

CONTENTS

VOLUME 13 • ISSUE 1 • FEBRUARY 2014

VOLLMER AWARD

VOLLMER AWARD ADDRESS

- Interventions for Juvenile Offenders: A Serendipitous Journey 1
Mark W. Lipsey

VOLLMER AWARD COMMENTARIES

- Mark Lipsey's Contribution to Evidence-Based Services for Juvenile Offenders:
What Works across Juvenile Justice Systems 15
James C. Howell
- From Research Synthesis to Evidence-Based Policy and Practice:
How Mark Lipsey Is Improving Juvenile Offender Treatment 21
Brandon C. Welsh

JUVENILE ECONOMIC SANCTIONS

EDITORIAL INTRODUCTION

- Rehabilitative and Restorative Justice for Juvenile Offenders:
How Might Economic Sanctions Help? 27
John W. Raine

RESEARCH ARTICLE

- Juvenile Economic Sanctions: An Analysis of Their Imposition, Payment,
and Effect on Recidivism 31
Stacy Hoskins Haynes, Alison C. Cares, and R. Barry Ruback

POLICY ESSAYS

- The Costs of Delinquency 61
Mark A. Greenwald, Sherry L. Jackson, and Michael T. Baglivio
- Juvenile Economic Sanctions: A Logical Alternative? 69
Tamara Walsh

SERIOUS, VIOLENT, AND CHRONIC JUVENILE OFFENDERS

EDITORIAL INTRODUCTION

Delinquency Referrals; Predictive and Protective Factors for Serious, Violent,
and Chronic Offenders; and Juvenile Justice Interventions 79

Kenneth C. Land

RESEARCH ARTICLE

Serious, Violent, and Chronic Juvenile Offenders: A Statewide Analysis of Prevalence
and Prediction of Subsequent Recidivism Using Risk and Protective Factors 83

Michael T. Baglivio, Katherine Jackowski, Mark A. Greenwald, and James C. Howell

POLICY ESSAYS

What are the Policy Implications of Our Knowledge on Serious, Violent,
and Chronic Offenders? 117

Rolf Loeber and Lia Ahonen

Moving from Description to Implementation of Evidence-Based Research Findings .. 127

Alex R. Piquero

SEX OFFENDER RESIDENCE RESTRICTIONS

EDITORIAL INTRODUCTION

Evidence of Ineffectiveness: Advancing the Argument Against Sex Offender
Residence Restrictions 135

Richard Tewksbury

RESEARCH ARTICLE

The Effect and Implications of Sex Offender Residence Restrictions:
Evidence from a Two-State Evaluation 139

**Beth M. Huebner, Kimberly R. Kras, Jason Rydberg, Timothy S. Bynum, Eric Grommon,
and Breanne Pleggenkuhle**

POLICY ESSAYS

Sex Offender Residency Restrictions: Successful Integration or Exclusion? 169

Elizabeth Ehrhardt Mustaine

Residence Restrictions Are Ineffective, Inefficient, and Inadequate: So Now What? ... 179

Kelly M. Socia

Guide to Preparing Manuscripts

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- Advance the relationship between criminological research and criminal justice policy and practice

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VOLLMER AWARD ADDRESS

V O L L M E R A W A R D

Interventions for Juvenile Offenders: A Serendipitous Journey

Mark W. Lipsey

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This is a story of a concatenation of largely unplanned and unexpected events that propelled a line of research on the effectiveness of interventions for juvenile offenders along a trajectory that is more coherent in retrospect than at the time of any of those events. In the course of that serendipitous journey, insights were gained on the limitations of individual studies, the value of systematic analysis of a body of research, and the challenges of transporting evidence into evidence-based practice.

Robert Martinson's infamous "nothing works" paper was published in 1974, followed by the massive Lipton, Martinson, and Wilks (1975) review of research on rehabilitation programs for offenders that gave credence to that conclusion. But I knew nothing of that at the time. I certainly had no inkling of how much the misinterpretation of research findings in that work would influence my own research over the next several decades. Only a few years out of a graduate psychology program, my commitment was to the newly emerging field of program evaluation research. The first textbooks in program evaluation had appeared about that time (Rossi and Williams, 1972; Weiss, 1972) along with new journals and professional organizations that helped define the study of the effectiveness of social programs as a distinct area of inquiry. A new role for social scientists was developing that offered the opportunity to conduct a form of applied research that might very directly help solve pressing social problems.

For a young methodologically oriented psychologist, the perspective that revealed the pathway into this new field came from Donald Campbell. The Campbell and Stanley volume, *Experimental and Quasi-Experimental Designs for Research* (1963), and the follow-up volume by Cook and Campbell, *Quasi-Experimentation: Design & Analysis Issues for Field Settings* (1979), not only catalogued a range of research designs for assessing the effects of

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social programs but also provided a framework for assessing and strengthening the validity of that research.

The inspirational part came from Campbell's reframing of social programs as experiments, the effects of which could be evaluated with experimental and quasi-experimental designs implemented in situ with the programs themselves constituting the experimental manipulation. This melding of research methods for causal inference and evaluation of social programs appeared formally in his highly cited paper in the flagship journal of the American Psychological Association, "Reforms as experiments" (1969), and in a companion piece, "The social scientist as methodological servant of the experimenting society" (1973). The manuscript versions of these papers, however, were widely circulated prior to their publication, giving the message something of the feel of an underground movement. Those were heady times for a young psychologist drawn to the "social relevance" backlash against the theoretical and laboratory research paradigms that dominated the discipline in that era. And I was fortuitously situated in a freshly minted "public affairs psychology" program at Claremont Graduate University that aimed to foster the application of research to social problems in whatever form it might take.

It was in this context that a colleague and I were approached in 1976 to conduct evaluations of a cluster of juvenile diversion programs just getting underway in Los Angeles County. These programs were supported by the Law Enforcement Assistance Administration (LEAA) with grants that required an independent evaluation as a condition of funding. A year later, the diversion programs in Orange County were added to our repertoire for similar reasons. Taking on this work as a young pre-tenure assistant professor proved to be rather reckless—it consumed a great deal of time and produced a raft of research reports for the sponsoring agencies but little that could be published in academic journals. This experience did, however, require me to engage some methodological issues I had not fully appreciated, and it provided an extraordinary bit of reality therapy for my nascent ideas about evaluation research in that all too real political and practical world.

Amidst all the counting and describing required to characterize what these diversion programs were doing—the process evaluation part—we managed to implement nearly all of the major impact designs from the Campbell and Stanley playbook. At one site we crafted a randomized experiment, at another we organized a regression-discontinuity design, at a third the best we could do was a matched comparison, and finally, we constructed an interrupted time series design across all three sites. The results were provocative. All these designs showed positive effects of the respective diversion programs on recidivism. However, those effects reached statistical significance in only one instance. Nonetheless, we argued that the overall findings were favorable when all these multiple lines of evidence were considered collectively. The sample size in each of these studies was small, and hence statistical power was limited, but the overall pattern of results was consistent and positive.

Those results were something we could publish (Lipsey, Cordray, and Berger, 1981), although they apparently impressed neither program evaluators nor criminologists. According

to Google Scholar, this paper has amassed a grand total of 57 citations over the 30+ years since it was published, and my colleagues and I were responsible for several of those ourselves. Our characterization of the positive effects of these diversion programs did present a dilemma, however. By the time the 1981 paper was published, I had caught up with the “nothing works” literature, further consolidated by research reviews that focused on programs for juveniles (e.g., Lundman, McFarlane, and Scarpitti, 1976; Wright and Dixon, 1977). So, my colleagues and I believed we had found relatively convincing evidence of positive effects for the Southern California diversion programs, albeit interpreted in a rather unconventional way, while the weight of criminological opinion was firmly to the contrary.

Even in those youthful days, I was not arrogant enough to put our relatively puny research on juvenile diversion up against the conclusions drawn from hundreds of studies by my elders. Still, there were two concepts embedded in the 1981 paper that made me suspect that perhaps criminological opinion was mistaken about what the research on intervention programs for offenders actually revealed. The impetus to explore those concepts that came from this early work on juvenile diversion programs took my career as a program evaluator in an unexpected direction that ultimately defined much of it.

Statistical Power

Our analysis of the impact data for the diversion programs showed consistent positive effects—the recidivism rates for the diverted juveniles were lower than for the comparison juveniles who had not been diverted. But, most of those differences were not statistically significant. This contrast highlights the difference between the estimated magnitude of an effect and the statistical significance of that effect. The probability that a given observed effect will be statistically significant is statistical power—a function of both the magnitude of the effect and the size of the sample from which it is estimated. With small samples, statistical power is low, and consequently, relatively large effects can fail to reach statistical significance.

The impact designs we implemented for the diversion programs were based on relatively small samples, e.g., less than 100 cases total in most instances. As I learned from reviewing studies of interventions with offenders, these sample sizes were not atypical. Sample sizes in that range, however, have rather low statistical power. If a control group had a recidivism rate of 40%, and the intervention reduced it by half to 20%, that substantial effect would fail to reach statistical significance in half the samples of $N = 100$, and even less often with smaller samples or smaller, but still meaningful, effects. Power calculations such as this quickly made it evident to me that judging the practical significance of the effects of interventions on offender recidivism simply on the basis of whether those effects were statistically significant could be very misleading when typical sample sizes were relatively small.

Moreover, the true effects of intervention on recidivism outcomes are further obscured in most research studies by the insensitivity of the recidivism measures themselves. A

sensitive outcome measure should be responsive to changes in the behavior of interest without being heavily influenced by extraneous factors. But the commonly used recidivism measures, e.g., rearrests and convictions, capture only that proportion of the criminal behavior of the offenders for which they are apprehended, not all of their criminal behavior. Furthermore, these measures reflect the behavior of the police and the courts as well as that of the offenders. Framed in psychometric terms, there is a great deal of measurement error in recidivism measures, and measurement error attenuates the true outcome differences between intervention and control groups in an evaluation study. Taking successive 6-month intervals for samples of juvenile offenders, for instance, I once estimated the test–retest reliability coefficients for arrest rates to be in the 0.20–0.30 range (Lipsey, 1983), well below any psychometric standard for acceptable measures. If intervention effect estimates using such measures are corrected for attenuation using those reliability estimates, they approximately double. It is thus quite possible that the intervention effects observed with these measures are, on average, only about half the size of the actual effects.

I found the results of these observations and explorations quite troubling. First, they suggested that the discouraging conclusions of the various research reviews of the time were, at best, overstated and, at worst, simply wrong. More generally, as someone teaching graduate seminars on evaluation research, I thought the importance of statistical power and measurement sensitivity should be more widely recognized in the planning and interpretation of evaluation studies. So I wrote about it. My little paper on measurement sensitivity, using the poor performance of recidivism measures in criminology as one example (Lipsey, 1983), quietly bypassed both evaluators and criminologists. However, my later volume on “design sensitivity” (Lipsey, 1990), which integrated that topic into the statistical power framework, proved to be a serviceable companion volume for Campbell-themed texts on field experimentation in my graduate seminars and wormed its way into the consciousness of some of my peers as well.

Meta-Analysis

By summarizing across multiple studies in our 1981 paper on diversion programs, and attending to the magnitude of the effects and not only their statistical significance, we mirrored key themes of meta-analysis, although I did not realize it at the time. Meta-analysis had appeared on the social science scene in 1977 with the landmark Smith and Glass review of psychotherapy outcome studies. By the early 1980s, researchers more alert than I were trying this technique out on studies of selected interventions with offenders (e.g., Davidson, Gottschalk, Gensheimer, and Mayer, 1985; Garrett, 1985). It was a comfort to me, given my assessment of the limitations of the Lipton–Martinson–Wilks style of conventional research reviews, that these early meta-analytic efforts showed positive mean effects on recidivism for interventions with offenders, not the null effects of the “nothing works” assessment.

The meta-analysis framework brought it all together for me. The effect size estimates that are the hub around which this technique revolves are distinguished from their statistical

significance with its dependence on sample size. The sample size limitations of individual studies are overcome by pooling multiple studies that collectively provide much larger samples. The fallacy of assessing the effectiveness of interventions by tallying up the proportions of studies finding statistical significance was exposed, and the logic of our 1981 paper on diversion effects was looking better and better in hindsight. Most significantly, the foundation of the “nothing works” claims looked very shaky. Others, of course, had also seen this, although through somewhat different lenses (e.g., Cullen and Gilbert, 1982; Gendreau and Ross, 1979; Gottfredson, 1979; Palmer, 1978). Especially important for me personally were the contributions of Frank Cullen, whose writings and, later, personal support, made it seem ever more reasonable to question the conventional wisdom about the effectiveness of rehabilitation programs for offenders.

My interest continued to focus on juvenile offenders, however. What was needed, I thought, was a comprehensive meta-analysis of interventions with that population with a scope comparable to the massive Lipton et al. (1975) review. I proposed this in a grant application to the National Institute of Mental Health (NIMH), and their decision to fund it began the process whereby meta-analysis took over my professional life. I want to insert a particular note of appreciation to Jim Brieling, the NIMH program officer who provided sage advice about how to prepare this proposal for a review panel unfamiliar with meta-analysis. That first 3-year meta-analysis project (1985–1987) required another round of NIMH funding when it turned out that we had greatly underestimated the volume of research available, and some help from the Russell Sage Foundation and, later, OJJDP.¹ Indeed, at the time of this writing, my colleagues and I are engaged in still another update of this meta-analytic database on interventions for juvenile offenders that has grown steadily over the last three decades.²

Another large-scale effort of this sort was underway at about the same time that independently produced a series of findings largely aligned with those from our work (Andrews et al., 1990). The combination of a greater volume of research than was available at the time of the Lipton et al. (1975) review and the application of meta-analysis to its findings produced a new and different picture of the effectiveness of intervention programs for reducing the recidivism of both adult and juvenile offenders. The evidence my colleagues and I have amassed on interventions with juvenile offenders now encompasses nearly 600 studies. The findings from successive waves of this ongoing meta-analysis have been regularly reported (e.g., Lipsey, 1992, 1995, 2009; Lipsey and Wilson, 1998; Lipsey, Wilson, and Cothorn, 2000). The overarching finding, however, is almost the diametric opposite of Martinson’s (1974) “nothing works” claim. It is not quite the case that everything works,

1. NIMH grants MH39958 and MH42694; OJJDP grant 2001-JN-FX-0008.

2. I am very appreciative of the efforts of the many people who have worked on this meta-analysis over the decades. Especially notable are the contributions made by Jack Pollard, David Wilson, Jim Derzon, Simon Tidd, Sandra Wilson, and Gabrielle Chapman.

and indeed, some approaches not only do not work but are harmful. But an ample body of evidence shows that a wide range of different interventions produce reductions in recidivism (Lipsey and Cullen, 2007). Moreover, for those studies that report weak effects, the problem is often poor implementation or juvenile participants with little risk for recidivism to begin with rather than inherent ineffectiveness of the intervention.

Intervention for offenders is not the only program area where traditional literature reviews have produced mixed or null conclusions. The Glass et al. meta-analysis of psychotherapy outcomes (Smith and Glass, 1977; Smith, Glass, and Miller, 1980) was motivated in large part by persistent claims that the available research raised doubts about its effectiveness. That meta-analysis and the subsequent replications and explorations put those doubts to rest. Thus, the questions about the effectiveness of psychotherapy followed much the same path as those in offender rehabilitation. Conventional literature reviews based on vote counting the statistically significant findings of studies with modest sample sizes raised doubts about generalized effectiveness. Attending to the magnitude of the observed effects and pooling samples across studies in a meta-analysis showed a different and more positive picture.

Meta-analysis caught on quickly among social intervention researchers. By the late 1980s, hundreds had been published, and among the ones I read, I could not help but notice that virtually all of them found positive overall effects for the respective interventions, often in clear contrast to more ambiguous findings in prior conventional reviews. David Wilson, a very talented graduate student working with me at the time, and I wondered just how widespread this pattern was and we began systematically searching for and collecting meta-analyses of research on psycho-social interventions. It seemed only appropriate to explore the findings of these meta-analyses using meta-analysis techniques, so we systematically coded their characteristics and statistical findings and analyzed the resulting data. And thus was born our meta-meta-analysis of psychological, educational, and behavioral interventions (Lipsey and Wilson, 1993). This compilation of the mean effect sizes for the diverse outcomes reported in more than 300 meta-analyses showed an overwhelming positive skew. Moreover, various checks and probes of the data turned up no artifacts sufficient to explain away that very favorable pattern. In short, when summarized in terms of the magnitude of the observed effects via meta-analysis, it was evident that most psycho-social interventions were capable of producing at least modest positive effects on their targeted outcomes. The Glass et al. meta-analysis findings for psychotherapy and those of my team and others for interventions with offenders were not anomalies—they were part of a broader pattern of positive results misrepresented by the crude techniques of the conventional research reviews of the time.

