

## Exploring CPTED's Role in Crime Reduction: An Effectiveness Study in the Urban Context of Khandagiri, Bhubaneswar using Structural Equation Modelling

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**Abstract :** In order to validate the dimensions of Crime Prevention Through Environmental Design (CPTED) and the corresponding indicators, this study investigates the contribution of CPTED to the reduction of crime in Khandagiri, Bhubaneswar. Four primary dimensions are the focus of the research: territoriality, natural surveillance, access control, and exterior maintenance. A scale was developed to access the CPTED construct, administered through on-site observation, expert opinions, and resident surveys involving 151 respondents from a typical residential area of Khandagiri, Bhubaneswar. Confirmatory Factor Analysis (CFA) using AMOS has been used to validate the dimensions and indicators, with the analysis testing both first-order and second-order models. The study highlights key factors contributing to the measurement of the CPTED construct, offering valuable insights for urban planners and policymakers. The findings showed that territoriality, access control, and external maintenance produced an index of a good fit, with the RMSEA value being less than 0.06 and the values of GFI, CFI, and TLI exceeding 0.90.

**Keywords :** crime prevention, CFA, urban safety, environmental design, built environment and crime

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