

TRIAL DIPLOMACY JOURNAL

John Wiley & Sons, Inc.
Wiley Law Publications
7222 Commerce Center Drive, Suite 240
Colorado Springs, Colorado 80919

Problems with the Use of Criminal Profiling in Premises Security Litigation

Daniel B. Kennedy, Ph.D.

Robert J. Homant, Ph.D.

Detroit, Michigan

The increasing use of criminal profiling in premises security litigation suggests the need for trial lawyers to more carefully consider the appropriateness of profile-based evidence for each case. While criminal profilers have made a valuable contribution to criminal justice, the profiling process is not suitable for every case. Rather, the attorney must pay close attention to specific factors of his or her particular case to determine whether criminal profiling should or should not be used.

Extensive research by the Bureau of Justice Statistics and the National Center for State Courts suggests that, even in the era of legal reform, tort litigation is alive and well. The number of tort case filings remained relatively unchanged from 1986 to 1993. Of all tort cases filed in the nation's 75 largest counties, premises liability cases ranked second in frequency (17.3 percent), behind only auto lawsuits (60.1 percent) as the most common types of disputes.¹ While there are no data indicating the exact nature of the premises liability lawsuits, it is likely that a growing number of these lawsuits deal with premises liability for negligent security.

There are a number of reasons why premises liability for negligent security has been described as the fastest growing area of tort litigation² In 1994, there were roughly 10.9 million crimes of

violence in the United States, perhaps a quarter of which resulted in physical injury.³ This estimate of injuries would not include, however, the psychological trauma so clearly suffered by victims of sexual assault. As security standards are driven

***Daniel B. Kennedy, Ph.D.**, is a professor and former chairman in the department of criminal justice and security administration at the University of Detroit Mercy. He has authored several books and dozens of academic journal articles on crime, policing, and private security. He has testified in premises liability lawsuits around the country.*

***Robert Homant, Ph.D.**, is chairman of the criminal justice and security administration department at the University of Detroit Mercy. He has published more than 70 professional journal articles on such topics as police pursuit policy, the insanity defense, and offender behavior. Dr. Homant is a licensed clinical psychologist and maintains a small private practice in addition to his teaching duties.*

higher by technological advances and the age of consumerism continues to evolve, the combination of ample numbers of victims and a favorable jury climate toward them will, no doubt, lead to an increasing number of filings.

Given the potential monetary values of security cases, it is not surprising that both plaintiff and defense attorneys are alert for any perceived tactical advantage that appropriately could be derived from the social and behavioral sciences.

Although crime victims often bring suit to reestablish control over their lives, prevent future victimizations of others, and establish responsibility for their victimization, the role of compensatory damages must also be appreciated. Juries have been very sympathetic toward crime victims. One study reported the average settlement for premises liability cases to be \$545,800. The average verdict in this type of case was more than \$3.35 million.⁴ While there are some problems with the methodology necessarily employed during this research, the results are supported by earlier research of a similar nature. Nevertheless, these amounts are derived from cases that attorneys themselves have decided to report and would thus be affected by any self-selection bias. Still, a recent perusal of sexual assault cases through Westlaw (LRP Publications) revealed several verdicts or settlements well over a million dollars, with other cases bringing \$6.5 million, \$8.5 million, and \$10 million. These figures must be considered in light of the fact that in 1992 the median total award for premises liability cases of all types was \$232,000.⁵

Given the potential monetary values of security cases, it is not surprising that both plaintiff and defense attorneys are alert for any perceived tactical advantage that appropriately could be derived from the social and behavioral sciences. This discussion focuses on problems associated with the rising use of criminal profiling in premises security litigation.

THE NATURE OF CRIMINAL PROFILING

The basic premise of profiling is that behavior reflects personality and, therefore, a criminal's behavior during a crime will reflect the kind of person he or she is. Crime scene analysis and victim description of the criminal's behavior, where

possible, can provide clues to the type of person who commits a crime. Psychopathological behavior is often obsessive-compulsive behavior and, therefore, patterned. By looking for behavior that may be patterned, and by comparing this behavior to the case histories of large numbers of known perpetrators with similar patterns to their crimes, investigators can deduce demographic and personal characteristics of the unknown perpetrators. A sample profile would read, in part, as follows:

White male, aged 25-27 years.... Residence will be extremely slovenly and unkempt and evidence of crime will be found at residence.... Will be a loner who does not associate with either males or females and will probably spend a great deal of time in his own home, where he lives alone. Unemployed.⁶