From “Does it Work” to “What Works Best”

It was important in the context of the “nothing works” assumptions of the time to demonstrate that, in fact, the available research on interventions with offenders provides ample

evidence of overall positive mean effects on reoffense rates. As the number of studies of interventions with juvenile offenders in our meta-analytic database climbed into the hundreds, however, the more revealing analyses were those focused on the variability of effects, not on the mean effects. A somewhat surprising finding was that as much as 25% of that variance was associated with the research methods and procedures selected by the researchers to conduct their studies (Lipsey, 1997). A substantial influence on the magnitude of the observed effects in these studies, therefore, came from the researchers rather than from the interventions themselves.

Furthermore, the methodological characteristics of studies are often confounded with substantive characteristics, and the substantive characteristics of the participant samples, interventions, settings, and the like are often confounded with each other (Lipsey, 2003). This situation presents considerable challenges to moderator analysis aimed at discerning the substantive factors that most influence positive outcomes. Our meta-analysis work on interventions for juvenile offenders differed from much similar work in this and other intervention areas in two ways. First, we extracted a large amount of information from the source studies (more than 150 separately coded items). We then used those data extensively in multiple regression analyses adapted for meta-analysis (meta-regression) that attempted as much as possible to disentangle some of these confounded factors and identify those with the greatest independent influence on the outcomes.

These efforts, in successive iterations over the years, converged on a relatively small set of program characteristics that are most strongly associated with positive effects on the subsequent offense rates of the participating juveniles. First, different program modalities consistently showed different average effects, although we have struggled over the years with the question of how to categorize and characterize the different types of programs. Neither research nor practice in this area has produced useful typologies of program types, leaving us to rely on various different schemes that we have derived inductively from the (often minimal) descriptions provided in the intervention study reports themselves.

However characterized, clear differences in average effectiveness emerge, with various therapeutically oriented programs aimed at the personal problem areas that lie behind the delinquent behavior (what Andrews et al., 1990, call criminogenic needs) showing the largest effects. A wide range of these therapeutic programs show positive effects on recidivism, but especially favorable results, for example, are found for cognitive-behavioral therapy, group and family counseling, mentoring, and social skills training. Conversely, interventions that take more of an external control or deterrence approach, such as prison visitation, boot camps, and intensive probation monitoring, generally show weak and even negative average effects.

Nonetheless, simply administering one of the programs with more favorable research results by itself provides no assurance of effectiveness. It is no big surprise that the amount of service provided and the quality with which it is delivered are critical factors. Very small doses or generally weak implementation with high levels of noncompletion, poor monitoring of

service quality, and the like undermine what otherwise might be effective interventions. In one of our analyses, we showed that inherently weaker program types implemented well could produce effects comparable with those of stronger programs implemented poorly. A related and rather sobering finding was that programs that produced good effects in research and demonstration studies generally showed much smaller effects when evaluated in conditions of routine practice. Research and demonstration studies reveal the worthwhile effects some of the better types of programs are capable of producing, but degradation in the quality of implementation often keeps those effects from being attained when those programs are used at scale in juvenile justice practice.

Another factor that emerged as a strong predictor of positive effects on subsequent offense rates is the risk level of the juvenile participants. All else equal, effective programs produce larger effects for higher risk than lower risk juveniles (what Andrews et al., 1990, call the risk principle). From one perspective, this certainly makes sense—juveniles at higher risk for reoffending have more room for improvement. From another perspective, we might suppose that higher risk offenders would be less amenable to treatment, with the issues driving their delinquency too profound and serious to be easily addressed by typical juvenile justice programs. Although even stronger programs might produce larger effects with such juveniles, they do not seem to be completely beyond the reach of the better current programs.

There are certainly specific features of the individual program types represented in our meta-analytic database that are also associated with better outcomes; e.g., inclusion of an anger management component is associated with larger effects in cognitive-behavioral programs (Landenberger and Lipsey, 2005). Nonetheless, treatment modality, amount and quality of service delivery, and the risk level of the juvenile participants emerge from meta-analysis as the most broadly general predictors of the magnitude of the effects of intervention programs on the recidivism of juvenile offenders (Lipsey, 2009). These findings suggest a simple, practical formula that can guide the adoption, improvement, and maintenance of effective programming in juvenile justice systems.

A Bridge between Research and Practice

In recent years there has been considerable interest among juvenile justice systems in adopting evidence-based programs and related reforms. This interest has brought increased attention to the results of our meta-analysis and its implications for effective programming for juvenile offenders. Extracting those implications and putting them into practice, however, is not a straightforward process. The different types of programs with sufficient qualifying research to be itemized in the meta-analysis, and those program types showing the largest mean effects on recidivism, are easy enough to identify. However, the practical implications of the meta-analysis findings about such effect moderators as amount of service, implementation quality, and the risk level of the juveniles, albeit important, are not so clear. Nor is it apparent how any of these findings should be translated into practices,

procedures, and policies that would allow a juvenile justice system to reap the benefit of the large body of evidence summarized in the meta-analysis.

These matters might have been left for potential users of the meta-analysis results to work out for themselves but for the extraordinary efforts of James “Buddy” Howell. After a badly misnamed “retirement” from his role as director of research at OJJDP, Buddy made it his mission to ensure that the findings of our meta-analysis were translated into practical guidelines for effective programming and promoted for use in juvenile justice practice. A critical step in that process was an OJJDP grant in 2001, the application for which was stimulated by Buddy and greatly facilitated by the efforts of Jeff Slowikowski at OJJDP. That funding allowed the meta-analysis database to be updated and expanded to include more than 500 controlled studies of interventions with juvenile offenders. Most important, that funding supported further analysis aimed at drawing out the practical implications of this body of research for application to juvenile justice programming.

What pulled me and the meta-analysis irretrievably into the world of practice, however, was a project Buddy brokered with the North Carolina Department of Juvenile Justice and Delinquency Prevention (DJJDP) that got underway in 2002. That department had a statutory requirement to evaluate its juvenile programs, and we proposed to develop an instrument that would allow each program for which there was supporting research to be rated against a set of effective practice criteria derived from the evidence in our meta-analysis. This proposal was championed by Susan Whitten, Director of the DJJDP Intervention/Prevention Division, and endorsed by the DJJDP Secretary, George Sweat, and off we went into this uncharted territory.

We called the instrument that we ultimately developed the Standardized Program Evaluation Protocol (SPEP). It is a data-driven rating scheme built around the intervention characteristics found to be most strongly related to recidivism reductions in the meta-analysis; namely, the type of program, amount of service, quality of service delivery, and risk level of the juvenile participants (Howell and Lipsey, 2012; Lipsey, 2012). The profile on these characteristics of each local program of a type supported by research (e.g., family counseling, mentoring, and social skills training) is compared with “effective practice” criteria derived from the corresponding research. The resulting component and total ratings indicate how well the overall profile for the local program matches that of the analogous programs found most effective in the research, and which individual components match well and which fall short. The latter information is then diagnostic for ways in which the program can be improved.

The SPEP has gone through several successive refinements since those early days in North Carolina, most notably in an application in Arizona that followed the North Carolina effort and facilitated the development of a more efficient SPEP package. Both of these early projects also contributed enormously to our understanding of the support and technical assistance juvenile justice systems need to be able to engage, implement, use, and sustain the SPEP as an effective management tool.

Implicit in the meta-analysis work and the SPEP scheme based on it is a perspective on the nature of evidence-based programs that differs from the currently prevailing view. What is generally meant by an evidence-based program (EBP) these days is a name-brand model program certified by an authoritative organization to have credible evidence of effectiveness that is then identified on a list of such programs maintained by that organization. In juvenile justice, well-known sources for such information include the Blueprints for Violence Prevention, the OJJDP Model Programs Guide, and CrimeSolutions.gov. Examples of widely used programs that have been identified as evidence-based through this procedure include Multisystemic Therapy (MST), Functional Family Therapy (FFT), and Aggression Replacement Training (ART).

The SPEP and the supporting evidence compiled in the meta-analysis, however, are organized around generic program *types* identified under labels such as cognitive-behavioral therapy, family counseling, group counseling, mentoring, social skills training, and the like. These generic categories encompass many brand-name programs, but they also include analogous home-grown and one-off programs for which effects on recidivism have been evaluated with credible research designs. There is much more evidence that bears on the effectiveness of any one of these generic program types than there is for any individual named program of that type. The SPEP draws on that full body of evidence and recognizes that when the evidence is sufficient and affirmative, the corresponding generic program type can rightly be described as evidence-based. The SPEP scheme, therefore, focuses on evidence-based generic program types rather than on evidence-based individual named programs.

However, the effectiveness of neither an individual name-brand evidence-based program nor a generic evidence-based program type can be assumed just because such a program is provided to juvenile offenders. The respective programs must be implemented appropriately and well. The name-brand programs typically specify what that requires in a manual and may provide training to providers along with fidelity measures for monitoring the quality of implementation. Such specifications and support are not generally available for local home-grown programs of an evidence-based type. Part of the role of the SPEP is to provide generic implementation standards for such generic programs that set targets for the amount of service, quality of service delivery, and risk level of the juvenile participants that match the corresponding characteristics of the most effective programs represented in the supporting research.

The utility of this scheme for juvenile justice systems is that it allows them to determine which of their local programs fall within one of the evidence-based generic program categories, and how well the performance of those programs matches the corresponding evidence of effectiveness. In doing so, programs for which there is no supporting research are identified, and for those that are evidence based, guidance for effective implementation is generated. This scheme thus extends the ability to identify evidence-based programs to existing local programs whether or not they are named model programs on one of the

evidence-based program lists. In this regard, the SPEP scheme provides a complement to the EBP lists and supports the ability of juvenile justice systems to make optimal use of local generic programs along with appropriate name-brand model programs.

The SPEP scheme for translating research into practice has now been implemented in numerous juvenile justice systems under the auspices of several different initiatives (see <https://my.vanderbilt.edu/spep/current-projects/>). The juvenile justice systems of Arizona, Connecticut, Florida, and Pennsylvania have participated in the Juvenile Justice System Improvement Project launched from the Center for Juvenile Justice Reform at Georgetown University.³ More recently, OJJDP has supported SPEP implementation in Delaware, Iowa, and Milwaukee County as part of its Juvenile Justice Reform and Reinvestment Initiative.⁴ In addition, our team at the Vanderbilt University Peabody Research Institute is working directly with the juvenile justice systems in Tennessee, North Carolina, and Georgia.

A critical overarching question for the entire evidence-based programming movement is whether evidence-based programs, however defined, are in fact effective when implemented in routine practice. In other words, what is the evidence that evidence-based programs are better? It is not practical to conduct methodologically sound impact evaluations on every program that serves juvenile offenders in any jurisdiction. Juvenile justice systems thus must trust that the evidence supporting a particular program that was developed elsewhere generalizes to their setting and juvenile clientele. Only rarely is that assumption directly tested, and when it is, the results are not always fully affirming (e.g., WSIPP, 2004).

Recidivism analyses conducted as part of the initial SPEP implementations in both North Carolina and Arizona (e.g., Lipsey, 2008; Redpath and Brandner, 2010) have supported the expectation that SPEP ratings distinguish better performing juvenile justice programs from those with little impact on recidivism. Further work along these lines is needed, however, before we can have complete confidence that the meta-analysis results and the SPEP scheme based on them are sound guides to effective programming at scale in the routine practice of juvenile justice systems. Despite the large number of research studies on which it is based, the SPEP has no practical value if it does not provide valid assessments of the effectiveness of programs for reducing recidivism. The next chapter in this story must address that question more thoroughly.

References

- Andrews, Don A., Ivan Zinger, Robert D. Hoge, James Bonta, Paul Gendreau, and Francis T. Cullen. 1990. Does correctional treatment work? A clinically relevant and psychologically informed meta-analysis. *Criminology*, 28: 369–404.
- Campbell, Donald T. 1969. Reforms as experiments. *American Psychologist*, 24: 409–429.

3. JJSIP: <http://cjjr.georgetown.edu/jjsip/jjsip.html>.

4. JJRRI: <http://ow.ly/t2CgO>.

- Campbell, Donald T. 1973. The social scientist as methodological servant of the experimenting society. *Policy Studies Journal*, 2: 72–75.
- Campbell, Donald T. and Julian C. Stanley. 1963. *Experimental and Quasi-Experimental Designs for Research*. Chicago, IL: Rand-McNally.
- Cook, Thomas D. and Donald T. Campbell. 1979. *Quasi-Experimentation: Design and Analysis Issues for Field Settings*. Boston, MA: Houghton Mifflin.
- Cullen, Francis T. and Karen E. Gilbert. 1982. *Reaffirming Rehabilitation*. Cincinnati, OH: Anderson.
- Davidson, William S., Rand Gottschalk, Leah Gensheimer, and Jeffrey Mayer. 1985. Interventions with juvenile delinquents: A meta-analysis of treatment efficacy. In (NIJ/NIMH), *Current Status of Research in Juvenile Justice*. Washington, DC: U.S. Government Printing Office.
- Garrett, Carol J. 1985. Effects of residential treatment on adjudicated delinquents: A meta-analysis. *Journal of Research in Crime and Delinquency*, 22: 287–308.
- Gendreau, Paul and Robert R. Ross. 1979. Effective correctional treatment: Bibliotherapy for cynics. *Crime & Delinquency*, 25: 463–489.
- Gottfredson, Michael. 1979. Treatment destruction techniques. *Journal of Research in Crime and Delinquency*, 16: 39–54.
- Howell, James C. and Mark W. Lipsey. 2012. Research-based guidelines for juvenile justice programs. *Justice Research and Policy*, 14: 1–18.
- Landenberger, Nana A. and Mark W. Lipsey. 2005. The positive effects of cognitive-behavioral programs for offenders: A meta-analysis of factors associated with effective treatment. *Journal of Experimental Criminology*, 1: 451–476.
- Lipsey, Mark W. 1983. A scheme for assessing measurement sensitivity in program evaluation and other applied research. *Psychological Bulletin*, 94: 152–165.
- Lipsey, Mark W. 1990. *Design Sensitivity: Statistical Power for Experimental Research*. Newbury Park, CA: Sage.
- Lipsey, Mark W. 1992. Juvenile delinquency treatment: A meta-analytic inquiry into the variability of effects. In (Thomas D. Cook, Harris Cooper, David S. Cordray, Heidi Hartmann, Larry V. Hedges, Richard J. Light, Thomas A. Louis, and Frederick Mosteller, eds.), *Meta-Analysis for Explanation: A Casebook*. New York: Russell Sage Foundation.
- Lipsey, Mark W. 1995. What do we learn from 400 research studies on the effectiveness of treatment with juvenile delinquents? In (James McGuire, ed.), *What Works? Reducing Reoffending*. New York: Wiley.
- Lipsey, Mark W. 1997. What can you build with thousands of bricks? Musings on the cumulation of knowledge in program evaluation. *New Directions for Evaluation*, 76: 7–24.
- Lipsey, Mark W. 2003. Those confounded moderators in meta-analysis: Good, bad, and ugly. *The ANNALS of the American Academy of Political and Social Science*, 587: 69–81.
- Lipsey, Mark W. 2008. *The Arizona Standardized Program Evaluation Protocol (SPEP) for Assessing the Effectiveness of Programs for Juvenile Probationers: SPEP Ratings and Relative*

- Recidivism Reduction for the Initial SPEP Sample. A Report to the Juvenile Justice Services Division, Administrative Office of the Courts, State of Arizona.* Center for Evaluation Research and Methodology, Vanderbilt Institute for Public Policy Studies.
- Lipsey, Mark W. 2009. The primary factors that characterize effective interventions with juvenile offenders: A meta-analytic overview. *Victims & Offenders*, 4: 124–147.
- Lipsey, Mark W. 2012. Effective interventions for juvenile offenders: Using meta-analysis to bridge from research to practice. In (Thomas Bliesener, Andreas Beelmann, and Mark Stemmler, eds.), *Antisocial Behavior and Crime: Contributions of Developmental and Evaluation Research to Prevention and Intervention*, Vol. 11. Cambridge, MA: Hogrefe.
- Lipsey, Mark W., David S. Cordray, and Dale E. Berger. 1981. Evaluation of a juvenile diversion program: Using multiple lines of evidence. *Evaluation Review*, 5: 283–306.
- Lipsey, Mark W. and Francis T. Cullen. 2007. The effectiveness of correctional rehabilitation: A review of systematic reviews. *Annual Review of Law and Social Science*, 3: 297–320.
- Lipsey, Mark W. and David B. Wilson. 1993. The efficacy of psychological, educational, and behavioral treatment: Confirmation from meta-analysis. *American Psychologist*, 48: 1181–1209.
- Lipsey, Mark W. and David B. Wilson. 1998. Effective intervention for serious juvenile offenders: A synthesis of research. In (Rolf Loeber and David P. Farrington, eds.), *Serious and Violent Juvenile Offenders: Risk Factors and Successful Interventions*, Vol. 13. Thousand Oaks, CA: Sage.
- Lipsey, Mark W., David B. Wilson, and Lynn Cothorn. 2000. Effective intervention for serious juvenile offenders. *OJJDP Juvenile Justice Bulletin* (NCJ 181201). National Institute of Justice, Office of Justice Programs, U.S. Department of Justice.
- Lipton, Douglas, Robert Martinson, and Judith Wilks. 1975. *The Effectiveness of Correctional Treatment: A Survey of Treatment Evaluation Studies*. New York: Praeger.
- Lundman, Richard J., Paul T. McFarlane, and Frank R. Scarpitti. 1976. Delinquency prevention: A description and assessment of projects reported in the professional literature. *Crime & Delinquency*, 22: 297–308.
- Martinson, Robert. 1974. What works? Questions and answers about prison reform. *Public Interest*, 35: 22–54.
- Palmer, Ted. 1978. *Correctional Intervention and Research: Current Issues and Future Prospects*. New York: Lexington.
- Redpath, David P. and Jeanne K. Brandner. 2010. *The Arizona Standardized Program Evaluation Protocol (SPEP) for Assessing the Effectiveness of Programs for Juvenile Probationers: SPEP Rating and Relative Recidivism Reduction; An Update to the January 2008 Report by Dr. Mark Lipsey*. Phoenix: Arizona Supreme Court, Administrative Office of the Courts, Juvenile Justice Service Division.
- Rossi, Peter H. and Walter Williams. 1972. *Evaluating Social Programs: Theory, Practice, and Politics*. New York: Seminar Press.
- Smith, Mary L. and Gene V. Glass. 1977. Meta-analysis of psychotherapy outcome studies. *American Psychologist*, 32: 752–760.

