



### D1 25 Years of HITS: An Analysis of 10,000 Murder Cases From 1981-2006

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The goal of this presentation is to enable the police and the public to better understand the risk of victimization from a murder and the complex nature of these types of investigations.

This presentation will impact the forensic science community by providing valuable information and topics to be further explored relating to murder investigations.

This paper provides an overview of descriptive information about the victims, offenders and other factors affecting murder investigation solvability by examining variables in the Homicide Investigation Tracking System (HITS) from 1981 to 2006 dataset. Characteristics of the victims and offenders will be examined, including a description of the victim-offender relationship. Information relating to the victim's cause of death and offender's crime scene behavior will also be presented. The HITS dataset used for analysis includes more than 10,000 murders in Washington State and the surrounding area between 1981 and 2006. The HITS data were collected from municipal police departments and county sheriff's offices in close proximity to the Seattle metropolitan area with a service population of 100,000 or more, or that had fifteen or more murders reported to the Federal Bureau of Investigation's (FBI) Uniform Crime Report (UCR) in 1987 (Hanfland et al., 1997). Information on homicides was collected from several states including Washington, Oregon, Idaho, Alaska, and parts of Canada.

The findings from this research provide valuable information relating to murder investigations which should be explored in further detail. In addition, the information obtained from this preliminary analysis of the HITS 1981-2006 dataset will prove useful for law enforcement personnel investigating murders. It is imperative that data from murder investigations be further explored in order to give police a larger arsenal of investigative tools and parameters for murder investigations. The information in this presentation is a valuable resource which will enable the police and the public to better understand the risk of victimization from a murder and the complex nature of these types of investigations.

The current study attempts to answer four general questions prompted by previous homicide research: (1) which demographics are related to case solvability, (2) can case solvability be correctly predicted from knowledge of the victim and offender's age, race, gender, relationship, the time between murder incidents, and distance between murder incident sites, (3) if case solvability can be accurately predicted, which predictor variables are essential to status prediction, and (4) how good is the model at correctly predicting case solvability? While this study is by no means an exhaustive examination of all solvability factors in murder investigations, it provides information on over 10,000 cases and highlights predictors of murder solvability. Logistic regression is used to determine which variables are accurate predictors of case solvability. In general, it is expected that race, gender, age, time, and distance will have a significant impact on case solvability in murder investigations.

Because of the public fear of stranger crimes, solvability will also be examined by victim-offender relationships in this sample. There may be significant factors in case solvability depending on the nature of the relationship between the victim and the offender. Initial findings that the age, sex, and gender of both the victim and the offender effect case solvability are not surprising. The confirmation that the time elapsed and distance between murder incident component pairings affect case solvability would be consistent with previous findings by Dr. Robert Keppel (1992).

**Homicide Investigation Tracking System (HITS), Solvability, Murder**