**Focus on Juvenile Justice: Pathways to Adult Court**


**Why Was the Study Done?**

During the late 1980s and early 1990s, the inception of the “get tough” era altered the face of juvenile justice across the nation. Research has examined the consequences of these sweeping policy changes, focusing a great deal of attention on the ever-evolving pathways by which juvenile offenders could reach, and be processed in, adult criminal courts. Because of the vast distinctions between juvenile and adult justice in our nation and the potential lifelong consequences for affected youth, attention to this issue is certainly warranted.

While early studies focused on potential bias in the waiver or transfer decision itself (e.g., the influence of race and gender), later research has begun to explore potential biases in later justice system outcomes. For example, emerging research in this realm has suggested that juveniles waived or otherwise transferred to adult court actually suffer a “juvenile penalty” at the sentencing stage, subjecting these youth to harsher outcomes than even similar 18- and 19-year-old offenders. Yet, to date, no existing study has assessed the viability of the somewhat diverse causal patterns that may lead to the observed bias at sentencing. This current study is designed to build upon earlier studies by empirically testing the validity of proposed causal mechanisms.

**What Did the Researcher Do?**

The researcher tested the somewhat competing notions that increased sentences meted out to transferred juveniles are attributable to either 1) the perceived risk such offenders pose to society due to their young age and potential for offending in future years, or rather 2) a stigma that may be attached to the youth through the transfer process and his/her atypical appearance in an adult court setting.

To test these disparate causal mechanisms, two competing research hypotheses were formulated:

*Hypothesis 1: There will be disparity in adult court sentencing outcomes between 16- and 17-year-old juveniles who are legally defined as adults and a matched group of young adult counterparts ages 18 to 19; that is, the 16- and 17-year-olds will receive sentences that are more severe than those of the young adults.*

Support for Hypothesis 1 would indicate that sentencing disparity between young adults and juveniles processed in adult courts is based upon perceived risk to society from the juveniles’ age and impulsivity.

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**JRP Digest**

A Summary of Research from *Justice Research and Policy* Volume 12, No. 2, 2010

JRP Digest contains summaries of research articles published in *Justice Research and Policy*, the peer-reviewed journal of the Justice Research and Statistics Association. JRSA is a national nonprofit organization of state Statistical Analysis Centers (SACs), the state agencies responsible for collecting, analyzing, and disseminating justice data, as well as researchers and practitioners throughout government, academia, and justice agencies.

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Hypothesis 2: There will be disparity in adult court sentencing outcomes between juveniles who reach adult court through judicial waiver/transfer (ages 13 to 15) and a matched group of juveniles who are simply legally defined as adults based on state law (ages 16 and 17). This disparity will take the form of waived juveniles receiving sentences that are more severe than those of their 16- and 17-year-old counterparts.

Support for Hypothesis 2 would indicate that it is the waiver/transfer process itself rather than considerations of age that influence adult court sentencing outcomes.

The study examined data from North Carolina, where all 16- and 17-year-olds are simply defined by statute as adults—thus making such youth “typical” rather than “atypical” in the adult court. This state also maintains judicial waiver procedures for youth below the age of 16, allowing for an additional test of the proposed juvenile penalty for these even younger juveniles who are “atypical” in the adult court. Propensity score matching procedures were used to create balanced sample groups. The matching procedure took into account legal and extra-legal factors known to impact sentencing decisions, such as gender, race, offense severity, and prior record, allowing the researcher to rule out confounding differences that might otherwise account for differences seen in sentencing outcomes.

What Did the Researcher Find?

First Hypothesis. This research did find disparity in sentencing between 16- and 17-year-olds who were defined as adults and a matched sample of 18- to 19-year-old offenders, but the disparity was in the opposite direction from expectations. In this sample, the 16- and 17-year-old felony defendants actually received more lenient sentences than their older counterparts. This effect was found in both the probability and length of incarceration.

Second Hypothesis. This hypothesis suggested that disparity in sentencing was due to a stigmatization that occurred during the sequence of decisions that resulted in the juvenile being transferred out of juvenile court. The data revealed that the younger offenders “waived” to adult court did indeed suffer from the presumed “juvenile penalty.” That is, 13- to 15-year-old offenders received sentences that were significantly more severe both in type and magnitude than those allotted to a matched sample of 16- and 17-year-old offenders.

The findings of this research, then, support the notion that a “juvenile penalty” is applied at the time of sentencing for waived juveniles and that such a penalty is, at least in part, related to the transfer process itself. This study also found that the historical precedent of leniency for youth remains alive for those juveniles (ages 16 and 17) who are automatically defined as adults in terms of court jurisdiction.

What Are the Implications of the Findings for Policy Makers?

This study found that waived juveniles do not benefit from the attributions of reduced culpability allotted to their older 16- and 17-year-old counterparts. This could be in part due to the fact that to be eligible for transfer, the youth must have committed a fairly serious crime and such crimes may not be seen as fitting or typical of adolescent character. However, the research on adolescent decision making and brain development suggests otherwise. Because youth are more controlled by emotion than reason and forethought, such research suggests, they are indeed capable of vicious and violent acts. Therefore, these behaviors may not only be typical and normal for some youth, but perhaps be even more prevalent among the most immature youth.