- Smith, Mary Lee, Gene V. Glass, and Thomas I. Miller. 1980. *The Benefits of Psychotherapy*. Baltimore, MD: Johns Hopkins University Press.
- Weiss, Carol H. 1972. *Evaluation Research: Methods of Assessing Program Effectiveness*. Englewood Cliffs, NJ: Prentice-Hall.
- Wright, William E. and Michael C. Dixon. 1977. Community prevention and treatment of juvenile delinquency: A review of evaluation studies. *Journal of Research in Crime and Delinquency*, 14: 35–67.
- WSIPP. 2004. *Outcome Evaluation of Washington State's Research-Based Programs for Juvenile Offenders*. Olympia: Washington State Institute for Public Policy Studies.
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Mark Lipsey's Contribution to Evidence-Based Services for Juvenile Offenders: What Works across Juvenile Justice Systems

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Mark Lipsey and I first crossed paths in 1992. By way of background, we each were drawn into the arena of program evaluation from different professional routes. In the 1970s, Mark was co-director of the Graduate School Evaluation Team at Claremont University that had been solicited to evaluate a multisite juvenile diversion program in southeast Los Angeles, managed by the Los Angeles County Sheriff's Department. The evaluation concluded that the program not only substantially increased diversion of youth from arrest but that it also succeeded in reducing recidivism (Berger, Lipsey, Dennison, and Lange, 1977). Mark (Lipsey, 1984) next evaluated a delinquency prevention program and found that to be a cost-effective strategy as well.

His attention soon was drawn to the swirl around the Lipton, Martinson, and Wilks (1975) program-by-program review that concluded "nothing works" in reducing crime. After a National Academy of Sciences review in the early 1980s supported Lipton and colleagues' conclusion, Mark took exception, based on his own research that suggested otherwise. He set out on a course to explore the issue in earnest with respect to juvenile delinquency.

At that time, I was working at the federal Office of Juvenile Justice and Delinquency Prevention (OJJDP) as Director of Research and Program Development. Having been established by the federal Juvenile Justice and Delinquency Prevention Act of 1974, OJJDP had a statutory mandate to evaluate and identify effective programs and to disseminate them with the aim of improving juvenile justice systems and reducing delinquency across the United States. This proved to be a particularly frustrating exercise in the early years at

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OJJDP. Evaluation results often were inconsistent; programs that seemed to be effective in one study often were not substantiated in another one. Congressional oversight hearings were not pleasant events given our statutory mandate to identify what works. In the early 1990s, we paused and took stock of what seemed to be effective in the first 15 years at OJJDP. The list generated from program-by-program reviews was very brief (Wilson and Howell, 1993).

Relief came once I learned about Mark's meta-analytic research. I received notice that he would present his findings at a research symposium in Washington, DC, so I went to hear him. He summarized findings from his first meta-analysis (Lipsey, 1992, 1995), of nearly 400 controlled juvenile delinquency studies. Mark reported that juveniles in treatment groups had recidivism rates approximately 10% lower than untreated groups, and that the best intervention programs produced 20% to 30% reductions in recidivism rates. Astounded by the scope and clarity of Mark's findings, I approached him afterward and asked him whether he might be interested in getting involved on the federal policy and program side, in our effort at OJJDP to synthesize and disseminate information on effective programs to the field. His quick response was "of course, that is the only reason that I do this research."

OJJDP invited him to examine the effectiveness of programs with serious and violent juvenile offenders in his unique database of well-controlled studies published since 1950, finding that, among 200 programs in which those offenders were prominently represented, the average program reduced recidivism approximately 12% and the best programs were capable of reducing recidivism as much as 40% (Lipsey and Wilson, 1998; see also Lipsey, 1999a). These findings bolstered confidence in evidence-based programming at OJJDP. We had recently developed a Comprehensive Strategy for Serious, Violent, and Chronic Juvenile Offenders (Wilson and Howell, 1993) that now had added research support—on the program side—thanks to Mark's research that included only well-controlled studies.

Next, Mark conducted a meta-analysis to determine whether "practical" juvenile justice programs (routine programs designed and managed by system professionals) are worthwhile (Lipsey, 1999b). This is a prime example of Lipsey's discovery that "most striking, perhaps, is the power of meta analysis to identify intervention effects not clearly visible to traditional reviewers" (p. 619). He found practical programs to be about half as effective, on average, as demonstration programs, 7% versus 13% (Lipsey, 2002). Among 196 evaluations of practical juvenile justice system programs in his database, Lipsey (1999b) found that some of these programs (only approximately 17% of the practical programs) produced very worthwhile reductions in recidivism rates—between 20% and 25%. In this study, Mark began to explore conditions under which programs were effective. He found that four main program characteristics were associated with the largest recidivism reductions: the provision of certain services, a distinct role for the juvenile justice system, a sufficient amount of service, and administration of services to the most appropriate juvenile subpopulation. After having

expanded his database to 556 controlled studies, Mark produced even larger contributions to the body of knowledge of what works with juvenile offenders and prevention of delinquency. He (Lipsey, 2002) reported that a slight majority (57%) of all well-evaluated programs for prevention treatment of juvenile offenders reduced recidivism but very little, on average. Thus, there was much room for improvement. But his optimism for this potential comes from his discovery that some homegrown programs outperform “model programs” on occasion (Lipsey and Howell, 2012).

Mark’s extensive meta-analytic research on his massive database supported the development of rather specific guidelines containing criteria by which local programs can be measured to assess the degree to which their characteristics match those of programs found in the research. Moreover, he arranged those guidelines in a format that allows them to be easily used in a consistent and valid manner in routine practice by juvenile justice professionals who are not trained researchers. With the application of these structured criteria, juvenile justice administrators could determine the extent to which their programs are supported by evidence of effectiveness and how to improve them if they fall short. Moreover, the system-wide array of evidence-based generic services he identified in the meta-analysis (mentoring, individual counseling, family counseling, cognitive-behavioral therapy, and the like) seem to be about equally effective all along the juvenile justice continuum, from prevention through aftercare.

Mark’s ingenious Standardized Program Evaluation Protocol (SPEP) operationalizes research-based guidelines in the form of a program rating scheme that can be used by service providers and juvenile justice administrators to evaluate periodically their entire array of programs for juvenile offenders (Howell, Lipsey, and Wilson, in press). This scheme applies to any therapeutic program type for juvenile offenders for which there is sufficient supporting research in Lipsey’s large meta-analytic database. The SPEP assigns points to local programs of that type according to how closely the characteristics of services in play match those associated with the best recidivism outcomes for similar programs as identified in the meta-analysis. The four program rating criteria are as follows:

- Primary and Supplemental Service Types (generic services)
- Quality of Service Delivery (fidelity)
- Amount of Service (dosage)
- Risk Level (as determined by an actuarial instrument that predicts recidivism)

The maximum number of points available for each rated aspect of the program is proportionate to the strength of that factor for predicting recidivism effects in the meta-analysis. Where scores are low, the SPEP guidelines provide a blueprint for improvements and larger recidivism reductions. Once programs are classified in the generic service categories, the process can be automated. The first statewide electronic evaluation of juvenile justice programs in history was conducted using the SPEP in 2005 in North Carolina and, shortly

thereafter, in Arizona. Several other states currently are underway with SPEP implementation. The potential for making statewide juvenile justice program improvements across the entire spectrum of prevention, court, community, correctional, and re-entry programs now seems to be a realistic goal (Howell et al., in press).

In conclusion, Mark's successful translation of his meta-analytic research into the SPEP greatly simplifies the business of evidence-based programming. "The prospects are good that proper use of these tools to manage a spectrum of effective programs will improve the outcomes for juveniles who come into contact with the juvenile justice system and, with that, the cost effectiveness of the system itself" (Lipsey and Howell, 2012: 521). In fact, it can be said that his salutary work has moved the juvenile justice field leaps and bounds nearer to the holy grail of evidence-based practice: What works, for whom, and under what conditions. Thus, it is entirely apropos that Mark Lipsey has been anointed as one of the 12 "disciples of rehabilitation" (Cullen, 2005).

References

- Berger, Dale E., Mark W. Lipsey, Laura B. Dennison, and Janet M. Lange. 1977. *The Effectiveness of the Sheriff Department's Juvenile Diversion Projects in Southeast Los Angeles County (CA)*. A Supplement to the First Annual Evaluation Report for the Cerritos Corridor Juvenile Diversion Project, the Positive Alternatives for Youth Diversion Project (PAY), and the Southeast Early Diversion Project (SEED). Report submitted by the Claremont Graduate School Center for Applied Social Research. National Criminal Justice Reference Service.
- Cullen, Francis T. 2005. The twelve people who saved rehabilitation: How the science of criminology made a difference. *Criminology*, 43: 1–42.
- Howell, James C., Mark W. Lipsey, and John J. Wilson. In press. *A Handbook for Evidence-Based Juvenile Justice Practice*. Lanham, MD: Lexington Books.
- Lipsey, Mark W. 1984. Is delinquency prevention a cost-effective strategy? A California perspective. *Journal of Research in Crime and Delinquency*, 21: 279–302.
- Lipsey, Mark W. 1992. Juvenile delinquency treatment: A meta-analytic inquiry into the variability of effects. In (Thomas D. Cook, Harris Cooper, David S. Cordray, Heidi Hartmann, Larry V. Hedges, Richard J. Light, Thomas A. Louis, and Frederick Mosteller, eds.), *Meta-analysis for Explanation: A Casebook*. New York: Russell Sage Foundation.
- Lipsey, Mark W. 1995. What do we learn from 400 research studies on the effectiveness of treatment with juvenile delinquents? In (James McGuire, eds.), *What Works? Reducing Reoffending*. New York: Wiley.
- Lipsey, Mark W. 1999a. Can intervention rehabilitate serious delinquents? *The ANNALS of the American Academy of Political and Social Science*, 564: 142–166.
- Lipsey, Mark W. 1999b. Can rehabilitative programs reduce the recidivism of juvenile offenders? An inquiry into the effectiveness of practical programs. *Virginia Journal of Social Policy and the Law*, 6: 611–641.

-
- Lipsey, Mark W. 2002. Meta-analysis and program outcome evaluation. *Socialvetenskaplig Tidskrift*, 9: 194–208.
- Lipsey, M. W. and James C. Howell. 2012. A broader view of evidence-based programs reveals more options for state juvenile justice systems. *Criminology & Public Policy*, 11: 515–523.
- Lipsey, Mark W. and David B. Wilson. 1998. Effective intervention for serious juvenile offenders: A synthesis of research. In (Rolf Loeber and David P. Farrington, eds.), *Serious and Violent Juvenile Offenders: Risk Factors and Successful Interventions*, Vol. 13. Thousand Oaks, CA: Sage.
- Lipton, Douglas, Robert Martinson, and Judith Wilks. 1975. *The Effectiveness of Correctional Treatment: A Survey of Treatment Evaluation Studies*. New York: Praeger.
- Wilson, John J. and James C. Howell. 1993. *A Comprehensive Strategy for Serious, Violent and Chronic Juvenile Offenders*. Washington, DC: Office of Juvenile Justice and Delinquency Prevention.
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From Research Synthesis to Evidence-Based Policy and Practice

How Mark Lipsey Is Improving Juvenile Offender Treatment

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In thinking about the many ways that Mark Lipsey personifies the Vollmer Award, I am reminded of a quote from one of my favorite poets of the First World War; it goes like this: “Life’s wealth is to do; its loss—to dream and wait” (Sassoon, 1945: 154). In no small measure this captures the prolific nature of Lipsey, let alone his many noteworthy contributions to the science of criminology (e.g., Lipsey, 2003; Lipsey and Wilson, 2001; National Research Council, 2005; see also Cullen, 2005). But the “doing” in Lipsey’s case also has meant contributing, in substantial ways, to the very process and understanding of how research gets translated into policy and practice.

I am not talking about conducting a meta-analysis on topic *X* or *Y* and setting out sound implications for policy and practice. Lipsey has done this time and time again, with a focus on risk factors, offender types, treatment modalities, and so on (e.g., Lipsey and Derzon, 1998; Lipsey and Landenberger, 2006; Wilson and Lipsey, 2007), and this research has proven tremendously influential here in the United States and abroad. Rather, I am referring to his most recent body of work, an effort to build on these past studies and add even more precision to how research synthesis can contribute to evidence-based policy and practice in juvenile justice—as well as bring about more effective treatment for juvenile offenders. This is the focus of my commentary.

Standardized Program Evaluation Protocol

Meta-analysis results can be used as the basis for improving existing programs or services. This is one of the main approaches for translating research evidence on effective programs

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into policy and practice (Lipsey and Howell, 2012; Lipsey, Howell, Kelly, Chapman, and Carver, 2010). This approach stands in sharp contrast to the approach that favors the implementation of new programs along the lines of brand-name evidence-based programs (EBPs) like Multisystemic Therapy (MST) or Functional Family Therapy (FFT). Key to the use of meta-analysis results for this purpose is the identification of factors that are significantly correlated with the most effective programs, which in turn allows for the development of best practice guidelines (Lipsey, 2009).

As important as it is to have these guidelines, they are incomplete. What is needed is a way to apply the guidelines to existing programs. To achieve this, Lipsey developed the Standardized Program Evaluation Protocol (SPEP) for application to juvenile justice programs (Lipsey et al., 2010). The SPEP is a hands-on tool that allows practitioners to compare programs operating in their local jurisdiction with what the research shows to be the most important factors associated with effectiveness. In its most basic state, it is a form for rating programs (for the latest iteration of the instrument, see Howell and Lipsey, 2012: 27). The use of the SPEP form can be summarized as such:

Each of the factors found in the meta-analysis to be importantly related to program effectiveness is represented in the SPEP and associated with a certain maximum number of points to provide a score. The number of points associated with each factor is derived directly from the statistical models used in the meta-analysis to predict program effects on recidivism. Those factors with stronger predictive relationships are assigned proportionately more points than those with relationships that are not as strong. Where appropriate, target values are set based on the median values found in the corresponding research, e.g., for service duration and number of contact hours. (Lipsey et al., 2010: 31)

The SPEP is based on four key factors associated with effectiveness of juvenile justice programs: program type (primary and supplemental services), treatment dosage, treatment quality, and youth risk level. Program type is considered the most important factor, with a possible 35 points out of a maximum score of 100. In addition to being designed to evaluate the overall effectiveness of individual programs against an “evidence-based practice profile” (i.e., the meta-analysis results), the SPEP also can inform policy makers and practitioners about what program areas are in need of improvement. In this respect, it also acts as a process evaluation or monitoring tool, allowing practitioners to make adjustments that can improve effectiveness.

In the short time since its development, the SPEP has received a great deal of interest from state juvenile justice agencies across the country. Demonstration projects have been conducted or are underway in at least three states: Arizona, North Carolina, and Tennessee. In Arizona, a large-scale validation study of the SPEP found that 6- and 12-month recidivism rates for the higher rated juvenile justice programs (scoring 50 points or greater) were 12% to 13% lower than predicted (Howell and Lipsey, 2012: 29). Howell and Lipsey (2012)

also reported that similar results were shown in a statewide replication in Arizona. Several other states (e.g., Connecticut, Florida, and Pennsylvania) also are experimenting with the SPEP in an effort to improve their juvenile justice programming.

