

Linkage Analysis

Washington v. Robert L. Yates (2002)

Robert Lee Yates, Jr., defied many of the inductive predictions that are frequently offered regarding serial murderers—he was married, had a good job, a nice home, many close friends, didn't abuse drugs or alcohol, and had a devoted family. He was caught because of an old tip that finally made its way into the investigative forefront. As Hornblower (2000) explains:¹

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FIGURE V.1

Jennifer Joseph, 16, was a runaway from Spanaway, reported to be engaged in prostitution. She was shot to death. Her body was found northeast of Spokane on August 26, 1997.

It was the slick, shiny, vintage Corvette that ultimately led investigators to the suspect. A prostitute told police she had seen the killer's youngest victim, Jennifer Joseph, in the car nine days before her body was found. Joseph, a striking Asian-American teenager from Tacoma, had dropped out of high school only three months earlier. The hair of a Caucasian male was found on a towel near her decomposed corpse. Working through 6,000 tips associated with more than a dozen victims, police eventually compiled a database of all Corvette owners in Washington and Idaho and another of all Corvettes stopped by police checks. They tracked a car that had recently been sold and matched its carpet fibers to those on Joseph's shoes. Seizing the vehicle, they found bloodstains similar in genetic makeup to that of Joseph's parents. And they found a mother-of-pearl button identical to one on Joseph's blouse. They then tracked the car's previous owner.

¹ Excerpted from Hornblower, M. (2000) "The Spokane Murders" *Time*, July 17.

On April 18, sheriff's deputies arrested Robert Lee Yates Jr., 47, on his way to work. His Honda Civic carried a bumper sticker saying WHY MUST I BE SURROUNDED BY FRICKIN' IDIOTS? Forensic experts found his fingerprint on one of the plastic bags tied around a victim's head, and Yates' genetic profile, from blood drawn after his arrest, matched semen found on the corpses. Says Sheriff Mark Sterk: "There's no doubt in my mind we're going to convict this guy." But at Yates' arraignment, the mother of one of the victims looked in disbelief at the accused killer, a balding father of five in a navy blue suit and wire-rimmed spectacles. "He looks like a little mouse," she said.

There's the wife of 23 years, the religious upbringing, the military career as a respected helicopter pilot, the new job as a \$13.75-an-hour crane operator, the split-level home with forsythia bushes and a backyard barbecue. Yates sent out Christmas cards and won Army medals for meritorious service. "Bobby is a loving, caring, sensitive son; a fun-loving and giving brother; an understanding, generous and dedicated father who enjoys playing ball, fishing and camping with his kids," the Yates family said in their only statement to date. "Bobby is the type of person you would want to have as your best friend."

Yates grew up in Oak Harbor, Wash., a small town on picturesque Puget Sound, where his father was an inventory specialist at Whidbey Naval Air Station. His Seventh-Day Adventist family observed the Sabbath, avoided alcohol and pork and never used four-letter words. When their Oak Harbor church was destroyed in a fire, Yates Sr. and Jr. chipped in to reconstruct it. In high school Yates pitched for the baseball team, sang in the choir and picked vegetables in the summer. A "solid guy" and "Joe Average" is how classmates remember him.

After two years of premed at Walla Walla College, Yates married Linda Brewer, daughter of a prison guard, and at 25 enlisted in the Army. By the end of his 18-year career, Yates was a master aviator, instructing other pilots on how to teach flying. He was quiet, methodical and extraordinarily patient. Only one incident from his military record stands out: while on assignment in Somalia, Yates and his fellow soldiers spied a wild pig from their helicopter. Weary of Army rations, they shot it, swooped down and brought it back to cook in camp. The breach of discipline had no serious consequences.

Like many soldiers, Yates was a defender of the National Rifle Association, writing to a Watertown, N.Y., newspaper in 1994 and declaring, "If we seek answers to the crime problem, let's look to the criminal and focus on enforcement of existing laws, stiffer penalties, more prison space and deterrents to criminal activities."