As an unfortunate consequence for both the youth and society, these juveniles are then likely to spend the most formative years of their brain and emotional development in an adult correctional setting. In addition to the heightened risk of victimization of youth in prison settings, research also has indicated that such an experience is likely to lead to higher levels of later adult offending. Thus, the incarceration of such youth may serve to increase, rather than decrease, levels of violent offending, thereby reducing public safety.

In applying these findings, the author cautions against interpreting the mitigated punishments offered to 16- and 17-year-olds as necessarily a good thing. It may simply be a return to the “forced choice” felt by adult court judges—sending youths to adult prisons or doing nothing at all—that led to the original development of the juvenile justice system, which emphasizes rehabilitation rather than punishment and crime control.

A copy of the full-length article can be purchased at JRP’s web site: http://jrsa.metapress.com.
FOCUS ON JUVENILE JUSTICE: PREDICTORS OF GIRLS’ LEGAL INVOLVEMENT


Why Was the Study Done?

Before the mid-1970s, most formal discussions of juvenile offenders and juvenile court did not include specific information on girls. Today, however, female juvenile offenders have become one of the fastest growing segments of the juvenile justice system and are no longer invisible.

Despite girls’ growing presence in juvenile court and youth corrections, there is a paucity of research on girls’ justice involvement and the official decisions made about and for them. This article helps remedy this deficit by achieving three major goals. First, using logistic regressions, the authors examine what social factors are significant in predicting the odds of juvenile offenders’ detention and commitment. Second, focusing on girls, the authors examine how such significant social predictors specifically affect female juvenile offenders’ probabilities of being held in custody. Finally, through interview data, the authors show how juvenile justice actors (judges, probation officers, line staff, psychologists, and other service providers) employ information about girls’ social and legal histories and decide detention and correctional program placements.

What Did the Researchers Do?

Focusing solely on the post-adjudication stage of juvenile justice (probation, detention, and commitment), the researchers used a dual quantitative/qualitative approach: case file analysis and interview data.

Case File Analysis

The case file sample was randomly drawn from the Hawaii state tracking system database of juvenile who were on probation at some point during the years 2003–2004. The final sample consisted of 267 files; of these, 190 (73 girls and 117 boys) had been detained at some point during those two years, and 93 (27 girls and 66 boys) had been committed. In Hawaii, juveniles are rarely transferred to adult court, and only one in the study’s sample had been. In essence, the juvenile correctional facility represents the “end of the line” as far as juvenile justice involvement goes.

The juveniles’ case files normally had four main sections: (1) a legal/criminal history; (2) a social history; (3) educational background; and (4) a medical history, including mental health reports. After the authors reviewed a small sample of case files, common themes and categories became apparent, and they developed a coding sheet that would be compatible in every location and with every case file.

Interview Data

In order to understand how these factors affect the decisions to embed juvenile offenders more deeply in the system, in-depth interviews with 25 professionals who work with justice-involved youth were also performed. An effort was made to include a diverse group of interviewees who worked directly in the juvenile justice system as well as people who worked outside it, but who make recommendations to the court and contribute to information contained in the case files.

What Did the Researchers Find?

Quantitative Results

The authors explored two main questions:

1) What risk factors impact juvenile probationers’ odds of being detained and of being committed?
2) With a specific focus on girls, how do such factors affect the depth of their justice involvement?

Overall, the juveniles had extensive records of exposure to violence (both as victim and perpetrator), drug use, school failure, delinquent friends, and mental health problems. Girls had more histories of negative peer groups, depression/PTSD/suicide attempts and sexual abuse, while boys had more reports of physical aggression, ADD/ADHD, and marijuana abuse. Boys committed more felonies and misdemeanor law violations, whereas girls had more records of status offenses. Although not statistically significant, girls also more frequently came from families that had a “triple” load of disruption: investigations for neglect, parental drug use, and parents with criminal records. However, boys and girls appeared equal in their experiences of academic failure, limited access to health care, crystal methamphetamine abuse, and death of a loved one.
In addition to offense factors and age at first arrest, statistically significant predictors of detention were academic failure and methamphetamine use. In addition, boys and girls had virtually equal odds of being detained, controlling for the other factors. One explanation for this is that detention is so frequently used overall (71% of the time) that all juvenile offenders, regardless of gender, seem to fall under its expanded umbrella.

Turning toward commitment, social factors had more of an impact than in the detention model. Overall, commitment was more widely used for chronic law violators, for boys, and/or for juveniles with histories of specific types of trauma (sexual victimization, death of a loved one) and marginalization (school failure, lack of health care insurance, methamphetamine addiction).

Using the significant risk factors from the previous models, the authors then predicted probabilities of detention and commitment exclusively for the girls in the sample. They found that girls had nearly an 88% chance of being detained; the presence or absence of most factors did not substantially increase or decrease the probability of detention. Girls who had no history of failing school or using crystal meth were 1.5 times less likely to be detained, whereas girls who had both factors have a 98% probability of going to detention.

