of CPTED; however the mismatch of terms and definitions is not acceptable in such a multi-disciplinary operation. During a development process, the implementation of CPTED would require stakeholders at each stage to follow a framework or set of guidelines. Without a shared understanding of mutual priorities and goals, and the occurrence of terminological and definition discrepancies, the opportunity for the maximum potential of CPTED strategies may be hindered. Recurring problems of this nature may cause significant financial burdens to building and landscaping companies, not to mention consequences for community safety and fear of crime.

The results of this sub-division of concept definitions recognised underlying theory which enabled the merging of definitions into three main concepts. It also revealed two principles within each concept and two components to each principle, namely 'preparatory tasks' and 'operational tasks'. It seems CPTED principles require both tasks to achieve a successful territorial outcome. Preparatory tasks include physical designs to create an environment which enables territorial behaviour, for example, the Informal Surveillance preparatory task would include large windows and low hedges to create open sightlines. The operational task in this instance would be to ensure there are capable guardians in that location at all times to carry out natural surveillance. Design alone is not a panacea for territoriality, therefore correct social,

economic, cultural and political dimensions must be considered to ensure resident capability and willingness to engage with public space and sustain the physical designs of CPTED is feasible.

Framework Reconstruction

Based on the collective terminology and definitions extracted, theory based concepts were constructed. Concept 1 is *Surveillance*. Surveillance includes two principles of formal and informal surveillance. Formal Surveillance represents *mechanical forms of surveillance, or physical security/ patrol guards*. Informal Surveillance represents *the design of the physical and natural environment to create clear site lines and open spaces* which provide opportunities for capable guardianship through observation of public spaces. The two components of operational and preparatory tasks mentioned earlier are applied directly to these principles to represent the separate but unified requirement of physical design and human operation in the form of social, cultural and economic support.

Concept 2 is *Positive Reinforcement of Legitimate Behaviour*. This includes two principles of Activity Support and Image Management/Maintenance. Activity Support is the *placing of non-threatening activities in public and semi-public space* to encourage respectful legitimate users during their routine activities. Image Management/ Maintenance *encourages the public to use attractive, clean open spaces* and develop an attachment to the environment, maintenance of these tasks are vital for the sustainability of Activity Support. Each principle similarly comprises preparatory and operational components with the same rule as the previous concept.

Concept 3 is *Access Control*. Access Control includes two principles of Target Hardening and Boundary Definition. Target Hardening includes *physical and mechanical locks and alarm systems* to restrict access and make buildings more resistant to attack. Boundary Definition is *defining between private, semi private and public space* through physical and psychological barriers with the aim of making boundaries known to potential invaders and restricting their access through the apprehension of being noticed.

Although this framework has condensed in format, it represents a clearer less entangled structure. The Surveillance Concept undoubtedly signifies the goal of providing opportunities for people to act as capable guardians in their routine daily activities. Positive Reinforcement noticeably represents the goal of providing a clean, safe and well integrated environment, to encourage legitimate users into public space and engage in legitimate street activities. The framework is structurally supported by theories and territoriality is repositioned as an overall mechanism which must be achieved to ensure effective crime prevention as a universal goal for CPTED. It follows that the number of preparatory and operational tasks under each concept could be potentially infinite as there are for instance many ways to prepare the environment for surveillance or access control, this defining this as a flexible framework that can be integrated into practice.

Phase one conclusion

Phase one has provided an evidence base to support the struggles previously mentioned by the likes of Paul Ekblom, an internationally renowned academic and Crime Prevention expert with regard to the need for an updated CPTED framework. The significant paucity of studies to take on the facilitation of an holistic framework provided a substantial gap in knowledge for this study to fill and the results have shed considerable light on the state of the current CPTED approach.

The most important problem which has ascended from this analysis is the inconsistency of CPTED frameworks currently evidenced in academic literature. Academics and practitioners alike need focus and guidance to ensure a universal understanding is reached. Varied frameworks can cause misunderstanding of goals and underlying values of the CPTED concepts can be lost. It goes without question that academia has only been able to provide a very diverse knowledge base and framework guidance for CPTED. It was therefore hypothesised that professional use of CPTED would be somewhat flawed.

Phase two – Practitioners knowledge base

This second phase sought to establish a 'snapshot' of the knowledge base available to and used by professionals when considering a crime prevention approach to their designs. Time and resources available to the project were too limited to consider an exhaustive study or the collection of a statistically representative sample therefore the study was limited to a questionnaire which was distributed, mainly via the World Wide Web, to a variety of relevant professionals. This allowed for current crime prevention terms and frameworks being used in practice to be collected and examined, highlighting how or if these frameworks were related to CPTED as defined in phase one.

Methodology

The international study saw respondents from the UK, Ireland, USA, the Philippines, Australia and New Zealand, as well as Canada and Trinidad take part. The questionnaire was targeted at, and completed by professionals whose role included awareness of and use of crime prevention techniques in their work, or those who designed and worked on the built environment. Professionals that took part in the study included Crime Prevention Design Advisors, Architectural Liaison Officers, Planners, Architects, Urban Designers and Crime & Security Consultants.