As an initial strategy, profilers attempt to determine whether the unknown subject of their investigation can be classified as a "disorganized" offender or an "organized" offender. The partial profile described above is that of a disorganized offender. As a general principle, the disorganized offender is more impulsive and even sometimes psychotic or otherwise mentally disturbed. In some cases, the disorganized offender may simply be young, inexperienced, and possessing only limited cognitive skills. Either way, such an individual would be less deterrable, since he or she would be less likely to think through the consequences of his or her actions. In contrast, the organized offender acts with more rationality in the commission of crimes. Although often a psychopath, this individual is more attuned to the environment and the possibilities of being caught and is, therefore, more deterrable. While the organized offender may be deterred from attacking a certain victim at a certain time in a certain place, he or she is likely to go on to select another target. There is also the "mixed offender," whose behavior incorporates aspects of both the disorganized and organized types.⁷ Forecasting this individual's reaction to conventional security precautions is thus more problematic.

APPLYING CRIMINAL PROFILING TO PREMISES LIABILITY ISSUES

Over the past few years, experts in profiling, a number of whom are retired FBI agents, increasingly have been presented at trial and deposition.⁸ They also have appeared at continuing legal education

seminars sponsored by both the Association of Trial Lawyers of America and the Defense Research Institute. Essentially, their role has been to address the causation element of a tort. In premises liability litigation, the plaintiff must establish that (1) there was a duty to provide security; (2) there was a breach of the duty to provide security; (3) this breach was the cause in fact; and (4) the breach was the proximate cause of damages suffered by the litigant. If any one of these elements is not established, there should be no finding of liability.

As conditions now stand, the basic evidence that profiling works comes primarily from the people who support it.

Cause in fact refers to the actual cause of the injury. The plaintiff must show that the defendant's negligence was the cause in fact or actual cause of the injury. In deciding this issue, courts use either the "but for" test or the "substantial factor" test. If a security program would not have prevented the injury, such as wounds inflicted during an unexpected assault by a deranged person, the court may hold there was no cause-in-fact relationship between the alleged negligent security and the victim's injury.⁹ Clearly, a profiler's testimony, if admissible, can bear directly on the question of causation. While thorough police detectives have always pondered on the motives and behavioral characteristics of criminal offenders, they have rarely claimed their intuition is based on empirical research into hundreds of similar cases around the country. Although criminologists are more able to make such a claim, most do not have a forensic orientation and have rarely appeared in court.

In essence, then, when profilers become involved in civil cases, they attempt to evaluate the perpetrator's basic personality and to opine as to whether he or she was the type to have been deterred by security measures. In other words, the profiler may say the perpetrator would not have responded to appropriate security measures, so the fact that they were not in place really made no difference. The victim would have been attacked anyway, so any failure to provide security on the part of the defendant landholder had no causal relationship to the victim's ultimate injuries. Conversely, the profiling expert may opine that the perpetrator would have responded to appropriate security measures and, therefore, there was a causal relationship between the land-

lord's failure to provide security and the victim's ultimate injuries.

THE NEED FOR OBJECTIVE, SCIENTIFIC EVALUATION OF THE EFFICACY OF PROFILING

Because of the sensitive subject matter and the nature of police work, civilians are aware of only those cases and those successes that profilers choose to share with them. If FBI profilers were doing about 500 cases a year in 1985¹⁰ and approximately 1,000 a year in 1996¹¹ it is inevitable that they would produce a certain number of reasonably accurate profiles due to the weight of numbers alone. In other words, given enough bites at the apple, a profiler may certainly be highly accurate on occasion. As conditions now stand, however, the basic evidence that profiling works comes primarily from the people who support it. There have, however, been related studies that cast a more critical eye on the process.

