



Software Predicts Criminal Behavior

Program Helps Law Enforcement Determine Who Is Most Likely to Commit Crime

By ERIC BLAND

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New crime prediction software being rolled out in the nation's capital should reduce not only the murder rate, but the rate of many other crimes as well.

Developed by Richard Berk, a professor at the University of Pennsylvania, the software is already used in Baltimore and Philadelphia to predict which individuals on probation or parole are most likely to murder and to be murdered.

In his latest version, the one being implemented in D.C., Berk goes even further, identifying the individuals most likely to commit crimes other than murder.

If the software proves successful, it could influence sentencing recommendations and bail amounts.

"When a person goes on probation or parole they are supervised by an officer. The question that officer has to answer is 'what level of supervision do you provide?'" said Berk.

It used to be that parole officers used the person's criminal record, and their good judgment, to determine that level.

"This research replaces those seat-of-the-pants calculations," he said.

Technology Helps Determine Level of Supervision Needed for People on Probation or Parole

Murders, despite their frequent appearance on cop dramas and the evening news, are rare crimes. On average there is one murder for every 100,000 people. Even among high-risk groups the murder rate is one in 100. Trying to predict such a rare event is very difficult, so difficult that many researchers deemed it impossible.

"It's like trying to find the needle in the haystack," said Berk.

New advances in computer technology, however, can sift through that haystack more quickly and more accurately than ever.

Beginning several years ago, the researchers assembled a dataset of more than 60,000 various crimes, including homicides. Using an algorithm they developed, they found a subset of people much more likely to

commit homicide when paroled or probated. Instead of finding one murderer in 100, the UPenn researchers could identify eight future murderers out of 100.

Berk's software examines roughly two dozen variables, from criminal record to geographic location. The type of crime, and more importantly, the age at which that crime was committed, were two of the most predictive variables.

Technology Doesn't Predict Future Crimes

"People assume that if someone murdered then they will murder in the future," said Berk. "But what really matters is what that person did as a young individual. If they committed armed robbery at age 14 that's a good predictor. If they committed the same crime at age 30, that doesn't predict very much."

Baltimore and Philadelphia are already using Berk's software to help determine how much supervision parolees should have. Washington, D.C. is now set to use the algorithm to help determine lesser crimes as well. If those tests go well, Berk says the program could help set bail amounts and suggest sentencing recommendations.

Predicting future crimes does sound, well, futuristic, said Berk. Even his students at the University of Pennsylvania compare his research to the Tom Cruise movie "Minority Report."

Nevertheless, he said, "We aren't anywhere near being able to do that."

Scientifically, Berk's results are "very impressive," said Shawn Bushway, a professor of criminal justice at the State University of New York at Albany who is familiar with Berk's research.

Predicting rare events like murder, even among high-risk individuals, is extremely difficult, said Bushway, and Berk is doing a better job of it than anyone else.

But Berk's scientific answer leaves policymakers with difficult questions, said Bushway. By labeling one group of people as high risk, and monitoring them with increased vigilance, there should be fewer murders, which the potential victims should be happy about.

It also means that those high-risk individuals will be monitored more aggressively. For inmate rights advocates, that is tantamount to harassment, "punishing people who, most likely, will not commit a crime in the future," said Bushway.

"It comes down to a question of whether you would rather make these errors or those errors," said Bushway.

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