Brand-Name Programs and the SPEP

The SPEP also was developed as an alternative to a group of widely popular and highly effective brand-name EBPs (e.g., MST and FFT). One of the chief criticisms of these programs is their “significant start-up costs” (Lipsey et al., 2010: 35). This approach involves selecting proven or promising programs identified by lists of various expert groups (Greenwood and Welsh, 2012). In the case of Blueprints for Healthy Youth Development (formerly Blueprints for Violence Prevention; see Elliott and Mihalic, 2004), for example, all of the proven models come with implementation and quality assurance packages offered by program developers.

There are many questions about how these two different approaches match up for translating research into evidence-based policy and practice in juvenile justice in this country. We tested the utility of these two approaches (Welsh, Rocque, and Greenwood, 2013). Informed by prospect theory (Kahneman and Tversky, 1979), a first-stage analytic decision-tree model was developed that included three comparable EBPs in juvenile justice (two brand-names: MST and FFT; and one generic: other family-based therapy). Implementation success and financial costs and benefits were key variables in the model, and analyses were conducted under two different conditions. Under the first condition, where brand-name programs have a large advantage in implementation success over generic programs (Fixsen, Blase, Metz, and van Dyke, 2013), it was found that the brand-name programs had the highest expected values. Under the second condition, which considered the role of the SPEP as applied to the generic program, it was found that all three programs produced highly favorable expected values. Sensitivity analyses indicated that the results were robust.

It was our conclusion that state governments should consider the merits of both approaches and, in so doing, pay particular attention to implementation success as well as financial costs and benefits derived from rigorous cost–benefit analysis. To take nothing away from the importance of program implementation, it seems useful to conclude with some thoughts on the contribution of economic analysis to evidence-based policy.

Economic Analysis for Evidence-Based Policy

Economic analysis is a key component of evidence-based policy (Mears, 2010). As Drake, Aos, and Miller (2009: 194) noted, “while determining whether a program reduces crime remains the necessary first condition for rational public policy making, an economic analysis constitutes the necessary additional condition for identifying viable and fiscally prudent options.” There is no subtlety behind my use of this quote. It comes from the non-partisan research arm of Washington State’s legislature—known as the Washington State

Institute for Public Policy—that has without exaggeration reshaped the contours of public policy making in juvenile and criminal justice throughout the country. Moreover, it has played a central role in helping to bring about more efficacious and humane treatment services for juvenile offenders and in improving a range of important life-course outcomes for young people across the state. This too is no exaggeration (e.g., Aos, 2011; Drake et al., 2009; Lee et al., 2012).

At the core of the institute's work is a comprehensive cost–benefit model, a “bottom line” financial analysis, which is considered to parallel the approach used by investors who study rates of return on financial investments (Drake et al., 2009). Here, cost–benefit analysis is linked to research synthesis that includes the highest quality evaluation studies.

Lipsey's SPEP does not consider financial costs and benefits. It also is not central to the implementation of brand-name programs. At present, this is left to the systems or agencies. Arizona's juvenile justice agency, for example, will need to make the determination whether the reduction in juvenile recidivism rates among its highest rated programs is worth the financial costs. This determination is crucial because a program that produces a desirable effect does not necessarily translate to a cost–beneficial program. A cost–benefit analysis is needed for this. Going forward, I suspect Lipsey's model will begin to incorporate data on financial costs and benefits. This is becoming an important feature of research synthesis in general and of systematic reviews conducted by the Campbell Collaboration.

There is yet another powerful argument for the use of economic analysis in public policy making. It concerns the metric (dollars and cents) and its understandability by decision makers, most prominently, politicians. Being able to report on cost–benefit ratios of programs, the distribution of program costs and benefits, among other key outputs, can be especially influential with those who hold the purse strings. The important work of Lipsey is already making a substantial contribution to evidence-based policy and practice in juvenile justice, and this adds one more dimension.

References

- Aos, Steve. 2011. *Updates and New Findings: Crime Trends in Washington and Policy Options that Reduce Crime and Save Money*. Paper presented at Senate Human Services and Corrections Committee, December 8.
- Cullen, Francis T. 2005. The twelve people who saved rehabilitation: How the science of criminology made a difference. *Criminology*, 43: 1–42.
- Drake, Elizabeth K., Steve Aos, and Marna G. Miller. 2009. Evidence-based public policy options to reduce crime and criminal justice costs: Implications for Washington State. *Victims & Offenders*, 4: 170–196.
- Elliott, Delbert S. and Sharon F. Mihalic. 2004. Issues in disseminating and replicating effective prevention programs. *Prevention Science*, 5: 47–52.

- Fixsen, Dean L., Karen A. Blase, Allison Metz, and Melissa van Dyke. 2013. Statewide implementation of evidence-based programs. *Exceptional Children*, 79: 213–230.
- Greenwood, Peter W. and Brandon C. Welsh. 2012. Promoting evidence-based practice in delinquency prevention at the state level: Principles, progress, and policy directions. *Criminology & Public Policy*, 11: 493–513.
- Howell, James C. and Mark W. Lipsey. 2012. Research-based guidelines for juvenile justice programs. *Justice Research and Policy*, 14(1): 17–34.
- Kahneman, Daniel and Amos Tversky. 1979. Prospect theory: An analysis of decision under risk. *Econometrica*, 47: 263–292.
- Lee, Stephanie, Steve Aos, Elizabeth K. Drake, Anne Pennucci, Marna G. Miller, and Laurie Anderson. 2012. *Return on Investment: Evidence-Based Options to Improve Statewide Outcomes*. Olympia: Washington State Institute for Public Policy.
- Lipsey, Mark W. 2003. Those confounded moderators in meta-analysis: Good, bad, and ugly. *The ANNALS of the American Academy of Political and Social Science*, 587: 69–81.
- Lipsey, Mark W. 2009. The primary factors that characterize effective interventions with juvenile offenders: A meta-analytic overview. *Victims & Offenders*, 4: 124–147.
- Lipsey, Mark W. and James H. Derzon. 1998. Predictors of violent or serious delinquency in adolescence and early adulthood: A synthesis of longitudinal research. In (Rolf Loeber and David P. Farrington, eds.), *Serious and Violent Juvenile Offenders: Risk Factors and Successful Interventions*. Thousand Oaks, CA: Sage.
- Lipsey, Mark W. and James C. Howell. 2012. A broader view of evidence-based programs reveals more options for state juvenile justice systems. *Criminology & Public Policy*, 11: 515–523.
- Lipsey, Mark W., James C. Howell, Marion R. Kelly, Gabrielle Chapman, and Darin Carver. 2010. *Improving the Effectiveness of Juvenile Justice Programs: A New Perspective on Evidence-Based Practice*. Washington, DC: Center for Juvenile Justice Reform, Georgetown University.
- Lipsey, Mark W. and Nana A. Landenberger. 2006. Cognitive-behavioral interventions. In (Brandon C. Welsh and David P. Farrington, eds.), *Preventing Crime: What Works for Children, Offenders, Victims, and Places*. New York: Springer.
- Lipsey, Mark W. and David B. Wilson. 2001. *Practical Meta-Analysis*. Thousand Oaks, CA: Sage.
- Mears, Daniel P. 2010. *American Criminal Justice Policy: An Evaluation Approach to Increasing Accountability and Effectiveness*. New York: Cambridge University Press.
- National Research Council. 2005. *Improving Evaluation of Anticrime Programs*. Committee on Improving Evaluation of Anti-Crime Programs (Mark W. Lipsey, chair). Washington, DC: National Academies Press.
- Sassoon, Siegfried. 1945. *Siegfried's Journey, 1916–1920*. London, U.K.: Faber and Faber.
- Welsh, Brandon C., Michael Rocque, and Peter W. Greenwood. 2013. Translating research into evidence-based practice in juvenile justice: Brand-name programs, meta-analysis, and key issues. *Journal of Experimental Criminology*. Epub ahead of print. doi: 10.1007/s11292-013-9182-3.

Wilson, Sandra Jo and Mark W. Lipsey. 2007. School-based interventions for aggressive and disruptive behavior: Update of a meta-analysis. *American Journal of Preventive Medicine*, 33: 130–143.

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Rehabilitative and Restorative Justice for Juvenile Offenders

How Might Economic Sanctions Help?

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Once upon a time, court sentences were all about punishing the offender. But these days a broader range of objectives tends to underpin sentencing policy and practice, including the pursuit of positive outcomes—notably, the avoidance of repeat behavior and addressing of harm done to the victim(s). Seeking such outcomes inevitably calls for more care on the part of sentencers in choosing the particular sanction to be applied, and for many years now, there has been an ongoing debate about the efficacy (both absolute and relative) of different options, such as a term of imprisonment, some form of community service (or payback), or an economic sanction (i.e., a financial penalty of one form or another).

Economic sanctions are often favored for less serious offending not least because of their relatively low cost to implement and because they are regarded as “hitting where it hurts” most—in the personal pocket. However, this is not always the reality, as enforcement costs can be high in tracking down those who are determined to evade paying, and because it is rarely clear who actually bears the burden of economic sanctions (the offender, his or her family and dependents, or perhaps even other victims, if settling a financial debt to the court means resorting to further crime?).

Perhaps most particularly for juvenile offenders, there is a strong argument for sanctions that both promote rehabilitation and are restorative in nature, i.e., ones that encourage offenders to desist from crime or antisocial behavior; that help them to understand and acknowledge the negative impacts of their actions; and ideally, that involve making amends in some way. For many sentencers, economic sanctions, and particularly fines, can seem unlikely candidates in this respect. This is especially the case if the financial penalties are

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imposed in an equitable manner, in proportion to each offender's means and "ability to pay," with the consequence that, for those on low incomes, the amount of the penalty will seem quite small.

But if all this suggests economic sanctions to be something of a problem for the courts, the research study presented in this issue of *Criminology & Public Policy* by Haynes, Cares, and Ruback (2014) provides a more optimistic perspective. Their starting point is that economic sanctions can indeed be rehabilitative, particularly if emphasis is placed on restitution (or compensation) to the victim, rather than simply on fines (paid to the court) or awards of "costs" to the prosecution. While acknowledging that relatively little is known about the effects of economic sanctions on juveniles (because most previous research on economic sanctions has tended to focus on adult offenders), the authors suggest that because juveniles mostly have fewer financial obligations, it follows that economic sanctions may be less problematic for them compared with adults, as well as less stigmatizing than custody or community sentences. Moreover, if emphasis is also placed on compensating victims and communities for their losses, according to Haynes et al., economic sanctions can be closely consistent with the goals of restorative justice.

That said, although their own research on the subject found evidence that such restitution-oriented economic sanctions were associated with lower rates of recidivism and that they helped juvenile offenders both to learn from, and address, the harm they had caused, it also found such sanctions were used in only about a third of the cases they examined (comprising a sample of almost 1,000 juvenile offenses drawn from five different counties in the state of Pennsylvania). In the other two thirds of cases, the sanctions were fines and fees (for prosecution and administrative costs). Accordingly, Haynes et al. (2014) conclude that, by not emphasizing rehabilitation and restitution in a large proportion of cases, considerable opportunity is being missed both to improve desistance rates among juvenile offenders and to achieve more positive outcomes for victims.

The findings here are certainly very interesting and, as Haynes et al. (2014) suggest, with potentially important policy implications. But how representative are they of the wider context of applying economic sanctions, and how do they compare with findings and experiences elsewhere? This issue of *Criminology & Public Policy* also includes two short, but similarly absorbing, policy essays on the same theme of juvenile justice, each prepared as a reflection on the main Haynes et al. article. In one of these policy essays, Walsh (2014) provides some contrasting comparative perspectives from the Australian juvenile justice sector and discusses other evidence that leaves her rather less sure about the efficacy of economic sanctions vis-à-vis community-based ones. Indeed, she makes the case for "more community service and restitution orders that give young offenders an 'inside view' of the impact of their behaviors" and suggests that reparation "should not be viewed in dollar terms but more broadly to include apologies, community service work, and compensation by way of personal services."

Then in the other policy essay in this issue, Greenwald, Jackson, and Baglivio (2014) draw on their experiences working in the U.S. Department of Juvenile Justice in Florida, and they discuss the possible reasons underlying some of the findings of Haynes et al. (2014). Their clear conclusion is that more research is needed, especially to examine the impact of restitution on recidivism and to explore the pattern of causalities at work here. They are interested, for example, in knowing more about the significance of family stability and affluence in influencing desistance among juvenile offenders. They also consider the now much-cited arguments for holding parents economically responsible for the behavior of their children. Furthermore, like Walsh (2014), they tend to favor restitution-oriented community service projects and other such approaches that more directly seek to build empathy, increase responsibility, and repair the harm done to victims.

Together, these three contributions in this issue provide a much needed focus on “what works” best in juvenile justice and specifically on the role and potential of economic sanctions in that context. Further evaluations and more experiments are surely needed. And it is hoped that these contributions will themselves inspire further research, understanding, and learning about how best to optimize the positive outcomes from sentencing toward which all courts aspire.

References

- Greenwald, Mark A., Sherry L. Jackson, and Michael T. Baglivio. 2014. The costs of delinquency. *Criminology & Public Policy*, 13: 61–67.
- Haynes, Stacy H., Allison C. Cares, and R. Barry Ruback. 2014. Juvenile economic sanctions: An analysis of their imposition, payment, and effect on recidivism. *Criminology & Public Policy*, 13: 31–60.
- Walsh, Tamara. 2014. Juvenile economic sanctions: A logical alternative? *Criminology & Public Policy*, 13: 69–77.

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Juvenile Economic Sanctions

An Analysis of Their Imposition, Payment, and Effect on Recidivism

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Research Summary

Economic sanctions, particularly restitution, can help juvenile offenders both learn the extent of the harm they caused and assume responsibility for repairing that harm. If that assumption is true, then restitution should be imposed in every case for which it is appropriate, other factors should not affect imposition, and paying restitution should be negatively related to recidivism. This analysis of 921 juvenile cases in five Pennsylvania counties found that restitution was imposed in only 33% of cases for which it was appropriate, whereas fees were imposed in 66% of cases. Consistent with expectations, restitution was more likely to be imposed for property offenses, but contrary to expectations, restitution was more likely to be imposed for felonies and for males. Judges were less likely to revoke the sentences of juveniles who paid a greater percentage of their total economic sanctions and of juveniles whose violation of sentencing conditions was for nonpayment of economic sanctions.

Policy Implications

Given that support for both punitive and progressive policies exists, policy makers have a unique opportunity to pursue alternatives, like economic sanctions, that appeal to both perspectives. Economic sanctions are particularly important for juveniles because they are less likely to interfere with other financial obligations (in large part because juveniles have fewer financial obligations than do adults) and because they avoid the

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stigma associated with more punitive sentences, such as incarceration. The negative relationship between payment of economic sanctions and recidivism, found in this study and in other studies, also suggests that, in both the short and the long term, economic sanctions are more cost-effective. Furthermore, the restorative aspect of economic sanctions, particularly restitution, suggests that policy makers should consider how best to impose and collect economic sanctions, as they also are consistent with efforts to improve the treatment of crime victims.

Keywords

juvenile offenders, economic sanctions, restitution, recidivism, restorative justice

Punitive policies (e.g., boot camps, three-strikes laws, and mandatory minimum sentences) have dominated the criminal and juvenile justice systems for more than 40 years (Bishop, 2012; Cullen, Fisher, and Applegate, 2000). Although support for harsh sentencing policies exists, scholars have identified several “cracks” in the penal harm movement, including public support of rehabilitation, doubts about the effectiveness of “get tough” approaches, the implementation of progressive policies that provide treatment and support to offenders, and greater reliance on the principles of effective intervention to guide correctional practices (Listwan, Jonson, Cullen, and Latessa, 2008). These findings have suggested that the focus on punitiveness might have been exaggerated (Matthews, 2005) and that, instead, the public tends to be both punitive *and* progressive (Cullen et al., 2000).

Support for rehabilitation has been particularly strong for juveniles. According to surveys of both juvenile justice practitioners (Mears, Shollenberger, Willison, Owens, and Butts, 2010) and the general public (Nagin, Piquero, Scott, and Steinberg, 2006), rehabilitation is the primary goal of the juvenile justice system. The juvenile court is based on the belief that juveniles, compared with adults, are less responsible for their behavior and therefore should receive less serious punishment (Bernard and Kurlychek, 2010).

Punishments for juveniles should be scaled below those for adults for three reasons (Von Hirsch, 2001). First, juveniles are less culpable because they are less able to understand the harmfulness of their actions and they have less impulse control. Given this diminished culpability and juveniles’ greater potential for reform, the U.S. Supreme Court has prohibited both the death penalty (*Roper v. Simmons*, 2005) and sentences of life without parole (*Miller v. Alabama*, 2012) for juvenile offenders. Second, punishments have a greater “bite” when applied to juveniles. That is, they are perceived to be more punitive for juveniles than for adults because they interfere with juveniles’ developmental interests. Third, there is greater “tolerance” for juveniles’ indiscretions. That is, because juveniles are learning to make their own decisions, there is greater sympathy for their failures and a belief that they should be judged by a less stringent standard and be given more chances to correct their mistakes (Von Hirsch, 2001).