Home videotapes of his possessions, seized after his arrest, show five handguns, among them two of the type used to kill the victims.

Yates did not retire from the military and move back to Washington until 1996, but police believe they can link him to several of the murders through his frequent vacations before then. In June 1996, three months after the Yateses moved to South Hill, a tony section of Spokane, a prostitute turned up dead. That fall, Linda Yates would later tell investigators, her husband failed to return home one night and showed up the next morning with

blood all over the back of his van. He claimed he had run over a dog and transported the animal and its owner to a veterinarian.

She believed him. “Bells and lights would normally go off,” says Sterk. “But this guy hid everything from his family. I’m convinced his wife and daughters didn’t have a clue.” But there were also signs of domestic trouble. He was charged with a misdemeanor when his daughter Amber, 19, filed a complaint that he had hit her.

The case was still pending when he was arrested on more serious charges. It was not until September 1999 when sheriff’s deputies, working their way through Corvette owners, called in Yates. He had sold his Corvette in 1998, but before that he had been stopped twice in it for traffic violations, once near East Sprague, once near the burial site of a victim. Yates told investigators he had not patronized prostitutes in Spokane, but they noted in their report that he was “sweating profusely.” He refused to provide DNA samples. Several weeks later, police pulled him over as he was driving a Honda Civic with a known prostitute in the passenger seat. He was not charged with a crime until, a few months later, a crime lab analyzed fibers from the Corvette he had owned.

On May 31 Yates was arraigned on charges of murdering eight women, all allegedly engaged in prostitution and drug use. He was also charged with robbing and attempting to kill Christine Smith. Hands folded before him, Yates looked more like a solemn insurance adjuster than a criminal. He pleaded not guilty on all counts.

In 2000, Yates pleaded guilty to killing 10 women, mostly prostitutes or drug addicts, and the attempted murder of another woman in Spokane County from 1996 to 1998. He also admitted killing a young couple picnicking near Walla Walla in 1975, when he was a guard at the Washington State Penitentiary. And he confessed to killing a 23-year-old Seattle woman, Stacy Elizabeth Hawn, in Skagit County in December 1988. Consequently, a judge sentenced him to 408 years in prison. He made these confessions as part of a plea arrangement to avoid the death penalty.

However, not every concerned jurisdiction in Washington State signed on to the deal. In a move that is the basis for an unresolved appeal filed in late 2006, the Pierce County prosecutor’s office, acting on its own, filed charges of first-degree murder against Yates. The prosecutor’s office wanted him to get the death penalty for murdering Melinda Mercer, 24, in 1997 and Connie LaFontaine Ellis, 35, in 1998.

To prove Yates’s guilt in the two Pierce County cases, prosecutors relied in part on behaviorally linking those crimes to the killings he’d already confessed to. They brought in two experts whose testimony they could all but guarantee: Robert Keppel, Ph.D. (a former homicide detective and retired chief investigator for the Washington State attorney general’s office), and Federal Bureau of Investigation (FBI) profiler Mark Safarik. They got in line to testify that the crimes had a signature and that the same person must have committed them, even though they disagreed on some points.

The author was hired by the defense to peer review their methods and conclusions. Subsequent to the submission of the report that follows, Robert Keppel was barred from giving testimony and Mark Safarik’s expertise in the area of linkage analysis was revealed to the court as sorely lacking. The trial judge learned that Safarik was

not an expert on the subject. But the prosecution needed him. The judge, in a rare move, qualified Safarik to testify in the Yates trial as an “expert by proxy”—because he ostensibly hung out with agents at the FBI who possessed this expertise, some of it must have rubbed off.

Yates was convicted, sentenced to death, and the case is currently under appeal.

