



Digital & Multimedia Sciences Section – 2011

B3 Development of an Offender Classification Based Investigative Protocol for Use With Online Consumers of Child Pornography Cases: An Information, Technology, and Behavioral Sciences Approach

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The goals of this presentation are to provide an introduction to a developing investigative model, introduce an offender classification scheme for use with online consumers of child pornography, and assist in the establishment of scientifically derived protocols for digital evidence investigations.

The presentation will impact the forensic science community by providing crucial insight into using investigative models for dealing with online child pornography investigations. The proposed model assists in the identification and collection of digital evidence from computer systems using established offender classifications.

There has been a lack of meaningful discussion and research related to effective and efficient investigative models and protocols for investigating consumers of online child pornography. The few studies done to date have focused primarily on clinical populations and physical/environmental factors that might affect the investigation. As more resources are being devoted to child pornography related investigations it is paramount that more efficient methods are developed

for deriving pertinent data that can be used as evidence to either prosecute or exonerate those people charged with this type of criminal offense. Anecdotal and research based evidence indicates that law enforcement spends an increasing amount of their limited resources (both time and personnel) dealing with cases involving online child pornography. It has also been speculated that technology innovations such as the Internet, webcams, and social networks have greatly assisted child pornographers with their criminal tradecraft.

Whether the rate of child pornography is increasing or not has been the topic of very heated debate. What is not debatable is the technical difficulty that arises when investigating this type of criminal activity. This difficulty has been correlated with the increased size of available storage devices and the falling cost to consumers. The days of simply looking at every sector on a storage device for possible evidence is no longer practical and in some cases not technically feasible within a reasonable time frame. What is required are more tactical and focused approaches to investigating large amounts of data. These approaches or process models need to be informed by research that studies the personality and motivational characteristics of the offenders in question.

The presentation will introduce an offender characteristics based investigative protocol that assists investigators looking for digital evidence. The protocol combines advances in the behavioral analysis of online consumers of child pornography with common locations of digital evidence found on computing system. Previous behavioral characteristics based models, such as Lanning (2001) and Krone (2004) were modified to take into account the security precautions commonly implemented by these offenders. The Rogers-Seigfried model identifies common types and locations of digital evidence available to investigators based on the classification of the offender. The process model advocates treating the computing system as a digital crime scene analogous to the physical crime scene where context and evidence proximity (both physical/virtual and temporal) are important considerations.

The model also leverages the constraints and default behaviors built into the various operating systems, file systems and applications based on usability and human computer interaction standards. These constraints limit the potential virtual space that must be examined by investigators looking to identify and understand the context of any digital evidence.

The proposed model has been used successfully in several investigations involving online child pornography. The presentation will present a brief case study to illustrate the concepts introduced. Limitations of the model and suggestions for future research will also be discussed.

Evidence, Pedophilia, Investigations