The study of economic sanctions is opportune because, as Bishop (2012) suggested, the field of juvenile justice is at a crossroads in which support for punitive policies exists, but a willingness to focus on rehabilitation also has reemerged. Economic sanctions are an important policy consideration, then, because they relate to both of these concerns; they are punitive in the sense that their amounts can be adjusted to reflect the severity of the offense and the offender's ability to pay, but they also are potentially rehabilitative (Ruback and Bergstrom, 2006). Furthermore, budgetary constraints have highlighted the need for more cost-effective treatment approaches (Bishop, 2012).

Because of dissatisfaction with the insufficiency of probation and the harshness and ineffectiveness of incarceration, juvenile court practitioners have called for a continuum of intermediate sanctions between probation and incarceration (Mears et al., 2010). In particular, practitioners have called for greater use of nontraditional approaches, such as restorative justice, which balance the needs of the offender, the victim, and the community by focusing on accountability and repairing harm rather than punishment (Urban, St. Cyr, and Decker, 2003). Examples of restorative justice practices include victim-offender mediation, community conferencing, restorative community service, victim awareness panels, and restitution (Bazemore and Umbreit, 1999). Support for intermediate sanctions and for restorative justice is particularly strong for nonviolent offenders (Cullen et al., 2000), and these offenders represent the majority of those involved in the juvenile justice system (Bishop, 2006).

In this study of the juvenile justice system, we focus on restitution and other economic sanctions as exemplars of intermediate sanctions and restorative justice. We investigate both their use (i.e., when and how often they are imposed) and their effect (i.e., whether imposition and payment are related to successful completion of a juvenile sentence). We then discuss the implications of these findings for the future use of economic sanctions in the juvenile justice system.

Although economic sanctions have been criticized because the amounts imposed might be substantial, thereby interfering with other financial obligations and further disadvantaging poor defendants (Harris, Evans, and Beckett, 2010), most studies have focused on adults, and therefore less is known about the use and effects of economic sanctions among juveniles. Given that juveniles have few or no financial obligations, the use of economic sanctions might be less damaging to them than to adults. Furthermore, economic sanctions might actually be advantageous for juveniles because they are less stigmatizing than other types of sanctions, such as incarceration. An important consideration, however, is the problem of who pays (i.e., juveniles or their parents/guardians). Because courts rarely know whether other family members will bear the burden of paying economic sanctions (Raine, Dunstan, and Mackie, 2003), this problem is not unique to juveniles. Enforcement is also a serious challenge, as studies in the United States (McLean and Thompson, 2007; National Center for Victims of Crime, 2011; Weisburd, Einat, and Kowalski, 2008), the United Kingdom (Bullock, 2010; Mackie, Raine, Burrows, Hopkins, and Dunstan, 2003;

Raine, Dunstan, and Mackie, 2004), Australia (Chapman, Freiberg, Quiggin, and Tait, 2004), and Israel (Einat, 2004) have shown that what offenders *actually* pay often falls short of what they were *ordered* to pay. Payment issues for juveniles likely differ from those for adults in part because the number and amount of economic sanctions imposed are different (Ruback, Cares, and Hoskins, 2006). Furthermore, juveniles' supervision issues likely differ from those of adults. Although juveniles might be less mobile because they have fewer personal resources, their mobility also is tied to that of their parents/guardians, and therefore juveniles from single-parent households might be more transient than juveniles from other types of households. For these reasons, then, the study of economic sanctions among juveniles is particularly important.

Overview of Economic Sanctions

Economic sanctions, which also are referred to as financial penalties (Raine et al., 2004), are court-ordered obligations requiring offenders to pay money (Ruback and Bergstrom, 2006; Ruback and Clark, 2011) and are one alternative to traditional punishments. According to Ruback and Bergstrom (2006), economic sanctions rest on a continuum, ranging from those that most directly benefit the victim to those that most directly punish the offender. At opposite ends of the continuum are restitution (i.e., a form of compensation that the offender pays to the victim), which focuses almost exclusively on reparation to a specific victim, and fines (i.e., monetary penalties that the offender pays to the state), which focus almost exclusively on punishing the offender.¹ However, most economic sanctions are less pure in purpose and therefore occupy the middle ground. For example, costs and fees (i.e., monetary penalties designed to reimburse local, county, and state jurisdictions for the administrative cost of operating the criminal justice system for either past or ongoing expenses; Levingston, 2008; Ruback and Clark, 2011) seek reparations for society as a victim and require offenders to pay for the criminal justice system costs of their actions.

As a group, restitution, fines, costs, and fees serve multiple functions, from punishment to rehabilitation. Moreover, taken together, the emphasis on helping compensate victims for their losses, helping communities pay for the costs of administering justice, and helping offenders both learn the extent of the harm they caused and assume responsibility for repairing that harm means that economic sanctions are consistent with the goals of restorative justice. It is important to note, however, that economic sanctions are not in themselves necessarily restorative to the victim, community, or offender. Instead, the extent to which economic sanctions are restorative likely depends on one's understanding of why they were ordered and to whom they are being paid.

In the United States, the use of economic sanctions in adult cases is widespread and has been increasing (Harris et al., 2010; Mullaney, 1988; Rosenmerkel, Durose, and

1. In the United Kingdom, the term "compensation" is used more commonly to describe payments to crime victims (Raine et al., 2004).

Farole, 2009), as has the related research and commentary (e.g., Beckett and Harris, 2011; Harris et al., 2010; Rosenberg, 2011; Ruback, 2011).² The use of economic sanctions also is widespread in the United Kingdom (Mackie et al., 2003; Raine et al., 2004) and in Australia (Moffatt and Poynton, 2007; Walsh, 2005), but these countries, unlike the United States, are more likely to use economic sanctions as stand-alone sanctions. Few studies, however, have examined juvenile economic sanctions, a somewhat surprising fact given the ties between economic sanctions and restorative justice.

Economic sanctions should be more important in the juvenile justice system than in the adult system for four reasons. First, incarceration is not relevant for most juveniles because most of their offenses are not serious enough to warrant prison, jail, or a youth correctional center. Second, because there is a shortage of useful sentencing options in the juvenile system, one possible change is to increase the use of economic sanctions. Third, because the juvenile justice system focuses on rehabilitation and restorative justice, it might be more likely than the adult system to impose victim-focused sanctions, like restitution. Fourth, restorative justice approaches are thought to be more effective for juveniles than for adults because juveniles are assumed to be more capable of changing their behavior. Compared with traditional juvenile justice practices, restorative practices also have more positive effects (Walgrave, 2004). For example, by making reparation and expressing their willingness to conform, juveniles can repair the harm they did to themselves (e.g., social exclusion and stigmatization). Furthermore, restorative justice practices can educate offenders in ways that go beyond traditional juvenile justice practices (e.g., community service provides opportunities for networking) and can help offenders and their families identify social and psychological problems (e.g., conversations might reveal that the juvenile has a problem with drug use; Walgrave, 2004).

Published Research

Research on the use and effect of economic sanctions has focused primarily on restitution, and most of these studies have been based on adult offenders. As a result, it is unclear how their findings translate to other economic sanctions and to juvenile offenders. The purpose of the current study, then, is to examine how juvenile economic sanctions (i.e., total economic sanctions, restitution, and fees) are being used and what effect they have on juvenile recidivism. Although the juvenile justice system has become more like the adult criminal justice system (Kurlychek and Johnson, 2010), the use and effects of economic sanctions might differ for juveniles and for adults. The following discussion focuses primarily on research on adult economic sanctions, but when possible, we highlight potential differences between juveniles and adults.

2. In contrast, research in England and Wales has shown that the use of financial penalties has declined in recent years (Ministry of Justice, 2010; Raine et al., 2003).

Imposition

The use of economic sanctions is widespread in the United States (Harris et al., 2010), the United Kingdom (Raine et al., 2004), and Australia (Moffatt and Poynton, 2007). In the United States in 2004, 66% of prison inmates were ordered to pay economic sanctions (Harris et al., 2010). Regarding specific types of economic sanctions, one study found that in 2006, 18% of state felony cases included an order of restitution and 38% included a fine (Rosenmerkel et al., 2009). Furthermore, the variety of economic sanctions and the use of multiple economic sanctions as the result of a single offense have increased (Mullaney, 1988). In Pennsylvania alone, there are 2,629 different types of economic sanctions, most (90%) of which are county costs and fees (Ruback and Clark, 2011). These economic sanctions can be combined in a variety of ways. For example, a drug defendant in one Pennsylvania county was ordered to pay \$325 in restitution, a \$500 fine, and \$2,464 in fees (Bannon, Nagrecha, and Diller, 2010).

Studies examining the imposition of restitution have found that restitution is more likely to be imposed for offenders who are female, are White, were convicted of a property offense, were convicted of more serious crimes, and have no prior record (Haynes, 2011; Haynes, Ruback, and Cusick, 2010; Ruback, Ruth, and Shaffer, 2005). Restitution also is more likely to be imposed for older offenders (Haynes et al., 2010; Ruback and Shaffer, 2005) and for offenses that are more easily quantified (Outlaw and Ruback, 1999; Ruback, Shaffer, and Logue, 2004). The amount of restitution imposed is generally higher for offenders who are older, are White, were convicted of a property offense, were convicted of more serious crimes, and who have no prior record (Ruback and Shaffer, 2005). The amount of restitution ordered also is higher for offenders who do not have substance abuse problems and for offenders given longer sentences (Ruback et al., 2004).

Regarding other economic sanctions, evidence suggests that fines are more likely for males (Haynes et al., 2010; Moffatt and Poynton, 2007; Ruback et al., 2004) and for drug or traffic offenses (Haynes et al., 2010), and probation fees are more likely for offenders with prior records (Olson and Ramker, 2001). Both fines (Haynes et al., 2010) and probation fees (Olson and Ramker, 2001) are more likely for less serious offenses. Furthermore, factors related to one's ability to pay (i.e., employment status and income) affect the imposition of both fines (Ruback et al., 2004) and fees (Olson and Ramker, 2001). Greater amounts are imposed for traffic offenses (Gordon and Glaser, 1991; Ruback and Clark, 2011) and for more severe offenses (Ruback and Clark, 2011). Lesser amounts are imposed for individuals with longer criminal histories (for an exception, see Moffatt and Poynton's [2007] analysis of driving offenses) and for younger offenders (Ruback and Clark, 2011).

Payment

Ensuring that offenders comply with their restitution orders is important because restitution can help make victims whole, can increase victims' satisfaction with the criminal justice system, and can serve a rehabilitative purpose only if offenders comply (Davis, Smith, and

Hillenbrand, 1991). However, studies examining the payment of economic sanctions have found that large proportions of economic sanctions are not paid. Regarding restitution, research with adult offenders in one Pennsylvania county found that approximately half (48%) of offenders paid their restitution in full (Outlaw and Ruback, 1999). Consistent with this finding, one national study found a 42% compliance rate when case records were examined (Davis et al., 1991). Adult offenders are more likely to make payments when they have the ability to pay (Outlaw and Ruback, 1999; Ruback, Hoskins, Cares, and Feldmeyer, 2006), have strong community ties (i.e., those who are employed, are in school, and have resided in their neighborhoods for longer periods of time), and have less serious criminal records (Davis et al., 1991).

Although compliance rates for adult and juvenile restitution programs are similar, in some cases, juvenile compliance rates are slightly higher (Sims, 2000). One reason for this finding might be that parents are expected to help juveniles pay their economic sanctions. Several individual and case characteristics are associated with the payment of restitution. Among juveniles, older youth and those who admit guilt pay a larger proportion of their restitution orders (Jacobs and Moore, 1994). Older youth might comply more fully because they care more about compliance or because they can work and therefore have greater means to comply. Among adults, females are less likely than males to pay restitution but do not differ from males in the proportion of restitution paid (Outlaw and Ruback, 1999). The proportion of restitution paid is greater for White offenders than for Black offenders (Outlaw and Ruback, 1999; Ruback et al., 2004) and for offenders who paid larger proportions of their other economic sanctions (Ruback et al., 2004).

Recidivism

Economic sanctions, particularly restitution, could promote a sense of responsibility and accomplishment in an offender, thereby reducing the risk of recidivism. For example, restitution can help offenders understand that a victim was harmed and that they were responsible for that harm. Restitution payment, then, can help them internalize these feelings and subsequently reduce their likelihood of reoffending (Jacobs and Moore, 1994). Restitution payment could reduce recidivism risks because offenders are more likely to take responsibility in other aspects of their lives (Outlaw and Ruback, 1999). Consistent with these ideas, studies of both adults (Heinz, Galaway, and Hudson, 1976; Outlaw and Ruback, 1999; Ruback et al., 2004) and juveniles (Farrington and Welsh, 2005; Roy, 1995; Schneider, 1986; Shichor and Binder, 1982) have shown that paying restitution is more likely to be associated with lower recidivism rates than paying other sanctions. The proportion paid is particularly important, such that recidivism is more likely for offenders who pay a smaller proportion of their restitution owed (Jacobs and Moore, 1994; Outlaw and Ruback, 1999; Ruback et al., 2004). However, it should be noted that economic sanctions could have the opposite effect, in that the burdens imposed by economic sanctions (e.g., suspension of driving privileges for missed payments or credit damage; Bannon et al., 2010) might

interfere with an offender's ability to reenter society successfully after a conviction, thereby increasing the risk of recidivism.

Several offender and case characteristics affect the relationship between economic sanctions and recidivism. Outlaw and Ruback (1999) found that the negative relationship between restitution payment and rearrest was especially strong for married offenders, suggesting that restitution was more effective for individuals who were better integrated into the community. Consistent with this claim, the relationship between restitution payment and recidivism also was somewhat stronger among older offenders and employed offenders. Among juveniles, restitution and fines seem to be more effective at decreasing recidivism among first-time offenders than among repeat offenders (Kraus, 1974; Roy, 1995).

Current Study

The purpose of this study was to examine how juvenile economic sanctions are being used and what effect they have on juvenile recidivism. We focused on the imposition and payment of economic sanctions in general, as well as on the imposition and payment of restitution and fees more specifically. We analyzed restitution and fees separately because not all cases are eligible for restitution. For the analyses of restitution, we used a subset of restitution-eligible cases. To examine recidivism, we used four measures that represent varying degrees of seriousness:

- (1) Violations (i.e., any technical violation or new charge)
- (2) Technical violations (i.e., violations of the terms of one's sentence, such as curfew violations and failure to attend school)
- (3) New charges
- (4) Revocations

We also employed a fifth measure that focused on nonpayment of economic sanctions, which is a specific type of technical violation. Our recidivism measures accounted only for violations—both technical violations (e.g., curfew violations or failure to attend school) and new charges (e.g., arrests for theft or underage drinking)—that were known to the juvenile probation department.

We tested three separate hypotheses. First, we hypothesized that restitution should be imposed more often than other economic sanctions. In the juvenile justice system, the assumption is that the primary reasons for imposing economic sanctions are taking responsibility for the harm caused by crime and making restitution to the victim for that harm. If that assumption is true, then restitution should be imposed in every case for which it is appropriate (i.e., cases with an identifiable victim, other than the state, who suffered a quantifiable loss) and other factors (e.g., the juvenile's gender, the severity of the crime, and whether the juvenile came from a two-parent household) should not be relevant. Relatedly, we expected restitution to be imposed more often for property crimes, which are more

easily quantified, and for older juveniles, who are more likely to understand the purposes of restitution.

Second, we hypothesized that juveniles' ability to pay would affect the payment of economic sanctions. Specifically, we expected older juveniles to pay a greater percentage of their economic sanctions owed because they are more likely to be employed. Also, we expected the percentage paid to be greater among juveniles from two-parent than one-parent households because they are more likely to have help making payments (i.e., because parents or guardians often bear responsibility for their economic sanctions; Ruback and Bergstrom, 2006). In Pennsylvania, for example, parents or guardians might be required to make payments (of up to \$1,000 for one victim and one act or \$2,500 for more than one victim) for the actions of their children (Bender, King, and Torbet, 2006).³

Third, economic sanctions should decrease recidivism because they promote rehabilitation. Restitution payment, for example, encourages offenders to accept responsibility for their actions and repair the damage to the victim (Outlaw and Ruback, 1999). Also, it allows offenders to decrease their feelings of guilt and develop a more positive self-image (Maloney, Gilbeau, Hoffard, Remington, and Steenson, 1982). Consistent with these ideas, studies of both adults (Heinz et al., 1976; Outlaw and Ruback, 1999; Ruback et al., 2004) and juveniles (Farrington and Welsh, 2005; Roy, 1995; Schneider, 1986; Shichor and Binder, 1982) have found that paying restitution is associated with lower recidivism rates. Alternatively, as some (e.g., Harris et al., 2010) have argued, economic sanctions could increase juveniles' likelihood of recidivism because these sanctions would likely affect the total amount of money in the household, a sum that would especially impact poor families. However, the weight of evidence seems to favor payment reducing recidivism.