CASE REPORT

May 28, 2002

Re: *Washington v. Robert L. Yates*—Linkage Analysis

Mary Kay High, an attorney representing Robert Yates, asked this examiner, Brent E. Turvey, M.S., of Sitka, Alaska, to evaluate the nature, methodology, and content relating to conclusions provided in a *criminal investigative analysis* report dated February 7, 2002, prepared by FBI SSA Mark Safarik, as well as the *modus operandi and signature analysis* report dated March 26, 2002, by Robert D. Keppel, Ph.D.

To complete this particular task, I was provided with and examined the following case material:

1. Professional résumé of FBI SSA Mark E. Safarik
2. Criminal investigative analysis report dated February 7, 2002, by FBI SSA Mark Safarik
3. Professional résumé of Robert D. Keppel, Ph.D.
4. *Modus operandi* (MO) and signature analysis report dated March 26, 2002, by Robert D. Keppel, Ph.D.
5. Material related to the operation of the HITS. database (manual, guidelines, policies, personnel background, etc...)
6. Individual victim HITS forms
7. Memo from John Turner, chief criminal investigator of HITS to Mary Kay High, attorney for Robert L. Yates, dated April 30, 2002

CONCLUSIONS

Conclusion 1: It is the opinion of this examiner that the conclusions rendered in the criminal investigative analysis report dated February 7, 2002, prepared by FBI SSA Mark Safarik are not supported by the evidence and reasoning provided and are based on flawed methodology.

Conclusion 2: It is the opinion of this examiner that the conclusions rendered in the *modus operandi* and signature analysis report dated March 26, 2002, by Robert D. Keppel, Ph.D. are deficient as they stand, unsupported by the evidence cited, and are based on an unreliable database.

Conclusion 1

FBI SSA Mark Safarik was contacted by the Tacoma Police Department and the Pierce County district attorney’s office to perform a behavioral review of the following homicide cases to determine linkage: Melinda Mercer, Connie Ellis, Shannon Zielinski,

Jennifer Joseph, Heather Hernandez, Darla Scott, Shawn Johnson, Lauri Wason, Sunny Oster, Linda Maybin, Michelyn Dering, Melody Murfin, Patrick Oliver, and Susan Savage. Also reviewed was the attempted homicide of Christine Smith (15 victims total).

It is the opinion of this examiner that the conclusions rendered in the criminal investigative analysis report dated February 7, 2002, prepared by FBI SSA Mark Safarik are not supported by the evidence and reasoning provided.

The basis for this opinion is the consideration of the following facts:

1. The supported conclusions are not distinctive.
2. The report makes extensive assumptions about offense-related behavior and circumstances that are not entirely supported by the existing evidence.
3. The report paradoxically argues that clear differences are actually similarities.
4. The conclusions of the report rely on a deficient method that has been roundly criticized, as well as a cause for reversal, in recent court cases.
5. The report is provided without the strongly worded disclaimer that appears in the investigative reports prepared by this agency.

1. *Nondistinctive Conclusions*

The conclusions in this report that can be supported are not distinctive.

- A. The criminal investigative analysis report concludes, "The offender targeted specific areas where prostitutes could be found." While this appears to be a true statement, it is hardly distinctive. Areas frequented by prostitutes are a draw for all manner of violent crime and violent criminals. Prostitutes themselves are a nexus for criminal activity, often both the perpetrators and victims of violent crime.
- B. The criminal investigative analysis report concludes, "All of the victims died from handgun gunshot wounds." While true, this is hardly distinctive. Many people die from handgun gunshot wounds.
- C. The criminal investigative analysis report concludes, "All of the victims except for Oliver were shot in the head." While true, this is hardly distinctive. Many people who are shot and killed are shot in the head.
- D. The criminal investigative analysis report concludes, "All of the victims except Smith (survived) had been transported from the location where they were killed to a dump site." While possibly true, this would not be distinctive. It is common for victims of homicide to be transported to a disposal site to (1) facilitate their discovery, (2) dissociate the offender from the offense, or (3) conceal the location of the actual offense and related evidence.
- E. The criminal investigative analysis report concludes, "The disposition of all the murdered victims bodies except Murfin (for obvious reasons) would be described as dumped with minimal effort to prevent discovery." This conclusion is not a fact; rather it is a matter of opinion. Minimal effort to prevent discovery suggests that the body was left in plain view with few precautionary acts. In any case, this conclusion is hardly distinctive, and given the broad continuum of disposal behavior evidence in these cases, this conclusion hardly represents a theme.