Completion of the questionnaires identified core material used by the participant when considering crime prevention in their line of work, the knowledge base and reference points utilised. Collation of these documents (policies, strategies, academic works and the like) followed, after which textual analysis extracted the frameworks that were presented (where identifiable). Qualitative coding techniques were used to compare the extracted crime prevention frameworks with the academic framework developed and presented in this paper.

Results

Twenty six per cent of all respondents did not refer to or use any formal policy/ framework/ guideline in relation to crime prevention. Through the analysis of the material listed, only 31 per cent of the policies put forward by respondents contained a framework relevant to crime prevention or CPTED. The remaining were either not related to crime prevention at all,

mentioned the term only briefly, or were a design guide more specifically related to available products that may aid crime prevention rather than being a framework to incorporate crime prevention concepts in design.

Further analysis explored the professional frameworks in use. Core terms found in the extracted professional frameworks were grouped through comparing them with the definitions found in CPTED as defined in phase 1. An initial methodology of extracting terms from these frameworks and then seeking their definitions from within the context of the originating policy document was abandoned as it became clear that there was no collective standpoint in these documents. Many terms were used which lacked contextual definition.

The academic terms and definitions drawn upon to categorise the professional definitions included the concepts Surveillance, Positive Reinforcement and Access Control together with their related principles as defined in the proposed new framework. This allowed for categorisation of the professional terms to compare the frameworks utilised by professionals against the theoretical underpinnings of CPTED. Table 1 provides 3 examples of definitions of terms extracted from documents used as a knowledge base by professionals and which contained a crime prevention framework. These three examples translate to the CPTED concept of 'Access control' but note that it was not considered possible with the first example to delineate the principles involved.

Table 1

Example term	Aligned concept
Creating an environment where residents exercise a greater degree of control, through some type of physical or symbolic barrier or change of surface or colour of footpath	Access Control
Entrance arrangements which resist hostile entry	Access Control- principle 1
Access for the public is clearly identified	Access control- principal 2

The policy documents and frameworks within them were further analysed in order to establish how many concepts made up their frameworks and how many phase one CPTED concepts were featured within them, as identified in earlier stages. The principles within the policies that did not align with the academic version of CPTED were also stated.

Findings show that the professional frameworks were varied in length from three to seven components and that 33 per cent of the concepts found in professional frameworks did not align with academic concepts. Other results confirmed that 50 per cent of the policies had components which were categorised in a single academic concept more than once, revealing the repetition and lack of clarity in the meaning of these terms that are being used in practice.

The most common academic CPTED concept being used across the policies extracted was access control/boundary definition, featuring in 83 per cent of policies, as well as being a component repeated in 33 per cent of them. Informal surveillance featured in 75 per cent of the policies in use, and was only repeated in one policy.

None of the frameworks were identical, indicating that there is not one universal framework being used in practice relating to crime prevention. There was significant variation in the terms used in labelling the definitions with 44 different terms being used, thus making it difficult for professionals to use a common language where the meaning of terms are ambiguous. The 6 principles outlined in phase one were found to be separately described by the use of over 30 different words and phrases in the professional documents analysed.

Phase 2 conclusion

This final phase mirrored in many respects the results from phase one; clear indication of the lack of a universal framework and knowledge base leading to a diverse array of sometimes unhelpful terms and descriptions causing potential confusion. This lack of clarity and therefore understanding risks severely weakening the development and application of crime prevention in the built environment, even though such a concept as 'designing in crime prevention' is generally accepted and certainly promoted by governments.

Discussion

This research originally set out to establish a benchmark for further work but instead found academia to be lacking in provision of a rounded CPTED framework that could be disseminated for academic research, understanding and as a knowledge base for professional practice. In two distinct phases the research has examined first academic knowledge and second the knowledge base drawn upon by professionals in the field. In both areas of application a holistic, universal and clear framework for the overall concept of the ability to prevent crime through the design of the built environment has not been apparent. It is accepted that phase two researched a 'snapshot' of professional practice rather than a truly representative sample. However all indications and feedback received during the course of the project point toward a similar result being obtained were we to do such a study, which in itself would be time consuming and complex given the diverse nature and sheer numbers of practitioners.

The potential risks posed to crime prevention and community safety within the designed and planned urban environment are self-explanatory. These are areas of work that are almost universally accepted as requiring significant cooperative multi-disciplinary working relationships. A conclusion can be drawn from this research that such partnership work will struggle to communicate effectively over the issue of 'designing in' crime prevention where there is such a lack of a common language on the matter. Whilst perhaps not so damaging on a localised scale where practitioners and local government are able to converse relatively easily on an informal as well as formal basis a major barrier presents itself once larger geographical scales come in to play. If CPTED is to be acknowledged as a valid and worthwhile approach to designing the built environment then a common language through a common knowledge base must be brought to the fore in a similar way that a common curriculum is developed in education to ensure parity of understanding without dictating outcomes or failing to acknowledge the value of flexibility and innovation.

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