



B167 Fabric Frequency in Relation to Child Abduction Cases

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The goal of this presentation is to present the forensic community with an example of how fabric frequency distribution among children relates to evidence in child abduction cases.

This research will impact the forensic science community by enabling the forensic science community to observe patterns in fiber type and content frequency among various ages of children.

This paper will describe the collection, comparison, and correlations between studies regarding fabric frequency and child abduction case information. Due to the increased awareness of child abduction cases, the study was conducted to determine if there was a relationship between the evidence found in such cases and the fabric frequency of children's clothing items. The clothing size range focus was from newborn to children's 16. Information was collected based on the Uniform Crime Reports, FBI kidnapping statistics, and Amber Alert statistics to determine the primary targeted age groups. This paper is building off of the processes outlined in the 2005 report *Fabric Frequency* by R. Stoehr and M.M. Houck.

This data was collected to observe the totality of each garment type, fiber type, and percentage. A variety of garment types (*i.e. shirts, sweaters, sleepwear, pants, etc.*) were available to choose from when examining fabric content. Five children's clothing departments/stores were surveyed for item type, fiber content, and percentage of each fiber type. The clothing stores surveyed ranged from specialty boutiques up to large mass produced superstores. A standard form was used to describe each garment by type, season, size, gender, primary color, and fiber composition. In addition, special features such as flame retardant finishes were noted. If unusual fabrics or fiber combinations were found, the item was collected for microscopic examination. Collected items were observed under 40X objective polarized light microscope and images were captured for reference. Information gathered was useful in the comparison of prior studies which involved child abduction cases.

The data collected was compared using information compiled from previous studies as mentioned. Studies were referenced for information regarding garment type frequency among children, fabric frequency, primary evidence found in child abduction cases, and the prevalence/demographics of child abduction cases. The Uniform Crime Report and the National Crime Information Center's Missing Person File, published by the Federal Bureau of Investigation, provide demographics of abduction cases such as juvenile missing persons. This information aided in narrowing the data collected in this study to focus upon the frequency of fabric components in children's clothing.

This research will enable the forensic science community to observe patterns in fiber type and content frequency among various ages of children. This data will answer questions such as which fibers are more prevalent than others? Which fibers are rare? Are these fibers rare, or just not as common within this particular population? By looking into such population studies, forensic scientists will gain information unique to this age group. Observing the information provided by children's clothing gives researchers a targeted population to study when gathering information regarding child abduction cases.

Child Abduction, Fiber Analysis, Fabric Content