Predicting Criminality

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Peter Hoffman, U.S. Parole Commission
John Monahan, University of Virginia Law School

Your discussion will be assisted by your knowing some of the reasons that have been offered for taking predictions of offenders' future criminality into account in making sentencing and parole decisions, the research evidence that is available concerning the accuracy with which we can predict future crimes, and some of the ethical issues and objections that have been raised regarding the use of such predictions.
Predicting Criminality

Criminal justice officials increasingly use statistical methods to predict whether an individual will commit future crimes. The use of statistical techniques is not new; for example, the early form of sentencing guidelines that classify people into groups on the basis of prior criminal histories. Individuals in high-risk groups generally receive longer prison sentences or are held in prison longer.

Sentencing and parole decisions generally involve a consideration of two matters: the seriousness of the crime, and the characteristics of the offender. Most people believe that both should be taken into account. Just as it is difficult to imagine a system in which the seriousness of the crime is given no weight, it is also difficult to imagine a system in which differences among offenders are totally ignored (for example, by a system in which first offenders and habitual offenders are treated identically).

In this context, the problem of effectively quantifying the likelihood of committing future crimes, the act of re offending, and recidivism rates, which tell us the percentage of any group of offenders that is likely to commit a new offense within a specified period. There is no standard approach to calculating recidivism rates. In a given context, the calculation depends on what kind of behavior is to be counted—arrests, violation of parole conditions, convictions, reincarcerations—and for how long. Generally, the broader the definition of re offending, the higher the rate. The higher the rate, the higher the rate of recidivism will be. For example, if recidivism is measured by whether an offender is in prison in 2 years, the frequency of recidivism will be higher than if it is measured by whether the offender is in prison in 5 years. How often an offender is in prison in the same time period. If recidivism is looked at for 12 months, the actual recidivism rates will be lower than if the follow-up was 24 months.

The Salient Factor Score

The experience of the United States Parole Commission illustrates how predictions of recidivism are used in the criminal justice system. In the early 1970s, the U.S. Parole Commission developed an objective scale, based on empirical studies of inmates, that was used to assess a prisoner’s likelihood of recidivism. This scale, called the “Salient Factor Score,” is similar to the actuarial tables that insurance companies use to predict the lives of smokers and non-smokers. It is one of the many statistical techniques used by criminal justice agencies throughout the world.

The Salient Factor Score contains six items:

- The offender’s prior criminal convictions.
- The offender’s prior criminal commitments for longer than 30 days.
- The offender’s age at the time of the new offense.
- How long the offender was at liberty since the last conviction.
- Whether the prisoner was on probation, parole, or parole status at the time of the most recent offense.
- Whether the prisoner was a member of certain groups.

The Salient Factor Score and the seriousness of the current offense are combined in a grid to derive a guideline range of total time to be served. The examiner calculates the seriousness of the offense and identifies the horizontal offense severity row that applies to the prisoner. Then the examiner enters the prisoner’s Salient Factor Score and finds the vertical column that applies to that category of offenses. The score is the applicable range of months to be served by that prisoner. An example is shown below for an offender who has committed a Category Five serious offense.

<table>
<thead>
<tr>
<th>Offense Characteristics</th>
<th>30-36 months</th>
<th>42-48 months</th>
<th>60-72 months</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Medium</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>High</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

How well does the Salient Factor Score predict recidivism? Using one standard definition of recidivism (any new conviction or commitment within a 2-year follow-up period), research shows that the Salient Factor Score has a recidivism rate of 10%, which compares favorably with the highest Salient Factor Score to score of 10(1) had a recidivism rate of 6%.

Offenders are also classified into two risk groups. A prisoner must have a recidivism rate of 59% nearly 10 times as high as what is expected for the average prisoner. Furthermore, the Salient Factor Commission for use in its guidelines, shows that more than 90% of recidivism rates are substantially more accurate.

Salient Factor Score Category

<table>
<thead>
<tr>
<th>Category</th>
<th>A score of (50)</th>
<th>B score of (70)</th>
<th>C score of (90)</th>
<th>D score of (110)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recidivism Rate</td>
<td>12 percent</td>
<td>25 percent</td>
<td>36 percent</td>
<td>49 percent</td>
</tr>
</tbody>
</table>

In this study, recidivism rates as follows:

- Category A: 12 percent
- Category B: 25 percent
- Category C: 36 percent
- Category D: 49 percent

As noted, different research studies have used different test criteria and follow-up periods. Furthermore, regardless of the definition of recidivism or the follow-up period for calculating recidivism, it is clear that a system can show different recidivism rates in the future. Whether categories exist or not, it is likely that accurate predictions are possible.

Other Predictive Efforts

How do these results compare with efforts to predict recidivism? The Salient Factor Score’s predictive power is simply the interface of qualitative judgments found by others who have conducted research in this area. Considerable effort has been devoted by the criminal justice research community to improving the predictive power of such devices, but the effort has thus far not been notably successful.

"Selective incapacitation," extending sentences according to risk potential, has been proposed as a way to reduce the recidivism rates as follows. The Rand Corporation, for example, has investigated the use of criminals in the desert as a way to reduce the recidivism rates. The Rand Corporation, for example, has investigated the use of criminals in the desert as a way to reduce the recidivism rates. The Rand Corporation, for example, has investigated the use of criminals in the desert as a way to reduce the recidivism rates.