In 1990, Drs. Pinizzotto and Finkel compared the profiling skills of four FBI profilers to the skills of six police detectives trained in profiling, six seasoned police detectives without this training, six clinical psychologists, and six undergraduate students. Overall, the professional profilers wrote richer profiles with more details than did the non-profilers. With regard to a sample sex offense case, the profilers scored significantly better than the three non-profiler groups combined. However, for a sample homicide case, no scoring differences were found among the tested groups. The researchers also examined the question of whether profilers used a different type of thought process to reach their conclusions. They found that profilers did not appear to process the material in qualitatively different ways from non-profilers in their construction of profiles. There were, however, numerous quantitative process differences that favored profilers; in both sample cases, for example, they recalled more details that were considered to be necessary and important in profiling the perpetrator. The researchers' conclusions were not surprising: More research needs to be done before the *conclusions of this study* can be applied to other sex or homicide cases.¹²

The FBI itself conducted second study of profiling in 1981. The results show somewhat mixed support of the profiling process. According to Dr. Ronald Holmes, the FBI studied 192 cases in which

profiling was performed. Of the 192 cases, 88 were solved. Of that 88, in only 17 percent of the cases (15) did a profile help in the identification of a suspect.¹³ However, FBI field agents included in the study reported that profiling helped focus the investigation in 77 percent of those cases in which the subjects were identified. It is entirely possible the profiling process has been refined and improved since then and that the track record for profilers has improved.

One might conclude that modern profiling in general is a viable and intriguing investigative tool that can be useful within limits.

More recently, Dr. Curt Bartol polled 152 police psychologists during the spring of 1994. One of the purposes of his research was to determine their attitudes toward criminal profiling. Forty respondents were full-time, in-house psychologists, 36 were fulltime consultants, and the remaining 76 indicated they worked with law enforcement as psychologists in some part-time capacity. Overall, 70 percent of the police psychologists did not feel comfortable with profiling and seriously questioned its validity and usefulness.¹⁴ Many of the respondents wrote that much more research needs to be done before the process becomes a useful tool. The fact that a majority of the sample were skeptical of profiling does not mean that the process is invalid. Also, many of these psychologists might have a somewhat more favorable attitude toward profiling should they develop a greater knowledge of the process itself. The findings do mean, however, that the validity of profiling has not been established for at least one highly relevant professional group.

PROFILING AS AN FBI MEDIA SUCCESS STORY

Professor Philip Jenkins is probably the most visible critic of the profiling process. He has written about the uncritical media acceptance of profiling and how fictional movies such as *Silence of the Lambs* have created a public relations windfall for the FBI and its profiling program. As evidence, one need only watch TV to see two recent clones, the series *Profiler* and the series *Millennium*. Both series feature protagonists with a profiling background.

Jenkins goes on to point out that the media fail to report on the many inaccurate profiles that have

been produced. The media also ignore the element of pure chance that continues to play an enormous role in the apprehension of serial killers. Jenkins suggests this may be part of a sweetheart deal where the FBI allows access to its profiling program only to those journalists, academics, and film makers who will speak well of their efforts.¹⁵ It may be, however, that only those media representatives favorably disposed to profiling have requested such access.

OUTLIVING PAST PROBLEMS

Other critics tend to point out past mistakes involving psychological profiles. Los Angeles' Skid Row Slasher turned out to be the opposite of his profile. The Boston Strangler was so misprofiled that the entire investigation was led astray.¹⁶ A number of operations-oriented FBI agents also remain skeptical of the profiling process due to the potential for profiles to mislead investigators.¹⁷ In fact, one of the FBI's best profilers stated he was also responsible for producing the most inaccurate profile in the agency's history.¹⁸ Local authorities also will complain that profiles contain too many general statements that would apply to too large a population to be of value.¹⁹

Many will remember the explosion aboard the USS Iowa that killed 47 sailors. When FBI profilers suggested that this was a case of murder-suicide, members of Congress, supported by their psychiatric and psychological consultants, complained about doubtful professionalism and the projection of a false air of certainty surrounding the profiling process.²⁰ Finally, modern law enforcement profilers must also overcome past difficulties encountered by criminologists, psychologists, and psychiatrists in attempting to develop a valid profiling methodology for widespread use in their professions.²¹ Still, one might conclude that modern profiling in general is a viable and intriguing investigative tool that can be useful within limits. In particular, however, it is important to discuss its use in the context of tort litigation. When might profiling be appropriate? When might profiling be inappropriate? How does profiling bear on the element of causation (cause in fact and/or proximate cause)?