- F. The criminal investigative analysis report concludes, “All the body dumps except Savage and Oliver were adjacent to roadways.” This conclusion is hardly distinctive. Many bodies are disposed of adjacent to roadways. Also, given the broad continuum of disposal behavior evidence in these cases, this conclusion hardly represents a theme.
- G. The criminal investigative analysis report concludes, “All the female victims were either sexually assaulted or exhibited evidence of a sexual assault component to the crime.” While this may be true, it is hardly distinctive. Female victims of homicide are regularly the victims of a sexual assault. However, this conclusion may not be true—this examiner is not willing to concede that all of the victims exhibited evidence of a “sexual assault component” until such time as this term is carefully defined in use. The more inclusive the term, the less distinctive.

2. Assumptions about Offense Behavior

The report makes extensive assumptions about offense related behavior and circumstances that are not entirely supported by the existing evidence. This is not a legitimate forensic practice.

- A. The criminal investigative analysis concludes, “All of the victims except Savage and Oliver were prostitutes with drug abuse histories.” This conclusion is partially an assumption. To this examiner’s knowledge, the drug use history of every victim has not been established and confirmed by the physical evidence. In some cases, the physical evidence was not available to make that determination because of advanced decomposition (Zielinski, Joseph, Henandez, Murfin, and Ellis). Furthermore, this conclusion does not help support the notion of a single offender. It suggests the possibility of the opposite. It is accepted that high-risk activity (such as drug use and prostitution) actually increases the potential suspect pool dramatically.
- B. The criminal investigative analysis report concludes, “All of the victims except Savage and Oliver disappeared while engaged in prostitution.” This conclusion is actually an assumption. To this examiner’s knowledge, the precise activity of the victims before their disappearance has not been reliably established. The report itself explains this on page 4, when it states that each victim “was believed to be engaged in prostitution. In other words, there was nothing to suggest that any of the victims disappeared while engaged in other activities not involved in prostitution.” There is also nothing to definitively show that they must have been engaging in prostitution. What an examiner believes and what the evidence can prove are significantly different issues. This speaks to the difference between an investigative opinion and a forensic (court-worthy) opinion.
- C. The “Criminal Investigative Analysis” report concludes, “All of the victims, although fitting a similar victim type appear to have been victims of opportunity.” This is an assumption. Since there has been no definitive evidence of the precise activities of all of the victims at the time of the attacks, it cannot be reliably established how the victims were acquired. That is to say, we cannot know for certain whether victims were

pre-selected and surveilled by an offender or not. This is an uninformed speculation (a blanket crime reconstruction) built on the assumption that each victim was attacked by someone employing them as a prostitute.

- D. The criminal investigative analysis report concludes, "With all of the victims there was a noted absence of any other serious injury except the gunshot wounds." This is an assumption. In several cases, decomposition precluded a conclusive finding by obscuring areas of potential physical injury: absence of evidence is not evidence of absence—it is inconclusive. The report deals with this on page 17 by using phrases like "it appears that" and "it is common" and "typically" rather than talking about the inconclusive nature of the findings in these cases. In short, those cases where a finding is inconclusive must be excluded from the linkage. To assume the absence of injury under such a circumstance is not a legitimate forensic practice.
- E. The criminal investigative analysis report concludes, "None of the victims sustained observable defensive injuries." This is not only an assumption; it is redundant of the previous conclusion. Again, decomposition precluded a conclusive finding by obscuring areas of potential physical injury in several cases: absence of evidence is not evidence of absence—it is inconclusive. Those cases where the findings of injury are inconclusive must be excluded from the linkage. To assume the absence of injury under such a circumstance is not a legitimate forensic practice.
- F. The criminal investigative analysis report concludes, "The lack of identifiable injury, which suggest they were captured by force and the nature of the interaction between prostitutes and their customers strongly suggests that the offender gained the trust and cooperation of all the victims through the use of a ruse." This is an uninformed speculation (a blanket crime reconstruction).
- G. The criminal investigative analysis report concludes, "Ten of the female victims including Mercer and Ellis had personal items to include jewelry and or clothing taken." According to Chisum and Turvey (2000):