As with the regression models, predicted probabilities yielded a somewhat different story when it came to commitment. Holding the variables at their means, girls’ had an overall 14% probability of being committed. Girls with histories of crystal meth increased their probability of commitment to 40%, and girls with histories of sexual abuse nearly doubled the probability of commitment. No health insurance, academic failure, or death of a loved one also increased the probability of commitment.

The authors then calculated the effect of combinations of these factors since many girls experience many risks at one time. The predicted probability of the combination of academic failure, methamphetamine (ice) abuse, no health insurance, sexual abuse, and death of a loved one equaled that of the presence of 11 felonies. Furthermore, girls who committed no felonies but had the presence of all five risk factors still had a 69% probability of being committed. When criminal history was held constant, two thirds of the committed girls were committed for probation violations resulting from a new status offense. Very few girls were serious or chronic felony law violators. In addition, perpetration of physical assault did not increase girls’ probability of commitment or detention.

Qualitative Results
Several factors appeared important in understanding girls’ depth of juvenile justice involvement: namely, what the authors define as trauma (sexual abuse, death of a loved one) and marginalization (lack of health insurance, school failure, and methamphetamine abuse).

All those interviewed felt that school retention was key in keeping girls away from further justice involvement. Several interviewees also spoke about how “out of control” girls deserved detention after being given several “breaks” and refusing to comply with the requirements of probation. Decision makers generally recommended detention because girls “refused to stay put,” for their “own good,” and for their own protection from victimization on the streets and from their “bad choices.” Consistent with the study’s case file sample where 86% of the girls were girls of color, this notion seemed particularly applied to girls of color.

Overall, decision makers said that while the goal (to reform the individual) in juvenile justice remains the same, they are constrained by the lack of viable alternatives. Most interviewees recognized sexual abuse on girls’ pathways to offending. In general, respondents felt that the more trauma the girl experienced—the more violence she experienced—the higher the risk she had of unsuccessful completion of probation and/or recidivism. This high risk then qualified her for commitment, even though the girls did not have serious offense histories and were not violent or dangerous to the community.

The decision makers expressed reluctance and powerlessness in responding in a less than punitive fashion. Academic failure led to further justice involvement because it constituted a direct probation violation. Interviewees felt that female juvenile offenders who had histories of crystal meth abuse and/or sexual abuse were in need of treatment, but that lack of health care insurance and program alternatives made youth corrections the final place to find care. Trauma, such as results from losing a significant other, qualified many girls as “high risk,” which then led to recommendations for secure confinement, which interviewees felt
was the pipeline to mental health treatment, a contemporary twist on a traditional approach to handling the wayward girl.

**What Are the Implications of the Findings for Policy Makers?**

For over a century the juvenile justice system has jailed girls “for their own protection” and this study finds that despite high profile national initiatives to focus on the development of gender responsive services for girls, girls are still being incarcerated in order to “save” them. While both the qualitative and quantitative parts of this study show that offense severity is the strongest predictor of custody decisions, an examination of risk factors showed that two important variables—academic failure and methamphetamine abuse—influence further involvement in youth corrections. Girls who use drugs and/or fail school are deemed out of control and in need of protection by juvenile justice decision makers. Youth corrections has necessarily had to transform itself into a drug treatment and mental health facility, although many of those interviewed in this study felt it has not successfully done so.

The findings in this study align with previous feminist criminological work that shows that girls involved with the justice system, especially girls of color, have histories that include a magnified combination of marginalization and trauma: sexual abuse, methamphetamine use, family disruption, academic failure, lack of health insurance, and death of a significant loved one. Of key importance for these girls are: 1) keeping the girls in school; 2) offering access to medical and mental health care; and 3) developing viable alternatives to secure confinement that directly address the victimization and marginalization in girl offenders’ lives.

A copy of the full-length article can be purchased at JRP’s web site: [http://jrsa.metapress.com](http://jrsa.metapress.com).

**FOCUS ON JUVENILE JUSTICE: PROBATION OFFICER GENDER AND TREATMENT OF YOUTH**


**Why Was the Study Done?**

The juvenile justice system has a dual goal of social control and social welfare. Youth are held accountable for their delinquency, yet there is significant emphasis as well on treatment and reform. Decision makers take into consideration legal criteria but also extralegal factors that may provide insight into a youth’s need for rehabilitation, such as the youth’s family, maturity level, and progress in school. But such decisions are also ripe for the interjection of racial, gender, and other biases. Prior research has shown that effects involving race appear to be most pronounced at intake, where discretion is greater than at any other stage in the juvenile justice process. In the current study, the authors build on a line of research that focuses on the characteristics of decision makers by assessing what effects the gender of the intake officer may have in understanding the treatment of male youth.

**What Did the Researchers Do?**

The authors posed five hypotheses that address the influence of gender on decision making by juvenile intake officers.

1. Female intake officers will sanction more severely than male officers (controlling for legal and extralegal considerations).
2. The effect of gender on decision making will be seen for less serious delinquent behavior.
3. The effects of extralegal factors, such as being older, coming from a single parent household, and school problems, on intake decision making will be more pronounced for female intake officers.
4. Compared to male intake officers, female intake officers will sanction male black delinquents more severely than male white delinquents for nonserious offenses.
5. The relative effects of extralegal factors on intake decision making will work to the disadvantage of black offenders, especially among female decision makers.