APPLYING THE PROFILING PROCESS TO MUNDANE CRIME

From its very beginning, profiling was known to have limitations concerning the kinds of cases

for which it would be appropriate. Former FBI profiler and author John Douglas stated:

Like Sherlock Holmes, I had quickly come to realize that the more ordinary and routine the crime, the less behavioral evidence there was to work with. I couldn't be much help on street holdups. They're too common, the behavior is too mundane, and therefore the suspect pool is enormous. Likewise, a single gunshot or stab wound presents a more difficult scenario than multiple wounds, an outdoor case is more challenging than an indoor one, a single high-risk victim such as a prostitute doesn't give us as much information as a series.²²

Retired FBI agent Howard Teten is considered by many to be the father of law enforcement profiling. Referring to profiling, he wrote:

As a practical matter, this procedure can be expected to provide usable data in only a few highly specific types of crime.... Most of the offenses, to be appropriate for profiling, must feature some form of overt sexual activity or a loss of contact with reality.²³

Even when a crime does involve sexual aggression, criminal profiling may still be inappropriate. According to retired FBI agent and profiler Roy Hazelwood, "A case in which the rapist did not speak, used minimal force, and did not engage in atypical sexual activity is extremely difficult for most profilers." He goes on to write, "Rapes in which the victim was rendered unconscious or, because of other reasons, cannot recall details are also very difficult, if not impossible, to profile."²⁴

According to psychologist J.T. McCann:

Cases involving mere destruction of property, assault, or murder during the commission of a robbery are generally unsuitable for profiling since the personality of the criminal is not generally revealed in such crime scenes. Likewise, drug-induced crimes lend themselves poorly to profiling because the true personality of the perpetrator is often altered.²⁵

Finally, Bartol also concurs by noting that profiling is largely ineffective in the identification of offenders involved in fraud, burglary, robbery, political crimes, theft, and drug-induced crime because of the limited research base.²⁶

POTENTIAL PROBLEMS WITH THE USE OF PROFILING IN RAPE AND MURDER CASES

Although serial rapists and serial murderers are certainly appropriate subjects for profiling, most cases of rape probably do not involve a serial rapist nor do most cases of murder involve a serial killer. There are further problems with certain theoretical assumptions inherent in common approaches to profiling.

Sadly, it must be remembered that there are "normal" crimes and "normal" murders.

For example, much contemporary theorizing assumes that rapists are driven by certain power needs and/or certain needs to vent anger.²⁷ While these assumptions are correct in many cases, too much attention may be paid to this particular approach and not enough to theories emanating from other perspectives. There are substantial sociological and psychological arguments which find "just plain sex" as a primary motive in some rapes, particularly by younger offenders, rather than pathological power and anger needs.²⁸ Sex is seen as a commodity that women have and some men simply decide to take. Before or after, they simply rationalize their deeds. More current research by psychologist Robert Prentky would classify this perpetrator as opportunistic.²⁹

Still, other professionals argue that there are rapists who commit their crimes because natural selection may favor some males who more readily learn forced copulatory tactics. In other words, a given rapist may be neurohormonally disposed toward rape.³⁰ Other scientists believe many rapists suffer damage in frontal and temporal lobes of the brain or suffer other physiological pathology in the brain's limbic system, the place from which crossed sexual and aggressive messages are emitted.³¹ Obviously, some rapes are more complicated than a simple power/anger approach would allow; conversely, some rapes are far less complicated than power/anger approaches call for. To the extent that a rape is a product of factors other than a psychologically deviant personality, profiling may be inappropriate.

With regard to murder, it may be argued that most murderers are not motivated by atypical pathologies but by more mundane reasons such as jealousy, fear, anger, pride, greed, intoxication, and

just plain stupidity. Sadly, it must be remembered that there are "normal" crimes and "normal" murders.³² It is probably not a very good idea to apply to everyday murderers those behavioral explanations that are based on a specific sample of perpetrators who have the paraphilic disorder known as "sexual sadism with antisocial personality disorder comorbidity."³³

ALTERNATIVE METHODS OF DEALING WITH THE ISSUE OF CAUSATION

Rather than stretching the art of profiling to inappropriate applications, trial lawyers should consider two constructs that social scientists have applied to human behavior for some time now. An "expressive" act is committed because the act itself provides some release or reward and not because it is a route to some other goal. A sudden, vicious assault against a woman because a perpetrator hates all women would be an example. Such an act is often impulsive and emotional and suggests the actor is less likely to calculate the likelihood of future punishment. An "instrumental" act is committed because it helps the perpetrator attain some other goal. A well-planned robbery for large sums of money and providing for a clean getaway is an example of this type of crime. Such an act may be the result of a more rational state of mind and may suggest the actor was capable of assessing risks and avoiding the possibility of punishment.³⁴ By closely examining the nature of the crime that generated negligent security litigation, arguments can be made that bear upon the element of causation. Such an approach has a certain common-sense appeal to jurors, because they have probably encountered such behaviors over the course of their lives. Fortunately, the types of crimes upon which profiling is properly based will probably be quite foreign to them. Furthermore, because profiling carries with it the trappings of a formal research protocol, it is more likely to raise *Daubert v. Merrell Dow*³⁵ evidentiary issues involving the admissibility of scientific evidence.