Method

To examine juvenile economic sanctions, we collected data from five counties in Pennsylvania, which were selected because they varied along four dimensions that we suspected would influence the use and effect of economic sanctions:

- (1) Population size
- (2) Annual caseload
- (3) Method used to collect economic sanctions
- (4) Geographic location⁴

3. One county examined in this study did not pursue payments from parents (i.e., parents were permitted, but not required, to make payments). If restitution was ordered, then the case was referred to the Victim Offender Reconciliation Program (VORP), which dealt with collection and payment of restitution. If VORP was unsuccessful, then the case was sent back to juvenile probation and the probation officer handled the collection of restitution.

4. The research discussed in this article was part of a larger project evaluating best practices in the imposition and payment of economic sanctions in Pennsylvania. For more information, see Ruback,

In terms of population size, counties A and B had relatively small populations (i.e., approximately 175,000), counties C and D had substantially larger populations (i.e., approximately 511,000), and county E had a population midway between the other counties (i.e., about 370,000). Annual caseloads varied closely with the population of the county; counties A and B handled fewer cases than the three other counties. In terms of the method of collecting economic sanctions, all the counties except A and E used specialized collections units.⁵ Finally, in terms of geographic location, county E is located in the western part of the state; county A is located in the middle of the state; and counties B, C, and D are located in the southeastern part of the state.

Data Collection

We recorded the following types of information about the juvenile cases in each county: offender characteristics (e.g., race, gender, and age), case characteristics (e.g., charge and conviction offenses, type of disposition, and sentence imposed), economic sanctions imposed and paid (e.g., fines, fees, costs, and restitution), and recidivism (e.g., technical violations, new charges, and revocations). Because multiple cases for the same juvenile often were handled together, the data we collected were not always specific to one juvenile case.

We collected data primarily from juvenile probation departments.⁶ When available, we examined both electronic and paper records. We had access to probation paper records in counties B, C, and D.⁷ In the remaining counties, we relied on probation electronic records, Clerk of Courts electronic and paper records, and Victim/Witness Services paper records. Probation paper records usually contained detailed information about offenders' backgrounds and living conditions. They also included mental health assessments, results of drug tests, and detailed victim information, including demographic information (e.g., gender) and information about the victim's participation in the criminal justice process (e.g., whether the victim submitted a victim impact statement). When probation paper records were available, we collected most of the desired background information.

Juvenile case records provided only general information about the imposition and payment of economic sanctions perhaps because economic sanctions were assessed relatively infrequently, especially in informally handled cases. For example, we found only the total amount of fees imposed rather than an itemized list of the specific types and amounts of fees imposed. Furthermore, information about different types of economic sanctions

Cares, et al. (2006). This report is available online at pcs.la.psu.edu/publications-and-research/research-and-evaluation-reports/special-reports/act-37-of-2007-economic-sanctions/evaluation-of-best-practices-in-restitution-and-victim-compensation-orders-and-payments-2005/view.

5. The specialized collections units handled only adult cases.
6. In county E, we collected information from only Clerk of Courts paper files.
7. Some probation paper records were missing because probation departments removed them when offenders reached a certain age (i.e., 18 to 21 years old) and were discharged from probation.

(e.g., fines and costs) often was combined. For this reason, the current study focused on total economic sanctions, restitution, and fees.

Sampling

Between June 2003 and October 2004, we collected data from juvenile cases docketed in the year 2000. We sampled cases from the year 2000 to ensure that they would have been resolved in terms of adjudication, sentencing would have occurred, the offender would have had some record of (non)payment, and there was sufficient time to measure recidivism. To draw the sample, first we identified the total number of juvenile cases from the year 2000. Then, we systematically sampled from all cases to create a sample of approximately 200 juvenile cases in each county. After merging the data across counties, the final sample consisted of 921 juvenile cases.

For the restitution analyses, we created a second data set that included only restitution-eligible cases (i.e., cases with an identifiable victim, other than the state, who suffered a quantifiable loss). Specifically, we limited the data to completed property and person crimes and excluded crimes described as attempts, conspiracies, or solicitations. The final sample for the restitution analyses consisted of 559 restitution-eligible cases.

Variables

Economic sanctions. We measured the imposition of juvenile economic sanctions in two ways. First, we included dichotomous indicators (coded “1” if yes) of whether economic sanctions (*economic sanctions imposed*), restitution (*restitution imposed*), and fees were imposed (*fees imposed*).⁸ *Economic sanctions imposed* was coded “1” if a juvenile was ordered to pay *any* restitution, fine, cost, or fee. Second, we included indicators (in dollars) of the *amount of economic sanctions ordered*, the *amount of restitution ordered*, and the *amount of fees ordered*. The *amount of economic sanctions ordered* represented the *total* amount of restitution, fines, costs, or fees a juvenile was ordered to pay. Because these variables were highly skewed, we normalized the data by using a log transformation of the amounts imposed.

We measured the payment of economic sanctions by computing the percentage paid (i.e., the amount paid divided by the amount ordered, multiplied by 100). Because payment information about specific individual economic sanctions was not available in all counties, we could not compute the percentage of fees paid. Instead, our analyses are limited to the *percentage of economic sanctions paid* and the *percentage of restitution paid*.

Recidivism. We included five dichotomous measures (coded “1” if yes) of recidivism. The first variable indicated whether a juvenile violated the conditions of his or her sentence

8. Although fines were listed separately across all five counties, they also were combined with costs in two counties. Because fines were listed separately in only 30 cases, we did not estimate separate models for fines. We reviewed the cases in which fines were imposed and they did not seem to be related to a specific county or type of offense. Because costs were not listed separately across counties, we also did not estimate separate models for costs.

(*violated*). Specifically, *violated* indicated whether a probation officer discovered that a juvenile committed a technical violation (i.e., a violation of the terms of his or her sentence) or was charged with a new crime. The second and third variables indicated whether a juvenile committed a technical violation (*technical violation*) or was charged with a new crime (*new charge*). Examples of technical violations include positive drug tests or admissions of drug use, curfew violations, and failure to attend school. The fourth variable, *nonpayment*, indicated whether a juvenile received a technical violation for failing to pay his or her economic sanctions. Our final variable indicated whether a juvenile's original sentence was revoked because of a technical violation or a new crime (*revoked*). As stated previously, our recidivism measures accounted only for known recidivism (i.e., technical violations or new charges that were reported or detected by the juvenile probation office). We also computed the juvenile's *time at risk* (in days) by subtracting the disposition date from the date we began our data collection in each county. *Time at risk* represented the number of days a juvenile was eligible to recidivate by committing a technical violation or new offense.

Offender characteristics. Our analyses predicting the use and effect of economic sanctions controlled for five measures of offender characteristics: gender (coded "1" for *male*), race (coded "1" for *White*), *age at sentencing* (in years), *substance use* (coded "1" for yes), and *two-parent household* (coded "1" for juveniles who lived with both biological parents or one biological parent and one stepparent).⁹ *Substance use* was coded "1" if a juvenile was adjudicated for an alcohol- or drug-related offense (e.g., driving under the influence [DUI] or possession of a small amount of marijuana), tested positive for illegal drugs, admitted using alcohol or illegal drugs, or committed a technical violation or was charged with a new offense related to alcohol or drugs. Substance use also was coded "1" if the probation department was notified by school or program staff about a juvenile's alcohol or drug use.

Case characteristics. We measured offense severity by including dummy variables for *summary* and *misdemeanor* offenses, with felony offenses serving as the reference group. Our measure of offense type included dummy variables for *property*, *person*, and *drug* crimes, with other crimes (e.g., traffic offenses) serving as the reference group. The type of disposition was coded "1" for *adjudicated delinquent* and "0" for all other dispositions. The type of sanction was coded "1" for *commitment* and "0" for probation or other sanctions.

Results

The study results begin with a description of the five counties included in our study. Next, we present the results of multivariate analyses predicting the imposition and payment

9. Although juvenile courts in Pennsylvania have jurisdiction over juveniles aged 10–17, those who are adjudicated delinquent might remain under juvenile court supervision until the age of 21. We deleted two cases from our data in which the juvenile's age was outside this range (i.e., one 8-year-old and one 26-year-old).

of economic sanctions.¹⁰ These analyses include logistic regression models predicting the imposition of economic sanctions and ordinary least squares (OLS) regression models predicting the amounts imposed and the percentages paid. Finally, we present the results of logistic regression models predicting known recidivism. To account for missing data on our independent variables, we used the *mi impute chained* procedure in Stata 12 (StataCorp, College Station, TX). Imputation models included both case and county contextual variables.

Description of the Sample

Table 1 describes our sample of 921 juvenile cases from five Pennsylvania counties. Most juveniles were male (78%) and White (79%) with a median age at sentencing of 16 years ($M = 15.52$). Most juveniles were charged with a misdemeanor (67%) and property offenses (38%) were the most common, followed by person offenses (26%), drug offenses (20%), and other offenses (17%).¹¹ More than half of juveniles were adjudicated delinquent (54%) and approximately one sixth were sentenced to commitment (16%). Less than half (43%) of juveniles reported substance use and 40% lived in a two-parent household.

Economic sanctions were imposed in 80% of cases. Fees were imposed in two thirds (66%) of cases, and restitution was imposed in one third (33%) of restitution-eligible cases. For those cases in which economic sanctions were imposed, the average total amount ordered was \$538.29 (median = \$191.80). The amount of restitution imposed ranged from \$2.25 to \$73,097.90 ($M = \$1,224.15$, median = \$248.33). The amount of fees imposed ranged from \$1.50 to \$2,588.17 ($M = \$157.71$, median = \$78.78). On average, juveniles paid 78% of their total economic sanctions owed and 77% of their restitution owed (by the date of data collection).

In terms of recidivism, nearly one third (31%) of juveniles violated the conditions of their sentence; juveniles were charged with a technical violation in 10% of cases and a new offense in 21% of cases. Of those juveniles who violated the conditions of their sentence, more than three quarters (78%; 23% of the entire sample) had their sentence revoked. The amount of time at risk ranged from 411 days to 1,628 days ($M = 1,199$ days, median = 1,210 days).

Regression Analyses

Imposition. Table 2 presents the results of logistic regression models predicting the imposition of economic sanctions, as well as the imposition of restitution and fees more

10. Because only five counties were included in this study, we did not include county-level controls in our models. However, to control for the fact that sentencing decisions are nested within different county courts, we used the *cluster procedure* available in Stata, which corrects for within-county correlated errors.

11. Type of offense was based on the most serious offense the juvenile committed.

T A B L E 1

Description of the Sample (N = 921)

Variables	Mean	Median	SD	Range
Economic Sanctions				
Economic sanctions imposed	0.80		0.40	0.00–1.00
Amount of economic sanctions ordered	\$538.29	\$191.80	\$3,096.35	\$1.50–\$73,486.97
Percentage of economic sanctions paid	77.58		39.31	0.00–100.00
Restitution imposed ^a	0.33		0.47	0.00–1.00
Amount of restitution ordered	\$1,224.15	\$248.33	\$5,872.20	\$2.25–\$73,097.90
Percentage of restitution paid	76.52		38.60	0.00–100.00
Fees imposed	0.66		0.48	0.00–1.00
Amount of fees ordered	\$157.71	\$78.78	\$295.74	\$1.50–\$2,588.17
Recidivism				
Violated	0.31		0.46	0.00–1.00
Revoked	0.78		0.41	0.00–1.00
Technical violation	0.10		0.30	0.00–1.00
New charge	0.21		0.41	0.00–1.00
Revoked	0.23		0.42	0.00–1.00
Nonpayment	0.03		0.17	0.00–1.00
Time at risk (in days)	1,198.56	1,209.50	204.59	411.00–1,628.00
Offender Characteristics				
Male	0.78		0.42	0.00–1.00
White	0.79		0.41	0.00–1.00
Age at sentencing (in years)	15.52	16.00	1.96	10.00–20.00
Substance use	0.43		0.50	0.00–1.00
Two-parent household	0.40		0.49	0.00–1.00
Case Characteristics				
Summary	0.08		0.27	0.00–1.00
Misdemeanor	0.67		0.47	0.00–1.00
Felony	0.25		0.43	0.00–1.00
Property	0.38		0.48	0.00–1.00
Person	0.26		0.44	0.00–1.00
Drug	0.20		0.40	0.00–1.00
Other crime	0.17		0.37	0.00–1.00
Adjudicated delinquent	0.54		0.50	0.00–1.00
Commitment	0.16		0.37	0.00–1.00

Notes. For all the variables except amount ordered, percentage paid, and time at risk, the means represent the proportion of the cases that were coded as yes. SD = standard deviation.

^aThe restitution figures were based on a subsample of the data that included only restitution-eligible cases (N = 559).

specifically. The latter models also controlled for the imposition of other economic sanctions. For example, the restitution models controlled for the imposition of fees (coded “1” if imposed) and the fees models controlled for the imposition of restitution.¹² Economic sanctions were more likely to be imposed for juveniles who were adjudicated delinquent

12. We also estimated models controlling for the imposition of fines, and the results were virtually identical.

TABLE 2

Logistic Regression Models Predicting the Imposition of Economic Sanctions

Variables	Economic Sanctions				Restitution ^b				Fees			
	Model 1		Model 2		Model 1		Model 2		Model 1		Model 2	
	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>
Economic Sanctions												
Restitution imposed	—	—	—	—	—	—	—	—	0.16	0.31	0.42	0.23
Fees imposed	—	—	—	—	0.52	0.35	0.76	0.34*	—	—	—	—
Offender characteristics												
Male	0.03	0.20	-0.05	0.19	0.59	0.29*	0.58	0.34	-0.30	0.12*	-0.32	0.08***
White	0.07	0.34	-0.01	0.41	-0.02	0.20	-0.19	0.26	0.62	0.35	0.69	0.53
Age at sentencing (in years)	0.05	0.06	0.08	0.10	0.14	0.09	0.11	0.08	0.08	0.05	0.09	0.07
Substance use	0.07	0.24	0.04	0.23	0.35	0.28	0.35	0.30	-0.20	0.34	-0.43	0.25
Two-parent household ^a	—	—	0.38	0.11***	—	—	0.04	0.29	—	—	0.25	0.12*
Case Characteristics												
Summary	-1.11	0.68	-1.10	0.80	-0.36	0.30	-0.23	0.28	-1.27	0.39***	-1.44	0.46**
Misdemeanor	-0.15	0.32	-0.10	0.37	-0.45	0.13***	-0.49	0.07***	-0.10	0.17	-0.03	0.14
Property	0.11	0.38	0.23	0.52	1.65	0.37***	1.50	0.30***	-0.48	0.32	-0.48	0.39
Person	-0.50	0.56	-0.36	0.63	—	—	—	—	-0.35	0.31	-0.31	0.30
Drug	-0.03	0.42	0.01	0.51	—	—	—	—	0.47	0.38	0.51	0.39
Adjudicated delinquent	2.29	0.47***	2.51	0.54***	-0.52	0.28	-0.76	0.28**	2.03	0.39***	2.19	0.47***
Commitment	-0.93	0.51	-1.10	0.45*	-0.08	0.70	0.22	0.80	-0.54	0.37	-0.63	0.40
Constant	-0.17	0.81	-0.82	1.22	-4.32	1.39**	-3.63	1.00***	-1.34	0.54*	-1.66	0.50***
<i>N</i>	779		619		477		377		779		619	

Note. *SE* = standard error.

^aBecause the type of household was not available in county A, analyses including this variable are based on four of the five counties included in our data.

^bThe restitution analyses were based on a subsample of the data that included only restitution-eligible cases (i.e., completed person and property crimes). In these models, the coefficient for property crimes is a comparison with person crimes rather than with other crimes.

* $p < .05$. ** $p < .01$. *** $p < .001$.

and for juveniles from two-parent households. Juveniles sentenced to commitment (as compared with probation and other juvenile sanctions) were less likely to have economic sanctions imposed, but only after controlling for two-parent household.

Regarding specific types of economic sanctions, the results were somewhat different. Restitution was significantly more likely to be imposed for felonies (compared with misdemeanors), for property crimes (compared with person crimes), and for males (although

the effect of gender disappeared after two-parent household was included in the model).¹³ Controlling for the type of household, restitution also was more likely to be imposed in cases where the juvenile was not adjudicated delinquent and in cases where fees were imposed. Fees were more likely to be imposed for females, for felony offenses (compared with summary offenses), for juveniles who were adjudicated delinquent, and for juveniles from two-parent households.

Amount imposed. Table 3 presents the results of the OLS regression models predicting the amount of economic sanctions imposed. The total amount of economic sanctions imposed was significantly greater for felonies (compared with misdemeanors), and the amount of fees imposed was significantly greater for Whites, but these effects disappeared after controlling for two-parent household. The amount of restitution imposed was greater for felonies (compared with summaries) and, after controlling for two-parent household, for juveniles who were adjudicated delinquent.¹⁴

Percentage paid. The results (not presented) of our OLS regression models predicting the percentage of total economic sanctions paid show that none of our predictors were significant, possibly because the total economic sanctions variable conflates serious and less serious crimes and restitution-eligible and non-restitution-eligible cases. Regarding restitution, the percentage paid was greater for juveniles who committed summary offenses compared with felony offenses probably because it was easier for juveniles to pay the smaller amounts of restitution imposed for the less serious crimes.