Juvenile court case files from a single county in Iowa involving youth accused of delinquent behavior were identified over a 21-year period, 1980 through 2000. To allow for comparisons between racial/ethnic groups across decision making stages (i.e., intake to judicial disposition), random sampling of these case files was used for whites, while disproportionate random sampling was used for African-Americans, for a total of 5,554 cases. The sample was restricted to males, reducing the final, weighted sample to 4,182.
Independent variables central to the research questions and hypotheses were chosen: gender of the intake decision maker, race of the youth, indicators of crime severity, and variables representing extralegal considerations (age, family status, and problems in school). The dependent variable was intake, defined as release or diversion vs. referral to court.

Logistic regression was used to examine the presence of statistically significant additive effects for each of the independent variables, followed by estimations of equations to capture gender interaction effects with decision making. Specific models representing male and female intake officers were then conducted to further illustrate the gender-officer interaction relationships. The last step of the analysis involved estimations of models differentiated by the gender of the decision maker and each race group. The odds ratio was used to compare and assess the magnitude of the effects.

What Did the Researchers Find?

Hypothesis 1. Although gender of the decision maker was a statistically significant predictor of the dependent variable (intake), the effect was the inverse of what was expected. Female intake decision makers were more lenient rather than more punitive than male intake officers (controlling for legal and extralegal considerations).

Hypotheses 2 and 3. Female decision makers were expected to implement more severe intake outcomes for less serious offenses (H2) and cases in which the youth was older or from a single-parent household, or evidenced school problems (H3). The results showed mixed support for these. While no support was seen for (H2), there was a statistically significant effect of the legal variable “the number of charges” for both male and female officers, with the relative impact on the dependent variable being much stronger for female officers. Some support was seen for (H3). The effect of family structure on intake decision making was conditioned by the gender of the officer. A positive and statistically significant relationship with the dependent variable (intake) was evident for female officers, whereas for male officers, family structure had an inverse effect and was not statistically significant.

Overall, there were more similarities than there were gender differences in the predictors of intake outcome. Of the legal variables capturing crime seriousness and past involvement in the juvenile justice system, almost all predicted decision making in the expected direction for both male officers and female officers. There were two exceptions, property offenses and drug offenses. For male officers, property crimes and drug crimes were not statistically significant determinants of intake outcome. For female officers, both had statistically significant effects with intake decision making. Charges of a property crime increased the likelihood of a court referral, while involvement in a drug offense decreased the chance of receiving this outcome. Similar relationships with intake decision making were seen for age and race. For both male and female officers, older youth and African-American youth received more severe intake outcomes.

Hypotheses 4 and 5. No support was provided for (H4), that female decision makers would respond more negatively to blacks involved in nonserious behavior than male decision makers. For (H5), white youth from single-parent households had less likelihood of receiving the more severe intake outcome with male decision makers, while for similarly situated black youth, the chances of receiving a court referral increased. For female decision makers, there was no statistically significant effect for family structure with intake decision making and being white, while coming from a single-parent household negatively impacted decisions involving black youth. Thus, for black youth from single-parent households, the odds of receiving intake court referral increased regardless of decision-maker gender. But for white youth from such households, male officers respond in a more lenient manner.

Indications of school problems had no impact on intake decision making for male officers involving white youth or black youth. With female officers as the intake decision maker, white youth showing problems in school were at increased odds for receiving a court referral. Thus there was minimal support for (H5), which posited that female decision makers’ reliance on extralegal factors would result in more severe intake outcomes for blacks compared to male decision makers.

What Are the Implications of the Findings for Policy Makers?

This study examined the influence of the gender of the decision maker on juvenile justice processing. Specifi-
cally, it focused on whether the gender of the decision maker or, instead, the norms of the juvenile justice system has a greater influence on the probation officers’ decisions. The authors were also interested in examining the extent to which legal and extralegal factors relied upon at intake decision making varied by the gender of the probation officer. Underlying the inquiry was the effect these relationships would have for the equitable treatment of all youth, and especially black youth.

The fact that women officers were found to be both lenient overall and give harsh outcomes when taking into account specific legal and extralegal factors does not discredit the notion that women and men make decisions differently within the juvenile justice system. Rather, these findings support the perspective that the gender of the decision maker is a strong influence on intake decision making.

The overwhelming similarity between female and male officers’ decision making as influenced by race also suggests the existence of bias within the juvenile justice system that overrides individual or gendered influences on decision making. Black youth are treated more severely than are white youth, regardless of the gender of the decision maker.

The findings regarding treatment of black youth challenge the literature suggesting that women are more biased under certain conditions than men in their decision making, as well as the research suggesting that women are less racist than men. Whatever general differences might exist between women and men in terms of their understanding of and empathy with discrimination that may influence their perceptions of race differences, it appears that the bias, either pervasive in the larger culture or inherent to the juvenile justice system, influenced decision making regardless of and beyond any gender differences women and men might bring to the job in terms of their attitudes about race. These results point to the continuing need to examine juvenile justice decision making and the quest for ensuring equitable treatment for all youth, including minority youth.