The general term *evidence dynamics* has been developed by the authors to refer to any influence that changes, relocates, obscures, or obliterates physical evidence, regardless of intent.

Given evidence dynamics, it is not reasonable to assume that items missing from a crime scene were taken, let alone taken by an offender. They may have simply gone undetected at the scene, for starters. Or animals may have moved them. In any case, what happened to the items has not been reliably established and remains a matter of speculation only.

3. Differences Reported as Similarities

The report paradoxically argues that clear differences are actually similarities. This is not a legitimate forensic practice.

- A. The criminal investigative analysis report concludes, "The targeted victim group was consistent; female, white or light skinned and late 20's to late 30's." This conclusion demonstrates dissimilarity. The report tries to explain

away these dissimilarities on page 16 but only highlights them further by stating that some were older than the range and some were younger than the range, and ultimately chronological age is problematic in this group because of the hard lifestyles of the victims. In any case, the report describes the victim selection criteria as “generalized victim criteria” rather than specific. All of this amounts to the fact that the victims were of varying ages and of varying races. This is subsequently not a thematic or distinctive issue.

- B.** The criminal investigative analysis report concludes, “Twelve of the fifteen victims were shot *only* in the head.” This conclusion demonstrates dissimilarity. Twelve of 15 victims were shot only in the head. Three of 15 were not. In any case, as previously discussed, this is hardly distinctive. Many people who are shot and killed are shot in the head.
- C.** The criminal investigative analysis report concludes, “All of the victims except Savage, Oliver, and Joseph were shot with a .25-caliber handgun. Joseph was shot with a .22 caliber. Savage and Oliver were shot with a large caliber. Although the offender changed weapons with Murfin’s murder, he still chose a Raven Arms Inc. .25-caliber handgun. This suggests that the offender was comfortable with this weapon, it performed the way he wanted it to, and he saw no need to change what had proven to be successful for him.” This conclusion demonstrates dissimilarity in the caliber of weapon used for various offenses. Different offenses involved different weapons. Moreover, .25-caliber handguns are not distinctive—they are a common street weapon among pimps, prostitutes, and drug dealers/users because they are inexpensive and easy to conceal.
- D.** The criminal investigative analysis report concludes, “Johnson, Wason, Oster, Maybin, and Mercer were all linked by exact matches from Magtech .25-caliber bullets. Hernandez’s bullets came from the same gun for investigative purposes but could not be identified as an exact match. Zielinski matched the same brand of bullets as all .25-caliber victims. The holes in Scott’s skull indicated a .25 caliber round.” This conclusion demonstrates not only dissimilarity in the caliber of weapon used for various offenses but inclusiveness related to the weapons used where the caliber does appear to match. Either the item is consistent across the cases or it is not consistent. If it is not, then the cases do not show a linkage and must be excluded.
- E.** The criminal investigative analysis report concludes, “Seven victims had their heads covered in plastic bags including Mercer and Ellis. One had plastic bags associated with her body. Two had towels associated with their bodies. Three and possibly four were outdoor scenes with no need for plastic bags. One victim survived.” This conclusion demonstrates the great dissimilarity in specific disposal activities. Its inclusion seems at odds with proving behavioral similarities or a theme across all of the cases.
- F.** The criminal investigative analysis report concludes, “Six of the victims including Mercer exhibit evidence of postmortem sexual assault.” This conclusion demonstrates dissimilarity; 6 of 15 victims exhibit evidence of postmortem sexual assault, 9 of 15 do not. Either the item is consistent across the cases or it is not consistent. If it is not, then the cases do not show a linkage and must be excluded.