Recidivism. Our recidivism models, presented in Table 4, were based on only those cases in which economic sanctions were imposed. The results show that violations were more likely for non-Whites, substance users, and juveniles who committed felonies (compared with misdemeanors). New charges were more likely for non-Whites, younger juveniles, and substance users. Juveniles from two-parent households were less likely to have new charges. Technical violations (results not presented) were more likely for juveniles sentenced to commitment, but this effect disappeared after controlling for two-parent household.

Our revocation models were based on only those cases in which economic sanctions were imposed and juveniles violated the conditions of their sentence. Among these juveniles, revocations were more likely for those who were younger, substance users, those who committed misdemeanors (compared with felonies), and those who committed other crimes (compared with person crimes). Revocations were somewhat less likely among those who

13. Because the restitution analyses were based on a subsample of the data that included only restitution-eligible cases, the reference category was person crimes.

14. We also employed the user-written command *mibeta* to estimate measures of *R*-squared for these models. A similar command for the logistic regression models was unavailable. The OLS models explained, at most, 10% of the variance in the total amount of economic sanctions imposed, 20% of the variance in the amount of restitution imposed, and 6% of the variance in the amount of fees imposed. The low *R*-squared values for the fees models, in particular, indicate that we are missing factors that contribute to the imposition of these economic sanctions.

TABLE 3

OLS Regression Models Predicting the Amount of Economic Sanctions Imposed (Log Transformed)

Variables	Economic Sanctions				Restitution ^b				Fees			
	Model 1		Model 2		Model 1		Model 2		Model 1		Model 2	
	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>
Economic Sanctions												
Restitution imposed	—	—	—	—	—	—	—	—	-0.07	0.12	-0.01	0.15
Fees imposed	—	—	—	—	0.16	0.21	-0.06	0.42	—	—	—	—
Offender Characteristics												
Male	0.07	0.10	0.09	0.09	-0.12	0.14	0.15	0.17	0.09	0.08	0.16	0.05
White	-0.03	0.11	-0.18	0.09	0.12	0.35	0.40	0.18	0.54	0.10*	0.45	0.11
Age at sentencing (in years)	0.08	0.03	0.08	0.04	0.08	0.04	0.11	0.05	0.03	0.03	0.02	0.03
Substance use	-0.19	0.08	-0.19	0.09	-0.27	0.33	-0.56	0.36	-0.24	0.10	-0.26	0.07
Two-parent household ^a	—	—	0.15	0.05	—	—	-0.10	0.22	—	—	0.02	0.09
Case Characteristics												
Summary	-0.38	0.37	0.12	0.24	-2.19	0.47*	-1.93	0.22*	-0.40	0.38	0.03	0.20
Misdemeanor	-0.34	0.09*	-0.22	0.07	-0.33	0.27	-0.08	0.32	-0.002	0.16	0.10	0.19
Property	0.04	0.33	0.41	0.15	0.79	0.46	0.91	0.57	-0.41	0.20	-0.22	0.17
Person	-0.57	0.38	-0.16	0.12	—	—	—	—	-0.56	0.33	-0.22	0.15
Drug	-0.64	0.39	-0.20	0.22	—	—	—	—	-0.55	0.28	-0.16	0.15
Adjudicated delinquent	0.22	0.26	0.03	0.18	0.74	0.24	0.62	0.13*	-0.05	0.36	-0.17	0.45
Commitment	-0.11	0.15	-0.02	0.19	-0.57	0.27	-0.86	0.24	0.26	0.09	0.24	0.08
Constant	4.25	0.59**	3.98	0.72*	3.53	0.43**	2.99	0.93	3.84	0.52**	3.75	0.61*
<i>N</i>	622		491		156		114		508		406	
<i>R</i> ²	0.10		0.08		0.17		0.20		0.06		0.04	

Note. *SE* = standard error.

^aBecause the type of household was not available in county A, analyses including this variable are based on four of the five counties included in our data.

^bThe restitution analyses were based on a subsample of the data that included only restitution-eligible cases (i.e., completed person and property crimes). In these models, the coefficient for property crimes is a comparison with person crimes rather than with other crimes.

* $p < .05$. ** $p < .01$.

paid a greater percentage of their total economic sanctions. To examine whether certain types of violations were more likely to result in revocations, we also estimated a model controlling for nonpayment (i.e., for technical violations based on juveniles' failure to pay their economic sanctions). The results showed that revocations were less likely for older juveniles and for juveniles who had technical violations for nonpayment.¹⁵

15. We also estimated our revocation models based on all juveniles with economic sanctions imposed (regardless of whether they violated the conditions of their sentence). Among these juveniles, revocations were more likely for non-Whites and for younger juveniles. Controlling for violations for

T A B L E 4

Logistic Regression Models Predicting Recidivism Among Juveniles with Economic Sanctions Imposed

Variables	Violated				New Charge			
	Model 1		Model 2		Model 1		Model 2	
	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>
Economic Sanctions								
Percentage of economic sanctions paid	-0.0004	0.004	-0.002	0.004	0.001	0.004	0.0004	0.004
Recidivism								
Nonpayment	—	—	—	—	—	—	—	—
Time at risk (in days)	-0.001	0.001	-0.001	0.001	-0.001	0.0003**	-0.001	0.0003*
Offender Characteristics								
Male	0.49	0.35	0.60	0.35	0.71	0.62	0.91	0.68
White	-0.83	0.28**	-0.83	0.30**	-0.74	0.26**	-0.66	0.32*
Age at sentencing (in years)	-0.21	0.11	-0.18	0.11	-0.28	0.10**	-0.26	0.10**
Substance use	0.92	0.42*	0.90	0.42*	1.01	0.43*	0.96	0.42*
Two-parent household ^a	—	—	-0.12	0.12	—	—	-0.29	0.07***
Case Characteristics								
Summary	-0.37	0.28	-0.39	0.41	-0.83	0.61	-0.76	0.43
Misdemeanor	-0.37	0.14**	-0.51	0.16***	-0.28	0.22	-0.42	0.25
Property	0.11	0.42	0.27	0.40	-0.03	0.27	0.20	0.22
Person	-0.07	0.50	0.05	0.51	-0.37	0.29	-0.14	0.25
Drug	-0.16	0.25	-0.06	0.36	-0.10	0.23	0.17	0.16
Adjudicated delinquent	-0.22	0.17	-0.39	0.22	0.03	0.37	-0.18	0.40
Commitment	0.39	0.21	0.34	0.24	0.13	0.21	0.17	0.27
Constant	3.38	2.92	3.07	2.77	3.73	1.63*	3.25	1.33*
<i>N</i>	356		335		356		335	
					Revocation^b			
Variables	Model 1		Model 2		Model 3			
	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>		
Economic Sanctions								
Percentage of economic sanctions paid	-0.02	0.01**	-0.02	0.01**	—	—		
Recidivism								
Nonpayment	—	—	—	—	-1.63	0.73*		
Time at risk (in days)	-0.01	0.001***	-0.01	0.001***	-0.003	0.0004***		
Offender Characteristics								
Male	-0.08	1.43	-0.05	1.40	0.27	0.58		
White	0.18	0.75	0.22	0.74	0.28	0.36		
Age at sentencing (in years)	-0.69	0.13***	-0.67	0.12***	-0.47	0.08***		
Substance use	0.69	0.31*	0.69	0.31*	-0.42	0.51		
Two-parent household ^a	—	—	-0.25	0.17	-0.18	0.30		
Case Characteristics								
Summary	-2.06	2.07	-2.07	2.10	0.27	1.41		

Continued

TABLE 4

Continued

Variables	Revocation ^b					
	Model 1		Model 2		Model 3	
	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>
Misdemeanor	0.97	0.28***	1.00	0.28***	0.34	0.25
Property	-0.17	0.38	-0.17	0.34	-0.06	0.70
Person	-1.42	0.54**	-1.36	0.52**	-0.89	0.97
Drug	1.07	0.66	1.10	0.72	1.30	0.91
Adjudicated delinquent	0.61	0.69	0.58	0.70	-0.25	0.52
Commitment	-0.10	0.66	-0.13	0.65	0.46	0.50
Constant	20.31	3.69***	20.07	3.53***	12.22	2.98***
<i>N</i>	132		129		163	

Note. *SE* = standard error.

^aBecause the type of household was not available in county A, analyses including this variable are based on four of the five counties included in our data.

^bThe revocation models were based on only those juveniles who violated the conditions of their sentence.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Summary of Results

In sum, the results showed that restitution was not being imposed when it should be (i.e., in all restitution-eligible cases) and that offender and case characteristics mattered more for whether economic sanctions were imposed than for the amounts that were imposed or the proportions that were paid. In terms of known recidivism, juveniles who paid a larger proportion of their economic sanctions were less likely to have their probation revoked. Revocations also were less likely for juveniles who were violated for nonpayment. Payment of economic sanctions had no effect on our other measures of recidivism (i.e., violations [in general], technical violations, or new charges). Taken together, the recidivism analyses suggest that economic sanctions mattered more for *how* violations were handled (i.e., whether the juvenile's sentence was revoked) than for *whether* juveniles violated the conditions of their sentence.

Discussion

The purpose of this study was to examine how juvenile economic sanctions are being used and what effect they have on juvenile recidivism. Our analysis of 921 juvenile cases in five counties in Pennsylvania revealed that economic sanctions were imposed in 80% of the

nonpayment, revocations were more likely for males, for non-Whites, for younger juveniles, for substance users, and for juveniles sentenced to commitment. Revocations also were more likely for juveniles who violated their sentence by failing to pay their economic sanctions.

cases. Contrary to expectations, restitution was imposed in only 33% of restitution-eligible cases, whereas fees to cover the cost of administering justice were imposed in 66% of cases. This finding could reflect the possibility that, by the time of sentencing, stolen property had been returned or the juvenile had already made restitution, thereby negating the need for a restitution order. However, this information was not consistently available in our data. Another possibility is that restitution was not ordered because of a lack of victim participation (e.g., because the victim did not return phone calls or paperwork, did not want to be involved, or could not be found).

Although Pennsylvania's juvenile justice system is based on the principles of balanced and restorative justice (BARJ; Seyko, 2001), which maintain that crime is about harm and the justice process is about repairing that harm in a way that balances the needs of the victim, the community, and the offender (Bazemore and Umbreit, 1999), the results showed that restitution is not being imposed when it should be (i.e., in all restitution-eligible cases). This finding suggests that juveniles' accountability to *communities* (in the form of fees) might matter more to the court than their accountability to *victims* (in the form of restitution). This finding is consistent with research on adults (Rosenmerkel et al., 2009) and suggests that the juvenile justice system might be becoming more like the adult system.

Given that restitution is not being imposed in all restitution-eligible cases, we also were interested in the predictors of imposition. Contrary to expectations, restitution was more likely to be imposed for felonies (compared with misdemeanors) and for males (but this effect disappeared after including two-parent household in the model). That the seriousness of the crime and the gender of the juvenile mattered suggests that the decision to impose restitution, like other sentencing decisions, is contingent rather than automatic (i.e., despite being mandatory, restitution is not being imposed in all restitution-eligible cases). The amount of restitution imposed was greater for felonies (compared with summaries) and, controlling for two-parent household, for juveniles who were adjudicated delinquent.

Regarding fees, the results showed that they were more likely to be imposed for females, felonies (compared with summaries), juveniles who were adjudicated delinquent, and juveniles from two-parent households. The latter finding suggests that judges are considering juveniles' ability to pay when deciding whether to impose fees. In other words, judges could have assumed that juveniles from two-parent households were more likely to have assistance paying their economic sanctions. Judges might have considered ability to pay because economic sanctions are a source of revenue and they did not want to impose sanctions that were unlikely to be paid. Alternatively, judges might have considered ability to pay because they believed it was unfair to impose economic sanctions on juveniles they knew could not pay. The ability to pay might have mattered less for restitution because even symbolic restitution (i.e., restitution that is ordered and never paid) matters to victims, likely because people often care more about procedures than about outcomes (Lind and Tyler, 1988).

The finding that fees were more likely to be imposed for felonies and for juveniles who were adjudicated delinquent is consistent with the rationale that economic sanctions are punitive. That is, judges were more likely to impose fees in cases where the offense and offender were considered more serious. Taken together, these findings suggest that future research should examine judges' reasons for imposing economic sanctions, especially in juvenile cases. Studies in Australia (McFarlane and Poletti, 2007) and Israel (Einat, 2008) have examined judges' rationales for imposing economic sanctions, but the U.S. context likely differs in important ways. For example, fines in the United States are less likely than those in Europe to be determined primarily by offense seriousness and the offender's daily income (Harris, Evans, and Beckett, 2011).

Regarding recidivism, the results showed that revocations (our most serious measure of known recidivism) were less likely among those who paid a greater percentage of their total economic sanctions. The negative relationship between recidivism and payment might reflect juveniles' greater awareness of the wrongfulness of their actions (i.e., those who pay a greater percentage of their total economic sanctions seem to have taken more responsibility for the harm to the victim), thereby reducing their likelihood of committing future offenses. Although payment had no effect on whether juveniles violated the conditions of their sentence, it might demonstrate at least some level of accountability and therefore reduce the likelihood that their sentence will be revoked.¹⁶ Alternatively, the percentage of economic sanctions paid might have had more to do with the socioeconomic status of the juveniles and their families. In other words, juveniles who paid a greater percentage of their economic sanctions might have come from families with greater means to pay and might have been less likely to recidivate in the first place. Although we could not control for measures of socioeconomic status like annual income, we did control for type of household, which might account for some of juveniles' ability to pay (i.e., juveniles from two-parent households might have been more likely than juveniles from one-parent households to have assistance paying their economic sanctions). Our analyses were limited to the payment of total economic sanctions, but future research should examine whether the payment of restitution matters more than the payment of other economic sanctions.

Given the significance of payment on some measures of recidivism, it is important to acknowledge the role of parents in juvenile cases. The relationship between payment and recidivism might differ for juveniles because parents might help them make restitution payments. According to Roy (1995), for example, parental involvement likely improves compliance with restitution orders, but it also might interfere with the juvenile's perceptions of accountability and responsibility. If there is interference, then restitution might be less likely to reduce recidivism rates. If juveniles are too young to work, Roy (1995) suggested

16. Although juveniles who do not recidivate might pay more because they have more time to pay, our analyses accounted for this possibility by controlling for time at risk. Another important variable to include in future studies is juveniles' prior record, but this information was not available in our data.

they be allowed to complete community service restitution rather than be ordered to pay monetary restitution. For juveniles, then, it is not only payment of economic sanctions that matters but also *who* is responsible for making those payments. In the current study, we could not identify who was responsible for the payment of economic sanctions, but this question would be important for future research. The effect of payment on recidivism is likely to be stronger for juveniles who are personally responsible for making payments. One rationale for restitution is that offenders learn they are personally responsible for the harm to the victim. Just as lump-sum monthly payments that include all of their economic sanctions undermine this rationale (Ruback and Bergstrom, 2006), so, too, could having others pay their economic sanctions.

Implications

Economic sanctions have three implications for rehabilitation. First, using community service for which juveniles received an hourly stipend would be one way for them to learn about restorative justice. Encouraging juveniles to acknowledge the relationship between hours worked and dollars earned could reinforce the amount of harm to the victim they caused and their responsibility for repairing that harm. Policy makers would need to consider, however, whether community service should be optional or mandatory. If optional, then wealthier juveniles might not experience the restorative aspects of community service because they would be able to pay off their economic sanctions without having to work. If mandatory, however, then all juveniles could experience the same benefits. Second, because parents are likely the ones who pay the economic sanctions imposed on the juvenile, focusing on economic sanctions might be one method of involving the family in rehabilitating the juvenile (e.g., by creating a dialogue between parents and their children about the harm they caused). Third, one way to make restitution more effective might be to separate its payment from other economic sanctions. The significance of restitution (in terms of both its imposition and payment) might be less obvious to juveniles if it is lumped in with other economic sanctions. Requiring juveniles to make separate restitution payments could reinforce their accountability to the victim. Moreover, ordering restitution as part of victim–offender mediation (the approach taken by one county in our study) also might emphasize the importance of restitution over other types of economic sanctions.

Limitations and Future Research

One limitation of this study is that we found little or no information about juveniles' economic situation (e.g., employment status or monthly income) or about who (i.e., juveniles or their parents/guardians) paid their economic sanctions. Although we know from studies of adults (e.g., Ruback, Hoskins, et al., 2006) that ability to pay is important, juveniles are likely similar to each other in their (in)ability to pay, and therefore, the absence of this information might not be as problematic.

A second limitation of this study is that although our recidivism measures capture important information about juveniles' behavior after becoming involved with the juvenile justice system, information about recidivism after the age of 18 (or after the age of 21 if adjudicated delinquent prior to the age of 19) was not included in our data.

