

# Criminal justice system should be cautious when approaching risk assessment

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Robert Werth Credit: Jeff Fitlow/Rice University

Imagine a parole board trying to figure out whether a previously convicted person eligible for parole poses a future threat to the community.

Every day, in scenarios like this, decisionmakers in the [criminal justice](#) system use risk assessment tools in that help them determine the fate of people accused or convicted of crimes. But those decisionmakers need to be aware that the tools they're using can have problems, according to a Rice University sociologist.

Robert Werth, a senior lecturer in sociology in Rice's School of Social Sciences, reviewed research on various methods for assessing risk among accused or convicted criminals. "Risk and punishment: The recent history and uncertain future of actuarial, algorithmic and 'evidence-based' penal techniques" will appear in an upcoming print edition of *Sociology Compass*.

Actuarial and algorithmic instruments are among the tools used to assess these risks, along with the professional judgement of personnel such as parole officers, correctional officers and psychiatrists. Werth said that actuarial risk assessments can reduce discrepancies in how individuals are assessed and treated. But he said they can also exacerbate existing inequalities, particularly on the basis of socioeconomic status or race.

"These tools make calculations of risk based on what other people have done, which ultimately determine an individual's punishment or freedom," Werth said. "These results are usually based on arrest, rather than conviction. Previous literature has shown that some neighborhoods, especially poorer, urban communities with higher number of minorities, tend to be policed more extensively. That inevitably leads to higher arrest rates for individuals living in these areas. This can, and will, skew risk assessment scores to more harshly assess and punish individuals who are of lower socioeconomic position and who are racial minorities.

Actuarial science, the calculation and management of risk and uncertainty, was developed in the 18th century as a way to increase profit and minimize risk for commercial ventures. In the 1920s, it made

its way into the penal system with criminal offender risk assessments. In the 1970s and beyond, the use of actuarial risk assessment in criminal justice began expanding, and it has proliferated in recent years. Today it guides an array of criminal justice decisions, such as participation in diversion programs, the delivery of correctional services, and probation and parole case plans. It also informs a growing number of decisions on pretrial detention and criminal sentencing.

Werth said previous research about actuarial risk assessment raises important questions about its constitutionality and ethics. "These calculations can ultimately lead to people being punished for what they might do rather than what they have actually done, which would seem to violate our standard conception of due process," he said.

Werth cautions against rushing into actuarial risk assessment in criminal justice, noting that while it may help reduce inconsistencies within a particular location, it can also lead to certain people being targeted more often.

"Proponents argue that it is a objective, scientific and transparent way of reducing discrepancies in the system," he said. "However, there are numerous reasons to be cautious and concerned about their potential for negative impacts. First and foremost, research shows that they may reproduce class-based and race-based inequalities. Further, some of the available assessment tools use proprietary algorithms developed by for-profit companies, which raise questions of transparency and fairness."

Werth stressed that risk [assessment](#)—whether conducted by a computer or a human—is not a perfect science. "The bulk of existing research doesn't necessarily suggest abandoning the use of actuarial risk assessments, but it does give us reasons for caution," he said. "Before rushing to adopt or use these tools, we need to have conversations about their problems and weaknesses."

Werth said that more research is needed on how actuarial risk assessments are impacting incarceration and punishment rates, and whether or not they are facilitating what's known as "net widening"—increasing the overall number of people enmeshed in the criminal justice system.

**More information:** Robert Werth, Risk and punishment: The recent history and uncertain future of actuarial, algorithmic, and "evidence-based" penal techniques, *Sociology Compass* (2019). [DOI: 10.1111/soc4.12659](https://doi.org/10.1111/soc4.12659)

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