- G.** The “criminal investigative analysis report concludes, “Ten of the female victims including Mercer and Ellis had personal items to include jewelry and or clothing taken.” Aside from being a great assumption, as previously discussed, this conclusion demonstrates dissimilarity. 5 of 15 victims did not show that jewelry and or clothing had apparently been taken. Either the item is consistent across the cases or it is not. If it is not, then the cases do not show a linkage and must be excluded.

4. Deficient Method

The conclusions in this report rely on a profiling method developed and taught by the Federal Bureau of Investigation referred to as *linkage analysis* or *link-analysis*. This method has been roundly criticized by the court in *New Jersey v. Steven Fortin* (2000) and *Pennsylvania v. Christopher Distefano* (1999). For a detailed review of these cases and the related offender identification issues, please see Turvey (2000), included with this affidavit.

5. Absence of Disclaimer

According to Hazelwood (1995, pp. 176–177), a criminal profile, also known as a criminal investigative analysis (Cooper and King, 2001, p. 10; Depue, Hazelwood, and Ressler, 1995, p. 115), is an investigative tool only. As such, the following disclaimer precedes each such report prepared by members of the FBI’s BSU:

It should be noted that the attached analysis is not a substitute for a thorough and well-planned investigation and should not be considered all inclusive. The information provided is based upon reviewing, analyzing, and researching criminal cases similar to the case submitted by the requesting agency. The final analysis is based upon probabilities. Note, however, that no two criminal acts or criminal personalities are exactly alike and, therefore, the offender may not always fit the profile in every category.

This caution indicated by the disclaimer is explained in Depue *et al.* (1995, p. 125), where the following is stated:

CIA [criminal investigative analysis] and profiling should be used to augment proven investigative techniques and must not be allowed to replace those methods; to do so would be counterproductive to the goal of identifying the unknown offender.

This examiner has read this disclaimer on similar reports drawn up by FBI BSU personnel when reviewing their investigative reports. However, this examiner has made note that this disclaimer is absent from reports submitted by BSU personnel during a trial, when expert testimony may be needed. It could be argued that the inclusion of such a disclaimer at trial might hamper admissibility because it addresses the issue of limited reliability. It seems significant, however, as the conclusions are based on the same methodology as reports prepared by the BSU during an investigation.

Conclusion 2

Robert D. Keppel, Ph.D., was contacted by the Tacoma Police Department and the Pierce County district attorney’s office to perform a behavioral review of the following homicide cases to determine linkage: Melinda Mercer, Connie Ellis, Shannon

Zielinski, Jennifer Joseph, Heather Hernandez, Darla Scott, Shawn Johnson, Lauri Wason, Sunny Oster, Linda Maybin, Michelyn Dering, and Melody Murfin (12 victims total).

It is the opinion of this examiner that the conclusions rendered in the *modus operandi* and signature analysis report dated March 26, 2002, by Robert D. Keppel, Ph.D. are deficient as they stand, unsupported by the evidence cited, and are based on an unreliable database.

The basis for this opinion is the consideration of the following facts:

1. The report makes assumptions about pertinent offense related behavior and circumstances that are not entirely supported by the existing evidence.
2. The "Linking of Cases by Crime Laboratory Analyses and Results: Firearm Evidence" section explains that clear limitations exist in the firearms evidence. This shows a negative total linkage.
3. The "Linking of Cases by Crime Laboratory Analyses and Results: DNA Evidence" section explains that clear limitations exist in the DNA evidence. This shows a negative total linkage.
4. The "Modus Operandi" section paradoxically argues that the MO changed from one case to the next. This shows a negative total linkage.
5. The "signature analyses" section includes highly emotional, speculative and unsupported opinions about the offender's specific state of mind during specific acts.
6. The data in the HITS case database is unreliable.
7. The case linkage error rate for HITS is unknown.
8. The false negative case linkage rate for the HITS database is unknown.
9. The false positive case linkage rate for the HITS database is unknown.

