E14 Forensic Physical Evidence vs. Eyewitness Evidence: A Look at Their Contributions to Wrongful Convictions and Exonerations

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The goal of this presentation is to provide forensic scientists and legal personnel with information that would allow them to develop stricter policies and practices regarding the handling of eyewitness evidence and physical evidence in order to prevent wrongful convictions in the future.

This presentation will impact the forensic science community by allowing attendees to better understand the impact each type of evidence has in criminal investigations as well as the importance that reliability and accuracy of eyewitness testimony and forensic physical evidence have as independent contributors to wrongful convictions.

This presentation is based on the growing epidemic of wrongful convictions and exonerations taking place in the Unites States since 1989. Two main databases were referenced in this research: The National Registry of Exonerations and The Innocence Project. This study examined misinterpreted or falsified forensic physical evidence and three types of eyewitness evidence: mistaken witness identification, perjury, and false confessions. After the late 1980s, modern DNA typing methods allowed for successful testing of older and smaller biological sample quantities, helping to secure 316 exonerations. In this study, statistics were generated by calculating the frequencies at which each type of evidence occurred in the 1,362 wrongful convictions to date as well as the 316 DNA exonerations.

This study examined whether erroneous forensic physical evidence or erroneous eyewitness evidence was responsible for the majority of wrongful convictions; however, in many cases, multiple types of falsified or misleading evidence were involved simultaneously; therefore, results do not total 100% and do not allow for a direct comparison. The first hypothesis tested was that eyewitness evidence will be more impactful and credible to legal personnel and juries than would be forensic physical evidence. The second hypothesis was that eyewitness evidence will be less accurate and reliable than forensic physical evidence. The third hypothesis was that forensic evidence will be more likely to exonerate while eyewitness evidence would be more likely to wrongfully incriminate.

Results showed that eyewitness evidence was more than twice as prevalent as forensic physical evidence in wrongful convictions. Out of 1,362 exonerations, perjury was the leading cause of wrongful convictions (55.5%), mistaken eyewitness identification was the second (36.5%), misinterpreted or falsified forensic physical evidence was the third (22.1%), and false confessions were the fourth (12.2%); however, modern DNA testing was responsible for 316 exonerations (23.2%) since 1989. Of the 316 DNA exonerations, 134 cases (42.4%) involved falsified or misinterpreted evidence in the wrongful convictions, while nearly all cases (96.5%) involved erroneous eyewitness evidence.

These results show that the policies regarding handling of eyewitness evidence needs the most modification. If new policies and procedures are established for handling eyewitness and physical evidence, then the likelihood of erroneous evidence leading to wrongful convictions will be reduced. More research must be done to conclude exactly how many wrongful convictions and exonerations were a result of one particular form of evidence over the other.

DNA, Eyewitness, Physical Evidence