**Policy Essay: Dissecting Crime Statistics**


**Background**

In the 1920s, the International Association of Chiefs of Police (IACP) recognized the need for crime statistics at the local and national levels. IACP encouraged police administrators to report statistics that documented the problems they faced and the achievements they made and emphasized that these statistics should be based on information “readily available” and routinely maintained so that reporting would not unduly burden police authorities. IACP also developed a recommended set of counts with common definitions and encouraged their use.

In the 1960s, the FBI first published the Crime Index and the Crime Index Rate. Concerns related to two aspects of the Crime Index soon arose. First, the seven crimes within the Crime Index are all weighted equally, so that more serious crimes, such as murder, have equal weight in figuring the crime rate as less serious crimes, such as shoplifting. Second, the Crime Index is heavily weighted toward the high-volume property crimes. Due in large part to these concerns, the FBI discontinued reporting the Crime Index in 2004. Since the 1960s, the FBI has separated the overall Crime Index into two parts—violent crime and property crime—but both suffer from the same general flaws as the overall Crime Index.

This article provides a brief history of crime statistics reporting and presents recommendations for an enhanced set of community-level crime measures. These measures are designed to service the information needs of law enforcement as well as the information needs of the many audiences that depend on (or could benefit from) law enforcement statistics.

**Available Data**

In 1989, the FBI implemented the National Incident-Based Reporting System (NIBRS) to collect from participating law enforcement agencies a common set of data elements describing the attributes of reported crime incidents, including incident attributes, victim characteristics, and offender characteristics. If NIBRS represents the type of data “readily available” to law enforcement authorities today, then new crime mea-
sures can be developed that are far more useful to the many audiences in a community than the currently reported crime indices.

**Dissecting Crime by General Crime Types**

A major criticism of today’s violent and property crime indices is that they combine crimes having widely differing characteristics. In response, many agencies have moved away from the two general indices, dissecting them to focus instead on the annual counts of the eight specific crimes that comprise them. This reporting enhancement alone generally yields a far more detailed understanding of local crime patterns.

**Dissecting Crime by Victim Characteristics**

The information needs of the community could be better served if these offense-specific crime indices were dissected even further. For example, with the detail commonly found in local incident-based reporting systems, trends in reported aggravated assaults could be developed for victims in different demographic groups. How would the community respond if its moderate increase in aggravated assault was primarily an increase in assault against the elderly? How useful to child protective services and school administrators would it be to know that the increase in forcible rape was mainly against young victims between ages 12 and 17? Dissecting crime trends for key demographic subgroups within a community produces critical data to assess changing risks of victimization and provides information on the success of (or need for) targeted victim-specific intervention programs.

**Dissecting Crime by Other Incident Attributes**

For violent crimes, most information systems used by law enforcement have the capability to report whether an incident involved a weapon, multiple offenders (and possibly gang members), and whether the victim was injured. Each of these attributes can be used to assess

than adult crimes. Dissecting the crime rates by offender age, gender, race, and ethnicity would give a more exact measure of the juvenile crime problem. Such presentations could give empirical insight into, for example, speculation that crimes perpetrated by young females are increasing or Hispanics are involved in a growing proportion of violent crime.

**Dissecting Crime by Victim-Offender Relationships**

Citizens are most afraid of being the victim of stranger violence, while law enforcement professionals know that most violent crime victims know their offenders. Dissecting violent crimes by the victim-offender relationship can provide the community with an important insight into this aspect of violent crime. For example, dividing violent crimes into those committed by family members, acquaintances, and strangers would enable citizens to see the amount of, and trends in, domestic violence (or stranger violence) in their communities.

**Dissecting Crime by the When and Where**

As they were in the 1920s, the time and place of crime are of interest to the citizenry and of utility to criminal justice practitioners and policy makers. In the mid-1990s, for example, the finding that violent juvenile crime peaks in the hours after school on school days led to support for after-school programs and the recognition that juvenile crime was highly situational. The “when” and the “where” of crime point directly to the changing nature of victimization, victimization hot spots, and possible intervention strategies. For example, what if a law enforcement agency dissected its increasing aggravated assault rate to find that the growth was actually an increase in such crimes occurring in both residences and schools coupled with a general decline in aggravated assaults in other locations? What if the increase in burglaries were actually only an increase in only daytime residential burglaries?
the relative severity of reported crimes and crime trends.

Dissecting Crime by Offender Characteristics

It is clear that the data exist within modern information systems used by most law enforcement agencies to dissect crime counts in many ways. The quandary faced by law enforcement agencies is which of the many dissections should be reported to the community. Law enforcement should first select those dissected crime measures that it believes can best tell the story of what is happening in the community. After these statistics are released, undoubtedly law enforcement will be asked to provide additional measures of relevance to specific audiences. In this way a law enforcement agency will build a portfolio of dissected crime statistics that it and the community believe are needed to understand local crime, crime patterns, and crime trends.

A copy of the full-length essay and two commentaries can be purchased at JRP’s web site: http://jrsa.metapress.com.