Guidelines for Decisionmaking

Customary Time To Be Served Before Release Based on Criminal History

<table>
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<tr>
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<tbody>
<tr>
<td>Category A</td>
<td>24-36 months</td>
</tr>
<tr>
<td>Category B</td>
<td>30-42 months</td>
</tr>
<tr>
<td>Category C</td>
<td>42-60 months</td>
</tr>
<tr>
<td>Category D</td>
<td>60-72 months</td>
</tr>
</tbody>
</table>

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Although the Rand Corporation demonstrated that offenders' rates of committing crimes vary dramatically, the Rand work cannot yet solve the central problem of determining a return to prison for an individual. First, some of the information required for the prediction of continued criminal behavior is not available. Second, because the Rand work was developed on the basis of information about how it would operate when applied to all convicts persons, many of whom have not been incarcerated, the research was based on past, not future, criminality. Predictions made with such data are not yet to be used to determine whether predictive devices can be developed for operational use that will identify highly active recidivists even with modest accuracy.

The primary alternative to using statistical approaches to sentencing is a system of individualized judgments by psychologists, judges, or parole board members. The research evidence is still more evidence that individualized judgments are better. It is possible to speculate that clinical judgments coupled with statistical predictions may provide better predictions than either alone. This combined approach is used by the U.S. Parole Commission. As an initial effort, its hearing examiners may verify the decisions indicated by the Salient Factor Score. If they can formulate sufficient reasons to believe a prisoner is in a better position than the statistics indicate. But there is currently still no substantial research evidence that discretionary judgments combine clinical and statistical judgments actually improve predictive accuracy over that obtained by statistical approaches alone.

Critics and Justifications

Critics of the use of predictions of future crime as the basis for parole and sentencing decisions have raised a number of ethical objections, which are also self-justifiable. For example, the prediction that someone will commit a crime is an absurdity. For example, critics argue that by saying that a person who has committed a crime in the future, the prediction that the prediction has failed to take into account the future. Critics argue that it is unfair to increase a person's current punishment because of what that person might do in the future. Critics also question the legitimacy of relying on certain kinds of predictions. People would agree that neither race nor sex should be used as a basis for increasing sentence length even if the information were shown to be statistically related to recidivism rates.

Similarly, critics argue, "race items," such as employment, education, and race, are not related to recidivism. Critics also argue that using them constitutes a form of class and income bias. In addition, these items are not related to the sentencing process. For example, even if unemployment or the status of the parole officer was found to have a higher recidivism rate, it would be fair to punish them with longer sentences that are consistent with their crimes.

Advocates of the statistical predictions generally agree that certain items may be ethically inappropriate to use even if they are shown to be predictive, just as some law enforcement techniques, such as coercion techniques, are
legally impermissible now (assuming their effectiveness). But they point out that the best predictive items tend to be those concerning prior criminal record, and that valid prediction devices have been developed that do not use race, education, employment, or marital status.

Advocates also argue that most judges and parole officials do fact divide an offender's "dangerousness" into account, but they do so subjectively and based on their own intuition. Statistical prediction devices, even if imperfect, are more reliable than intuition. In addition, if the prediction device applies to all sentencing or parole decisions, it constitutes a single consistent set of standards and is therefore fairer than a system in which each judge or parole examiner applies his own idiosyncratic or intuitive standards.

Advocates of prediction acknowledge that criminological predictions are far from perfect and that a significant number of offenders who will fail to commit new offenses will be misclassified, but they argue that the offender has made himself vulnerable by committing the crime for which he has been convicted. They maintain that a balance must be struck between the rights of the offender and the rights of the community to be protected from further crimes by the offender.

They point out that the use of prediction is advocated only for those whose case is convicted and then only within the range of what otherwise would constitute fair punishment for the offense. That is, advocates of prediction generally agree that the seriousness of the offense should set the upper and lower boundaries of what constitutes "just" punishment. Within these outer limits, they argue it is both desirable and ethically appropriate to use predictive considerations to attempt to predict society, at least temporarily, by giving prison terms to those most likely to commit additional offenses.

References

**Discussion Questions**

1. Some people believe that predictions of dangerousness are an entirely legitimate consideration in sentencing. Other people disagree, arguing criminal punishment should be commensurate with nature and should be based solely on the offender's current criminal offense. With which belief do you agree? Why?

2. The state of the art in predicting future serious criminalities is "one in three," that is, of every three people who are identified as future offenders, only one will in fact commit an offense. Some argue that these predictions are simply insufficiently reliable to be used in the basis for increasing prison terms. Others argue that these predictions, while imperfect, are an improvement on intuitive judgments and that therefore they serve both crime control objectives and the objective of treating offenders consistently and fairly. With which argument do you agree? Why?

3. Do you approve or disapprove of the U.S. Parole Commission's use of its Salient Factor Score?

4. Imagine that you are a judge and two offenders stand before you who have been convicted of participation in the same burglary. One has a high Salient Factor Score and the other has a low one. Would you feel justified in sending the high-risk offender to prison for several years while releasing the low-risk offender on probation?

This study guide and the videotape, Predicting Criminality, is one of 22 in the CRIME FILE series. For information on how to obtain programs on other criminal justice issues in the series, contact CRIME FILE, National Institute of Justice, NCIRS, Box 6000, Rockville, MD 20850, or call 800-851-3421 (301-251-7500 from Metropolitan Washington, D.C.), and Maryland.
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