1. Assumptions about Offense Behavior/Unsupported Conclusions

The report makes extensive assumptions about offense related behavior and circumstances that are not entirely supported by the existing evidence. This is not a legitimate forensic practice.

- A. According to the *modus operandi* and signature analysis report (p. 15), the offender preselected his weapon in all of the offenses, and all of the offenses were sexually oriented. The offender apparently preselected different weapons, showing variation and not similarity. Furthermore, there is no explanation of evidence provided to support the statement that these are sexually oriented offenses.
- B. According to the *modus operandi* and signature analysis report (p. 15), most sexually oriented murders involve hands on killing such as strangulation, bludgeoning, or stabbing. Furthermore, "Evidence of these types of injuries from such types of killings was absent in all of the cases." This is an assumption. Additionally, this statement could be used to argue against the report's previous conclusion that these were sexually oriented killings (i.e., if most sexually oriented murders have these elements, and these elements are absent, the evidence is less consistent with a sexually oriented offense, especially when evidence of sexual activity is absent).

- C. According to the modus operandi and signature analysis report (p. 15), “the placement of gunshots to the head of each victim is a signature element of this killer.” If this is indeed true, why was this not true in each case, and why did the number of shots vary? Also, why did the weapons vary? Given these variances, it is difficult to view the headshots as truly signature oriented or “unchanging.” This conclusion appears unsupported. It should be noted that this is the only behavior referred to as a “signature element.”

2. Firearms Evidence Differences Presented as Similarities

The “Linking of Cases by Crime Laboratory Analyses and Results: Firearm Evidence” section paradoxically presents clear differences and limited reliable linkage across the cases. While there are some similarities and linkages within the firearms evidence, there are serious limitations inherent in the evidence as well, which this section explores. This is evidence of a negative total linkage.

This examiner is at a loss as to why this section is relevant to the opinion that the same person must have committed all of the offenses.

3. DNA Differences Presented as Similarities

The “Linking of Cases by Crime Laboratory Analyses and Results: DNA Evidence” section paradoxically presents clear differences and limited reliable linkage across the cases using the available DNA evidence. While there are apparently reliable linkages within the DNA evidence, there are serious limitations as well because of negative findings in the Zielinski, Hernandez, Joseph, and Ellis cases, which this section explains. This is evidence of a negative total case linkage.

This examiner is at a loss as to why this section is relevant to the opinion that the same person must have committed all of the offenses.

4. MO Changed from One Murder to the Next

The “Modus Operandi” section states that the offender’s MO “changed from one murder to the next.” This includes elements such as victim age, race, time of day, and disposal sites. This would seem to contradict the criminal investigative analysis report dated February 7, 2002, by FBI SSA Mark Safarik. This is also evidence of a negative total case linkage.

5. Emotional, Speculative, and Unsupported Opinions about State of Mind

The “Signature Analyses” section primarily comprises highly emotional, speculative, and unsupported opinions about the offender’s specific state of mind during specific acts. Little room is made for alternative, functional (*modus operandi* oriented) explanations of offense-related behavior in this section. While certainly entertaining and the type of material one expects in a true crime novel, this examiner is of the professional opinion that critiquing this section of the report would have the unfortunate effect of raising it to a level that it does not deserve.

It can be said that the statistics provided in this section relevant to issues of behavioral rarity are not cited as part of any published study in the report. Furthermore, rarity is not the same as distinctiveness. A discussion of this difference is avoided in the report.