Commentary: Improving Crime Reporting and Analysis


Current State of Crime Analysis

Howard Snyder’s article, “Dissecting Crime Statistics,” presents an interesting and important “first step” in helping move the analysis of crime data a few steps forward from where it has been for the last 50 years. As presented in his article, crime analysis and display can be seen in three different levels of detail, each with its own potential strengths and weaknesses: 1) At the national level, the FBI is able to produce annual and long-term national trends; 2) In the states, a more detailed analysis can be made, incorporating state-specific data elements that go beyond the FBI’s minimum data set; 3) Local law enforcement has a much richer data set available, and therefore has the potential to produce more robust analyses and interpretations.

Role of the FBI. The FBI has the most comprehensive national data available, but they are limited. The format of the Uniform Crime Report data has hardly changed in 50 years, and even the National Incident-Based Reporting System data are somewhat limited. The Bureau takes a long time to collect, process, vet, and report its data, which creates concern about their timeliness.

Role of State Crime Reporting Programs. The 47 state crime reporting programs are the single point of contact between the local police agencies within the state and the FBI. The state programs have a number of strengths. Through close relationships with contributing agencies, they can spot unusual fluctuations in reported offenses and also respond quickly to issues and concerns that arise. However, staffing limitations have had a negative impact on the programs. Although a number of states now collect a large volume of NIBRS data, only a few have produced reports that mine the richness of this data set due to the inherent complexity of the incident-based reports.

Role of Local Police Agencies. Local police departments have the richest data, incorporating data elements that go far beyond what is submitted to the state programs. However, most police are overworked and understaffed, especially in the areas of crime analysis and reporting.

Improving Reporting and Analysis

At each of these levels, useful and informative analysis can be done, but to progress to the reports and tables that Snyder proposes will be a large task. How should these analyses and reports be done, and by whom?

One suggestion is to foster the development of a close working relationship between state crime reporting programs and the state Statistical Analysis Centers. In the same way, a close working relationship between the FBI and the Bureau of Justice Statistics would combine the strengths of both while addressing their weaknesses: one agency having close contact with data providers (police agencies), the other with enhanced skills in data analysis and interpretation.

Examples. The summary UCR data, for all of its limitations, is easily manipulated and reported. However, much of the data collected in the summary system is not analyzed or displayed in a useful way. Although the Bureau does consistently state that crime data should not be used comparatively, thematic maps
Another concern is the long lag time before the FBI releases an annual report—but the FBI could potentially do more, and do it sooner. The “MIP” (most in population) agencies are in the FBI system with 12 months of complete data by early March. These are agencies with at least 100,000 population, and make up about half of the total crime volume in the nation. The FBI, however, will only publish its aggregate data, and only the seven Part 1 crimes. This “preliminary” annual report comes out in about June—surely those data could be released for analysis earlier, and in more complete form.

The FBI could also make its data more easily available and accessible. The wait to get UCR data from national archives seems to be unreasonably long, and the format is rather difficult. It would also be better if state-level files were available.

Some Intermediate Steps

While efforts to generate better reports and tables are being made, several other initiatives should be undertaken at national, state, and local levels. Producing better reports will be futile if we do not make the effort to insure the accuracy and completeness of crime data. Enhanced training and auditing are definite steps that should be essential parts of the data collection process. Unfortunately budget cuts and other issues have had a negative impact on the level of training available.

Where Do We Go From Here?

Snyder has done an excellent job of describing ways of presenting crime data that would certainly provide more and better information. At each level of aggregation, federal, state, and local agencies have the potential to produce detailed tables of victims, offenders, and incidents. But before this can be done, a number of steps must be taken.

(1) At each level, increased attention needs to be placed on the “back room” issues of training and auditing.

(2) Next, a better understanding of what we are collecting—its strengths and weaknesses—is needed.

(3) Finally, more training in the use of statistical analysis software that can be used to exploit the richness of the data is essential.

Eighty years ago saw the start of what is now the Uniform Crime Reporting system, and 20 years ago the implementation of the National Incident-Based Reporting System began. More than enough time has passed for all of us to be able to work together to get the most out of these very important data systems.

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Commentary: Data, Data Everywhere


Howard Snyder has made a number of very useful suggestions for utilizing crime data to improve our (and the public’s) knowledge of the nature and extent of crime. He rightly notes that adding the number of larcenies to the number of homicides, as was done when the FBI developed the Uniform Crime Reporting (UCR) Index of Crime, is like averaging my income with Bill Gates’ (I wish!), and suggests that each crime be considered in its own category.

A lot has changed in the crime-counting field. We now have three vehicles for measuring the national extent of crime, each with its own set of advantages and problems. In addition, the FBI has proposed replacing National Incident-Based Reporting System (NIBRS) with N-DEx, the Law Enforcement National Data Exchange, so we should also consider this as a fourth possible crime data repository. And finally, each police department has its own case record management system that can be used locally for developing crime patterns. Each of these will be discussed briefly below.