SUMMARY OF THE STATUS OF OFFENDER PROFILING

These observations are not meant to convey the impression that criminal profiling is without value. The creativity of the profiling process can be

a welcome addition to criminal justice and may be very helpful in certain civil cases. By amassing a large database to use for benchmarking, and by systematically collecting a wide spectrum of information about serial criminals for the purpose of generalizing to future cases, profilers have made a genuine contribution. However, profiling, as it is now conceived and practiced, cannot be all things to all people. Profiling is not appropriate for every case. At the least, more attention needs to be paid to the types of criminal behavior involved in civil litigation and the types of questions that need to be answered about the offender before uncritically turning to profile-based evidence. The well-deserved successes of criminal profiling should not be watered down by the inevitable failures associated with the application of profiling to inappropriate subject matter. Any refinement efforts should first be directed to improving the study of serial rape and serial murder before reaching too far out into other crime categories.

ENDNOTES

1Steven K. Smith et al., Tort Cases in Large Counties, Bureau Just. Statistics Special Rep. 1-9 (April 1995).

2Alan Kaminsky, A Complete Guide to Premises Security Litigation 5 (1995).

3Craig Perkins & Patsy Klaus, Criminal Victimization 1994, Bureau Just. Statistics Bull. 1-8 (April 1996).

4Norman Bates & Susan Dunnell, Major Developments in Premises Security Litigation (1993).

5Carol DeFrances et al., Civil Jury Cases and Verdicts in Large Counties, Bureau Just. Statistics Special Rep. 1-14 July 1995).

6Robert K. Ressler & Tom Shachtman, Whoever Fights Monsters 3 (1992).

7See generally William Brill, Criminal Profiling in Premises Liability Rape Cases, 13 Trial Dipl. J. 105-10 (1990); John Douglas & Mark Olshaker, Journey into Darkness (1997); John Douglas et al., Criminal Profiling from Crime Scene Analysis, 4 Behav. Sci. & the Law 401-21 (1986); John Douglas & Mark Olshaker, Mindhunter: Inside the FBI's Elite Serial Crime Unit (1995); Vernon Geberth, Practical Homicide Investigation 489-538 (1993); Ronald Holmes, Profiling Violent Crimes 34-11 (1989); Ronald Holmes & Stephen Holmes, Profiling Violent Crimes 3-5, 39-43, 90-91 (2d ed. 1996); Ronald Kessler, The FBI 258-83 (1993); James Reese, Obsessive Compulsive Behavior, 48 FBI Law Enforcement Bull. 612 (August 1979); Robert Ressler & Tom Shachtman, Whoever Fights Monsters (1992); Robert Ressler et al., Sexual Homicide: Patterns and Motives (1988).

8Kaminsky, supra note 2, at 45.

9Norman Spain & Judy Spain, Special Report: Inadequate Security Update, 92 The Spain Rep. F/2/5-10 (January 1993); John Tarantino & Mark Dombroff, Premises Security: Law and Practice (1990).

¹⁰Lucinda Franks, Don't Shoot: In *the New FBI, Patience Comes First*, The New Yorker, July 22, 1996, at 26-31.

11Gordon Witkin, How *the FBI Paints Portraits of the Nation's Most Wanted*, U.S. News/World Rep., April 22, 1996, at 32.

12Anthony Pinizzotto & Norman Finkel, *Criminal Personality Profiling An Outcome and Process Study*, 14 *Law do Hum. Behav.* 215-33 (1990).

13Ronald Holmes, *Profiling Violent Crimes* 34-41 (1989).

14Curt Bartol, *Police Psychology: Then, Now, and Beyond*, 23 *Crim. Just. & Behav.* 70-89 (1996).

15Philip Jenkins, *Using Murder. The Social Construction of Serial Homicide* 70-78, 108-11, 148-49, 212-25 (1994).

16Jack Levin & James Fox, *Mass Murder: America's Growing Menace* (1985).