6. *Unreliable HITS Data*

The data in the HITS case database are unreliable (and subsequent conclusions drawn from the data are equally unreliable) for the following reasons:

- A. HITS data uncritically rely on information and opinions provided by the requesting agency as reliable (according to the memo from John Turner, chief criminal investigator of HITS, to Mary Kay High dated April 30, 2002, p. 2, Q11).
- B. Many of the HITS form fields involve providing crime reconstruction opinions that may be beyond the ken of a given criminal investigator.
- C. Many of the HITS form fields involve subjectively derived profiling-oriented, legal, and psychiatric opinions rather than objective facts (motive, psychopathy, victim risk, face covering, symbolic artifacts, offender anger, offender lifestyle). It should also be noted that the HITS coding manual uses the term “Crazy People” to define the mental/insane category and inaccurately defines psychopathic as someone that commits psychotic offenses.
- D. The HITS database is apparently populated by case information at various levels of verification and reliability.
- E. The HITS database is populated by an unknown number of unverified cases drawn from media/newspaper accounts (according to HITS SOP, newspaper descriptions dated September 5, 1995, as well as the memo from John Turner, chief criminal investigator of HITS, to Mary Kay High dated April 30, 2002, p. 2, Q6).

7. *Unknown Case Linkage Error Rate*

The case linkage error rate for HITS or those using HITS results is unknown.

- A. According to job description information provided in relation to HITS, Tamara Matheny (a HITS crime analyst) maintains a monthly log of all positive investigative analyses. I have not seen this log in the discovery material provided.
- B. According to the memo from John Turner, chief criminal investigator of HITS, to Mary Kay High dated April 30, 2002 (p. 3, Q17), asking for a showing of the error rate of HITS is too vague. This answer seems evasive. It is apparently not known how often probabilistic HITS linkages are right and how often they are wrong.

Without this information, the reliability of HITS query results must remain in question.

8. *False Negatives*

The false negative case linkage rate for the HITS database is unknown. That is to say, it is not known how often HITS results, or the interpretation of HITS results, have unlinked a known offender and that person’s known offense. This is stated in the memo from John Turner, chief criminal investigator of HITS, to Mary Kay High dated April 30, 2002 (p. 3, Q19). Without this information, the reliability of HITS query results must remain in question.

9. False Positives

The false positive case linkage rate for the HITS database is unknown. That is to say, it is not known how often HITS results, or the interpretation of HITS results, have linked a known offender and an offense known to have been committed by another offender. This is stated in the memo from John Turner, chief criminal investigator of HITS, to Mary Kay High dated April 30, 2002 (p. 3, Q20). Without this information, the reliability of HITS query results must remain in question.

Brent E. Turvey, M.S.

REFERENCES

- Chisum, W. J. (2002) "An Introduction to Crime Reconstruction," in Turvey, B. *Criminal Profiling: An Introduction to Behavioral Evidence Analysis*, 2nd Ed., London: Academic Press.
- Chisum, W. J., and Turvey, B. (2000) "Evidence Dynamics: Locard's Exchange Principle & Crime Reconstruction," *Journal of Behavioral Profiling*, 1(1).
- Depue, R., Douglas, J., Hazelwood, R., and Ressler, R. (1995) "Criminal Investigative Analysis: An Overview," in Burgess, A., and Hazelwood, R. (Eds.), *Practical Aspects of Rape Investigation*, 2nd Ed., Boca Raton, FL: CRC Press.
- Hazelwood, R. (1995) "Analyzing the Rape and Profiling the Offender," in Burgess, A., and Hazelwood, R. (Eds.), *Practical Aspects of Rape Investigation*, 2nd Ed., Boca Raton, FL: CRC Press.
- New Jersey v. Steven Fortin*. (2000) No.A-95/96-98, Supreme Court of New Jersey.
- Pennsylvania v. Christopher Distefano*. (1999) Case No. 99-0640.
- Turvey, B. (2000) "Criminal Profiling and the Problem of Forensic Individuation," *Journal of Behavioral Profiling*, 1(2).