National Crime Victimization Survey

The National Crime Victimization Survey (NCVS) was initiated as a counterpoint to the Uniform Crime Reports (UCR) program. Because of the UCR’s lack of complete coverage and its known inaccuracies, the NCVS was designed to be more accurate in a number of ways. First, it would base its statistics on a random sample of victims ages 12 and over, not on police reports. Second, it would be national in scope and provide an overview of the extent of victimization throughout the United States. Basing the statistics on victims’ perceptions was seen as a means of countering the fact that there was a lot of non-reporting of crime by victims, as well as concerns that the police had been downgrading reported crimes to improve their statistical picture. The NCVS has been used as a means of tracking crime (or rather victimization) rates over time, but it is not useful for pinpointing the location of the problem and as such is useless for community-level analysis.

Uniform Crime Reports

The UCR crime statistics are incomplete. The UCR is supposed to be a complete count of the seven (or eight) Part 1 crimes for every jurisdiction, but it is not. Nor is it a sample with known characteristics, as is the NCVS. Rather, it is a sample of convenience, in this case at the convenience of the police departments that decide whether to report their crime data to the FBI, or to their state crime data repository, which then transmits it to the FBI. The voluntary nature of the UCR makes it difficult to estimate the actual crime rates—both at the jurisdictional level and at more aggregate (county, state, national) levels.

The UCR is pretty useful for comparing jurisdictions over time (assuming the same reporting patterns in an agency from year to year). However, it is not as useful for comparing different agencies to each other, nor is it useful for analyzing crime in the ways that Snyder describes—looking at offender characteristics, victim characteristics, victim-offender relationships, or offense characteristics, which an agency needs to know, as do citizens.

National Incident-Based Reporting System

NIBRS is truly a major step forward in crime analysis. As Snyder notes, it provides detailed information about the victim, offender, their relationship, weapons used, incident data and time, and additional information about the incident. While it does not necessarily include location information, many jurisdictions do include incident addresses in their submissions to state data repositories, but there may be restrictions on who can access that information.

One of the difficulties with NIBRS that should not be ignored is the problem of missing data. Although it is possible to impute the missing characteristics, it is not straightforward because the data cannot be assumed to be missing at random, but have biases that are more difficult to tease out than with the summary UCR.

Law Enforcement National Data Exchange (N-DEx)

The National Data Exchange (N-DEx) proposed by the FBI would be a single location where crime incident and case reports, booking and incarceration data, and parole/probation data would be centralized for access by law enforcement personnel to connect data that do not appear to be related. However, there are significant problems with regard to its use. The data are not new; rather, what is new is the linking between information that already exists in law enforcement databases. Unless
Police Record Management Systems

Agencies collect much more data in their own databases than are presented in UCR or even NIBRS. They use the data for their own crime analyses, and are beginning to provide it directly to their citizens via crime maps. But there’s an area between incident maps and UCR summaries that would be useful for residents and policy makers to know. Rather than just presenting maps or summaries, crime analysts should look into data mining to get insights. They should also look into data visualization techniques that go beyond straight mapping—perhaps animated maps to see how patterns change over time, whether time is measured in minutes, days of the week, or seasons. While data quality is always an issue in police work, incentives might help to encourage officers to improve the quality of their record keeping.

Conclusion

The better the data, the more easily it is to mine and find patterns within them. Snyder has detailed a number of ways crime incident data can be sliced and diced to tease out patterns that would be of benefit to police departments, policy makers, and the public, and the growing acceptance of NIBRS by police departments will facilitate this activity.

A copy of the full-length essay and two commentaries can be purchased at JRP’s web site: http://jrsa.metapress.com.

OPERATION CEASEFIRE AND TRAUMA CENTER ADMISSIONS


Why Was the Study Done?

Injuries resulting from interpersonal violence exact substantial costs for individual victims as well as society. Data from the National Electronic Injury Surveillance System show that in 2001, approximately 1.8 million individuals were treated in emergency departments across the United States for nonfatal, assault-related injuries. In Newark, New Jersey, the focus of this study, individuals are treated in emergency departments for assault-related injuries at a rate of 1,341 admissions per 100,000 residents annually, with African-American males being admitted at the highest rate of 2,854 per 100,000.

In response to these and other research findings, researchers, public health practitioners, and criminal justice professionals have turned their attention to efforts seeking to prevent violence, and have proposed programs to accomplish this. Boston’s Operation Ceasefire and CeaseFire Chicago are two widely known programs aimed at reducing firearms violence.

Beginning in 2002, Newark, which has the most crime of any New Jersey municipality, experienced a steady increase in murders and the use of firearms. Despite law enforcement efforts, the number rose steadily from 68 in 2002 to 107 in 2006. After analyzing the nature of violence in Newark, a collaborative working group of stakeholders adopted the Operation Ceasefire model, creating a hybrid of the Boston and Chicago models, to address gun violence in one of its most violent neighborhoods. This study employed data on gunshot wounds (GSW) treated at an urban Level 1 Trauma Center, which had been collected as part of an ongoing GSW surveillance system, to examine the impact of Newark’s Operation Ceasefire on GSW admissions to the Trauma Center.

What Did the Researchers Do?