17Ron Rosenbaum, *The FBI's Agent Provocateur*, *Vanity Fair*, April 1993, at 122-36.

18Bruce Porter, *Mind Hunters*, *Psychology Today*, April 1983, at 44- 52.

19John MacDonald, *Rape: Controversial Issues* 167 (1995).

20Philip Jenkins, *Using Murder. The Social Construction of Serial Homicide* 70-78, 108-11, 148-49, 212-25 (1994); Ronald Kessler, *The FBI* 258-83 (1993); H. Paul Jeffers, *Who Killed Precious?* (1991).

21Colin Campbell, *Portrait of a Mass Killer*, *Psychology Today*, May 1976, at 110-19; John Godwin, *Murder USA: The Ways We Kill Each Other* 274-76 (1978).

22John Douglas & Mark Olshaker, *Mindhunter: Inside the FBI's Elite Serial Crime Unit* 170 (1995).

23Howard Teten, *Offender Profiling*, in *The Encyclopedia of Police Science* 365-67 (William Bailey ed. 1989).

24Robert Hazelwood & Ann Burgess, *Practical Aspects of Rape Investigation* 139 (1993). See also Anthony Pinizzotto, *Forensic Psychology: Criminal Personality Profiling*, 12 *J. Pol. Sci. & Admin.* 32-40 (1984).

25Joseph McCann, *Criminal Personality Profiling in the Investigation of Violent Crime: Recent Advances and Future Directions*, 10 *Behav. Sci. & the Law* 475-81 (1992).

26Curt Bartol, *Criminal Behavior: A Psychosocial Approach* 241-78 (4th ed. 1995).

27Nicholas Groth et al., *Rape: Power, Anger, and Sexuality*, 134 *Am. J. Psychiatry* 1239-43 (1977).

28Richard Felson & Marvin Krohn, *Motives for Rape*, 27 *J. Research in Crime & Delin.* 222-42 (1990); Diana Scully & Joseph Marolla, *Convicted Rapists' Vocabulary of Motive: Excuses and justifications*, 31 *Soc. Probs.* 530-44 (1984); Diana Scully & Joseph Marolla, *Riding the Bull at Gilley's: Convicted Rapists Describe the Rewards of Rape*, 32 *Soc. Probs.* 251-63 (1985).

29Robert Prentky, *Progress in Classifying Rapists, Part II: Motivational Themes*, *Violence Update*, October 1992, at 1, 8-9, 11.

30Lee Ellis, *A Synthesized (Biosocial) Theory of Rape*, 59 *J. Consulting & Clinical Psychol.* 631-42 (1991).

31John Money, *Forensic Sexology: Paraphilic Serial Rape (Bistophilia) and Lust Murder (Erotophonophilia)*, 44 *Am. J. Psychotherapy* 26-36 (1990); Benjamin Graber et al., *Brain Damage Among Mentally Disordered Sex Offenders*, 27 *J. Forensic Sci.* 125-34 (1982).

32Scott Decker, *Deviant Homicide: A New Look at the Role of Motives and Victim-Offender Relationships*, 33 *J. Research in Crime & Delin.* 427-49 (1996); Kenneth Polk, *Why Men Kill* (1994); David Sudnow, *Normal Crimes: Sociological Features of the Penal Code in a Public Defender Office*, 12 *Soc. Probs.* 255-76 (1965).

33American Psychiatric Association, *Diagnostic and Statistical Manual of Mental Disorders* 522-32, 645-50 (4th ed. 1994); Vernon J. Geberth & Ronald N. Turco, *Antisocial Personality Disorder, Sexual Sadism, Malignant Narcissism, and Serial Murder*, 42 *J. Forensic Sci.* 49- 60 (1997).

34William Chambliss, *Types of Deviance and the Effectiveness of Legal Sanctions*, 3 *Wis. L. Rev.* 703-19 (1967).

35Daubert v. Merrell Dow Pharmaceuticals, Inc., 113 S. Ct. 2786, 2797 (1993). The court provided a list of illustrative factors that may bear on the trial judge's inquiry into the admissibility of scientific evidence. These factors are: (1) "falsifiability" (whether the theory or technique can be, and has been, tested); (2) peer review and publication (submission to peer review is not dispositive, but is viewed as a component of good science); (3) the known or potential rate of error and the existence and maintenance of standards controlling the technique's operation; and (4) general acceptance of the methodology in the scientific community (still a factor to be considered but not dispositive).