The first author of the present study initiated a GSW surveillance system to collect data on non-self-inflicted
The researchers conducted three separate ARIMA interrupted time series analyses of the rates of GSW in the Ceasefire Zone, an area of approximately two square miles, as well as a matched comparison zone (the Comp Zone) and the Greater Newark area minus the Ceasefire Zone (Citynet) before and after implementation of the Ceasefire program. The ARIMA models reflected the assumption that the program would be implemented gradually over a six-month period to ensure that a fully implemented rather than partially implemented program would be evaluated. The study was divided into two periods consisting of 71 weeks prior to the implementation of Operation Ceasefire (PreCF) on May 11, 2005, and 85 weeks after the implementation of Operation Ceasefire (PostCF).

The Comp Zone had a level of GSW similar to the Ceasefire Zone, and was matched to the Ceasefire Zone on number of Census block groups, population, resident race and ethnicity, median resident age and household income, concentrated poverty, and vacant housing units from the U.S. Census (2000). Homicide and gun assaults were not used to match areas because the researchers did not have access to offense location data. A buffer zone of block groups contiguous to the Ceasefire Zone, for which changes in GSW were not analyzed, was created. The buffer zone avoided any analytical complications associated with the diffusion of crime control benefits or the immediate spatial displacement of crime. The Citynet zone overall had a lower weekly average of GSW, was more racially and ethnically diverse, slightly older, and slightly better on the measures of economic health than the Ceasefire Zone and the Comp Zone.

CrimeStat 3.0 mapping software was used to geocode the addresses at which GSW incidents took place and create hot and cool spot maps using the dual kernel density function. The dual kernel density function can be used to estimate the density of crimes in a particular area as opposed to simple point data for individual crime incidents, and can be used to identify hot spots, cool spots, and changes in hot and cool spots over a period of time.

What Did the Researchers Find?

There was a total of 239 GSW from the Ceasefire Zone and Comp Zone during the study period. The Ceasefire Zone had 74 GSW in the PreCF period and 62 GSW in the PostCF period, while the Comp Zone had 54 PreCF GSW and 49 PostCF GSW. The Citynet had 268 GSW in the PreCF period and 318 GSW in the PostCF period for a total of 586 GSW during the three-year study period.

The time series analyses indicated that there was a decline in GSW in the Ceasefire Zone after the implementation of Operation Ceasefire, but that the decline was not statistically significant. Analyses also indicated a small decline in GSW in the Comp Zone during the same post-implementation period, but the decline is not statistically significant. Additionally, there was a minuscule increase in GSW in the Citynet (impact parameter = 0.005), but this increase was not statistically significant.

A dual kernel density hot spot map showed changes in hot and cool spots within and between the Ceasefire Zone and the Comp Zone. Hot spots are areas that saw increases in the rate of GSW after Ceasefire's implementation, and cool spots indicate areas with decreases in the rate of GSW in the post-intervention period. Of note is the development of an intense hot spot in the buffer zone between the Ceasefire Zone and the Comp Zone (see darker shading in figure on next page). However, due to the nature of the data, the researchers were unable to explore the origins of this and other new hot and cool spots. Changes in the density of GSW hot and cool spots appeared to be non-systematic, or random. The diverse distribution of both hot and cool spots within and between the zones was consistent with the ARIMA time series analyses, which indicated that there were no statistically significant increases or decreases in the rate of GSW in either of the zones after Ceasefire's implementation.
This study found a small, but not statistically significant, decrease in the rate of GSW in the Ceasefire Zone throughout the study period. The rate of GSW in the Comp Zone experienced non-systematic increases and decreases throughout the study period, resulting in a small, but statistically insignificant decrease in PostCF GSW. Finally, the Citynet rate of GSW remained relatively constant throughout the study period. Therefore, the researchers concluded that Operation Ceasefire did not result in a statistically significant change in the rate of GSW in the Ceasefire Zone. The authors noted, however, that these findings do not suggest that Operation Ceasefire is ineffective at reducing gun violence, as only changes in GSW admissions to the Trauma Center were examined. It is possible that Ceasefire had an impact on shootings that resulted in less serious injuries that did not require treatment at the Trauma Center and on gun-related homicides, which were beyond the scope of the study.

The authors concluded that future research should focus on conducting process evaluations as well as outcome evaluations for violence intervention programs, including the various adaptations of the Ceasefire model and formula. Such measures could include, for example, frequency and quality of contact between outreach workers and at-risk youth, dollars expended on public information campaigns, and how the program’s purpose and message were interpreted by the target population. In addition, multiple sources of data, including police and hospital data examined over a longer period, should be utilized. The authors argue that hospital data can provide accurate information on assaults that may not appear in police records if victims are reluctant to report or discuss their victimization. Hospital data also provide the location of the shooting if EMS transported the GSW victim, thus facilitating spatial analyses.

The authors suggest that the design of violence-reduction programs should take into consideration methods for identifying and quantifying crime displacement and diffusion of benefits. Municipalities considering implementing Operation Ceasefire or other violence-reduction programs should include an analysis of displacement and diffusion in their analytical plan.

Variations of the Boston and Chicago Ceasefire models have spread to multiple jurisdictions with areas of concentrated gun violence. Additional peer-reviewed evaluations of the Chicago and Boston model, as well as adaptations of these models—such as that implemented in Newark—are needed to help inform policy makers’ decisions regarding the selection of violence reduction programs.

What Are the Implications for Policy Makers?

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