A third limitation is that we did not investigate the effects of community contextual factors on economic sanctions. However, contextual analyses were not possible because only five counties were included in this study. Our conversations with staff members in each county revealed considerable differences in how economic sanctions are handled, both within and between counties. For example, there were differences in the types and amounts of economic sanctions imposed, as well as what was termed a "cost" or a "fee." Differences across counties in how well the BARJ philosophy is carried out also are likely. For example, one study attributed the success of BARJ efforts in Allegheny County (Pittsburgh), PA to the stability of the court administration and the stability and involvement of community organizations (Seyko, 2001).

Finally, apart from the imposition and payment of economic sanctions, we did not include other commonly used measures of accountability (e.g., community service ordered and completed, victim awareness classes ordered and completed, and apology letters written; see Bender et al., 2006). Although restitution accomplishes the goal of making reparation to the victim for any economic losses suffered as a result of the crime, it does not address the broader goals of healing the victim and transforming the offender (Lawson and Katz, 2004). To assess the efficacy of restorative justice policies and programs more accurately, future research should include measures that capture the full range (both monetary and nonmonetary) of restorative justice goals.

Conclusion

Given that restorative justice approaches have been shown to be more effective than other, more punitive, approaches (Latimer, Dowden, and Muise, 2005; Walgrave, 2004), it is important to ensure that economic sanctions, particularly restitution, are being imposed. The finding that economic sanctions were imposed in 80% of the cases in our sample suggests that courts support the use of these sanctions for juveniles. Perhaps courts have prioritized the wrong types of economic sanctions, however. Although fees were imposed in 66% of cases, restitution was imposed in only 33% of restitution-eligible cases.

As the criminal and juvenile justice systems move toward less punitive sanctions, particularly for juveniles, it is important that policy makers consider how best to use economic sanctions. If economic sanctions like restitution have the greatest impact—on both offenders and victims (or even communities in the form of community service restitution)—then attention should be focused on how and when these sanctions are imposed and paid. Although payment only slightly reduced the risk of recidivism, it might have other effects (on victims and on communities) that are not measured in this study. Furthermore, a greater reliance on restitution for a wider variety of crimes might be particularly beneficial

for juveniles. This approach could appeal to policy makers because it represents a more cost-effective way of punishing (and rehabilitating) offenders. Juvenile courts might want to consider the day fines approach, popular in Europe and piloted in the United States with some success (Turner and Greene, 1999), which considers both the severity of the offense and the offender's ability to pay when making decisions about the imposition of economic sanctions.

An important consideration regarding economic sanctions is their implications for criminal justice policy, both *theoretically* and *practically*. One benefit of economic sanctions is that they serve multiple goals, from punishment to rehabilitation. It is unclear, however, whether these goals are met and whether they are relevant to both adults and juveniles. For example, the extent to which economic sanctions are "punitive" could differ for adults and juveniles, especially if juveniles are more likely to have assistance paying them. The logic underlying the use of economic sanctions might be developed more fully in the adult than in the juvenile justice system. Although restitution is consistent with the juvenile justice system's focus on rehabilitation and restorative justice, the purpose of other economic sanctions (i.e., costs, fees, and fines) is less clear, and therefore, efforts to extend them to juveniles might be unwarranted. The use of these sanctions could be more consistent with efforts to make the juvenile justice system more like the adult criminal justice system than with efforts regarding how best to serve juveniles. It is also a concern that economic sanctions other than restitution have not been shown to lower recidivism consistently, at least among adults. For example, studies have found that the use of fines for adult traffic offenses did not impact recidivism (Moffatt and Poynton, 2007; Weatherburn and Moffatt, 2011).

Practically, then, there are concerns that economic sanctions might function more as a source of revenue for various criminal justice agencies. This could be particularly true for certain types of offenses, like DUI, which tend to have relatively high amounts of economic sanctions imposed that are paid quickly. In Pennsylvania, for example, there was less variation in the number and amount of economic sanctions imposed in DUI cases because many fines and costs were mandatory. DUI offenders eligible for an accelerated rehabilitative disposition might have been more motivated to pay their economic sanctions because, after completing a safe driver course and paying their economic sanctions, they could apply to have their record expunged (Ruback, Cares, et al., 2006).

One issue still open regarding economic sanctions for juveniles relates to whether judges should take the offender's ability to pay into account. If judges do not and the amounts of economic sanctions are too high for juveniles to pay in a reasonable amount of time or before they age out of juvenile supervision, then the rehabilitative potential of the sanctions is reduced. In contrast, if judges do take into account the ability to pay, then crime victims are unlikely to receive the recompense they are owed or even the satisfaction of receiving the token benefit of the court order, even if it will never be paid (Haynes, Cares, and Ruback, 2013).

Finally, there is the question of what should be done about juvenile economic sanctions debt once juveniles “age out” of juvenile supervision. Should juveniles be allowed to start over with a clean slate when they become adults? Evidence from other countries suggests that debt follows offenders from the juvenile to the adult system (Martire, Sunjic, Topp, and Indig, 2011). The counties in the current study had varied approaches to this issue. One county, which had a specialized economic sanctions unit, would try to collect on the juvenile economic sanctions debt of any adult offenders who later appeared on their caseload. Another county referred all unpaid juvenile cases to adult probation after the juvenile turned 18 years-old, so that adult probation could continue to try to collect the money. A third county did not pursue payment beyond age 18.

In sum, this study highlights the importance of evaluating best practices related to juvenile economic sanctions. Although economic sanctions are an alternative to traditional punishments that offer numerous benefits to juveniles, they might not be living up to their promise. For example, restitution is not being imposed when it should be. Furthermore, payment of economic sanctions reduces only slightly the likelihood that a juvenile’s probation will be revoked. Future research will need to examine whether economic sanctions actually are restorative and what impact they have on victims and on the criminal justice system more generally. It could be that restitution cannot work in isolation. As suggested, juveniles might benefit from understanding how the amount of restitution owed was calculated and from separating the payment of restitution from other economic sanctions. Furthermore, restitution might be more successful if it is combined with other restorative approaches, like victim–offender mediation.

References

- Bannon, Alicia, Mitali Nagrecha, and Rebekah Diller. 2010. *Criminal Justice Debt: A Barrier to Reentry*. New York: Brennan Center for Justice.
- Bazemore, Gordon and Mark Umbreit. 1999. Conferences, circles, boards, and mediations: Restorative justice and citizen involvement in the responses to youth crime (Grant No. 95-JN-FX-0024). Washington, DC: Office of Juvenile Justice and Delinquency Prevention, U.S. Department of Justice.
- Beckett, Katherine and Alexes Harris. 2011. On cash and conviction: Monetary sanctions as misguided policy. *Criminology & Public Policy*, 10: 509–537.
- Bender, Valerie, Melanie King, and Patricia Torbet. 2006. *Advancing Accountability: Moving Toward Victim Restoration*. Pittsburgh, PA: National Center for Juvenile Justice.
- Bernard, Thomas J. and Megan C. Kurlychek. 2010. *The Cycle of Juvenile Justice*, 2nd Edition. New York: Oxford University Press.
- Bishop, Donna M. 2006. Public opinion and juvenile justice policy: Myths and misconceptions. *Criminology & Public Policy*, 5: 653–664.
- Bishop, Donna M. 2012. Evidence-based practice and juvenile justice. *Criminology & Public Policy*, 11: 483–489.

- Bullock, Karen. 2010. Enforcing financial penalties: The case of confiscation orders. *Howard Journal of Criminal Justice*, 49: 328–339.
- Chapman, Bruce, Arie Freiberg, John Quiggin, and David Tait. 2004. Using the tax system to collect fines. *Australian Journal of Public Administration*, 63: 20–32.
- Cullen, Francis T., Bonnie S. Fisher, and Brandon K. Applegate. 2000. Public opinion about punishment and corrections. In (Michael H. Tonry, ed.), *Crime and Justice: A Review of Research*. Chicago, IL: University of Chicago Press.
- Davis, Robert C., Barbara Smith, and Susan Hillenbrand. 1991. Increasing offender compliance with restitution orders. *Judicature*, 74: 245–248.
- Einat, Tomer. 2004. Criminal fine enforcement in Israel: Administration, policy, evaluation and recommendations. *Punishment & Society*, 6: 175–194.
- Einat, Tomer. 2008. Sentencing rationales, judicial discretion, and the practice of criminal fines in Israel. *Journal of Criminal Justice*, 36: 444–452.
- Farrington, David P. and Brandon C. Welsh. 2005. Randomized experiments in criminology: What have we learned in the last two decades? *Journal of Experimental Criminology*, 1: 9–38.
- Gordon, Margaret A. and Daniel Glaser. 1991. The use and effects of financial penalties in municipal courts. *Criminology*, 29: 651–676.
- Harris, Alexes, Heather Evans, and Katherine Beckett. 2010. Drawing blood from stones: Legal debt and social inequality in the contemporary United States. *American Journal of Sociology*, 115: 1753–1799.
- Harris, Alexes, Heather Evans, and Katherine Beckett. 2011. Courtesy stigma and monetary sanctions: Toward a socio-cultural theory of punishment. *American Sociological Review*, 76: 234–264.
- Haynes, Stacy Hoskins. 2011. The effects of victim-related contextual factors on the criminal justice system. *Crime & Delinquency*, 57: 298–328.
- Haynes, Stacy Hoskins, Alison C. Cares, and R. Barry Ruback. 2013. Reducing the harm of criminal victimization: The role of restitution. Unpublished manuscript, Mississippi State University.
- Haynes, Stacy Hoskins, R. Barry Ruback, and Gretchen Ruth Cusick. 2010. Courtroom workgroups and sentencing: The effects of similarity, proximity, and stability. *Crime & Delinquency*, 56: 126–161.
- Heinz, Joe, Burt Galaway, and Joe Hudson. 1976. Restitution or parole: A follow-up study of adult offenders. *Social Science Review*, 50: 148–156.
- Jacobs, Susan and David C. Moore. 1994. Successful restitution as a predictor of juvenile recidivism. *Juvenile & Family Court Journal*, 45: 3–14.
- Kraus, J. 1974. The deterrent effect of fines and probation on male juvenile offenders. *Australian & New Zealand Journal of Criminology*, 7: 231–240.
- Kurlychek, Megan C. and Brian D. Johnson. 2010. Juvenility and punishment: Sentencing juveniles in adult criminal court. *Criminology*, 48: 725–758.

- Latimer, Jeff, Craig Dowden, and Danielle Muise. 2005. The effectiveness of restorative justice practices: A meta-analysis. *The Prison Journal*, 85: 127–144.
- Lawson, Catherine L. and JoAnne Katz. 2004. Restorative justice: An alternative approach to juvenile crime. *The Journal of Socio-Economics*, 33: 175–188.
- Levingston, Kirsten D. 2008. Making the bad guy pay: The growing use of cost shifting as an economic sanction. *Prison Legal News*, April.
- Lind, E. Allan and Tom R. Tyler. 1988. *The Social Psychology of Procedural Justice*. New York: Plenum Press.
- Listwan, Shelley Johnson, Cheryl Lero Jonson, Francis T. Cullen, and Edward J. Latessa. 2008. Cracks in the penal harm movement: Evidence from the field. *Criminology & Public Policy*, 7: 423–465.
- Mackie, Alan, John Raine, John Burrows, Matt Hopkins, and Eileen Dunstan. 2003. *Clearing the Debts: The Enforcement of Financial Penalties in Magistrates' Courts*. London, U.K.: Home Office.
- Maloney, Dennis, Donna Gilbeau, Merry Hoffard, Cal Remington, and David Steenson. 1982. Combining common sense and solid research to build an effective program. *New Designs for Youth Development*, 3: 3–8.
- Martire, Kristy, Sandra Sunjic, Libby Topp, and Devon Indig. 2011. Financial sanctions and the justice system: Fine debts among New South Wales prisoners with a history of problematic substance use. *Australian & New Zealand Journal of Criminology*, 44: 258–271.
- Matthews, Roger. 2005. The myth of punitiveness. *Theoretical Criminology*, 9: 175–201.
- McFarlane, Katherine and Patrizia Poletti. 2007. *Judicial Perceptions of Fines as a Sentencing Option: A Survey of NSW Magistrates*. Sydney, New South Wales (NSW), Australia: NSW Sentencing Council.
- McLean, Rachel L. and Michael D. Thompson. 2007. *Repaying Debts*. New York: Council of State Governments Justice Center.
- Mears, Daniel P., Tracey L. Shollenberger, Janeen B. Willison, Colleen E. Owens, and Jeffrey A. Butts. 2010. Practitioner views of priorities, policies, and practices in juvenile justice. *Crime & Delinquency*, 56: 535–563.
- Ministry of Justice. 2010. *Sentencing Statistics: England and Wales 2009*. London, U.K.: Author.
- Moffatt, Steve and Suzanne Poynton. 2007. *The Deterrent Effect of Higher Fines on Recidivism: Driving Offences*. Sydney, New South Wales (NSW), Australia: NSW Bureau of Crime Statistics and Research.
- Mullaney, Fahy G. 1988. *Economic Sanctions in Community Corrections*. Washington, DC: National Institute of Corrections.
- Nagin, Daniel S., Alex R. Piquero, Elizabeth S. Scott, and Laurence Steinberg. 2006. Public preferences for rehabilitation versus incarceration of juvenile offenders: Evidence from a contingent valuation survey. *Criminology & Public Policy*, 5: 627–652.
- National Center for Victims of Crime. 2011. *Making Restitution Real: Five Case Studies on Improving Restitution Collection*. Washington, DC: Author.

- Olson, David E. and Gerard F. Ramker. 2001. Crime does not pay, but criminals may: Factors influencing the imposition and collection of probation fees. *Justice System Journal*, 22: 29–46.
- Outlaw, Maureen C. and R. Barry Ruback. 1999. Predictors and outcomes of victim restitution orders. *Justice Quarterly*, 16: 847–869.
- Raine, John, Eileen Dunstan, and Alan Mackie. 2003. Financial penalties as a sentence of the court: Lessons for policy and practice from research in the magistrates' courts of England and Wales. *Criminal Justice*, 3: 181–197.
- Raine, John, Eileen Dunstan, and Alan Mackie. 2004. Financial penalties: Who pays, who doesn't, and why not? *Howard Journal of Criminal Justice*, 43: 518–538.
- Rosenberg, Tina. 2011. Paying for their crimes, again. *New York Times Opinionator*. Retrieved June 6, 2011 from opinionator.blogs.nytimes.com/2011/06/06/paying-for-their-crimes-again/.
- Rosenmerkel, Sean, Matthew Durose, and Donald Farole. 2009. *Felony Sentences in State Courts, 2006—Statistical Tables* (NCJ 226846). Washington, DC: Bureau of Justice Statistics, U.S. Department of Justice.
- Roy, Sudipto. 1995. Juvenile restitution and recidivism in a midwestern county. *Federal Probation*, 59: 55–62.
- Ruback, R. Barry. 2011. The abolition of fines and fees: Not proven and not compelling. *Criminology & Public Policy*, 10: 569–581.
- Ruback, R. Barry and Mark H. Bergstrom. 2006. Economic sanctions in criminal justice: Purposes, effects, and implications. *Criminal Justice and Behavior*, 33: 242–273.
- Ruback, R. Barry, Alison C. Cares, and Stacy N. Hoskins. 2006. *Evaluation of Best Practices in Restitution and Victim Compensation Orders and Payment*. Harrisburg: Pennsylvania Commission on Crime and Delinquency.
- Ruback, R. Barry and Valerie Clark. 2011. Economic sanctions in Pennsylvania: Complex and inconsistent. *Duquesne Law Review*, 49: 751–772.
- Ruback, R. Barry, Stacy N. Hoskins, Alison C. Cares, and Ben Feldmeyer. 2006. Perception and payment of economic sanctions: A survey of offenders. *Federal Probation*, 70: 26–31.
- Ruback, R. Barry, Gretchen R. Ruth, and Jennifer N. Shaffer. 2005. Assessing the impact of statutory change: A statewide multilevel analysis of restitution orders in Pennsylvania. *Crime & Delinquency*, 51: 318–342.
- Ruback, R. Barry and Jennifer N. Shaffer. 2005. The role of victim-related factors in victim restitution: A multi-method analysis of restitution in Pennsylvania. *Law and Human Behavior*, 29: 657–681.
- Ruback, R. Barry, Jennifer N. Shaffer, and Melissa A. Logue. 2004. The imposition and effects of restitution in four Pennsylvania counties: Effects of size of county and specialized collection units. *Crime & Delinquency*, 50: 168–188.
- Schneider, Anne L. 1986. Restitution and recidivism rates of juvenile offenders: Results from four experimental studies. *Criminology*, 24: 533–552.

- Seyko, Ronald J. 2001. Balanced approach and restorative justice efforts in Allegheny County, Pennsylvania. *The Prison Journal*, 81: 187–205.
- Shichor, David and Arnold Binder. 1982. Community restitution for juveniles: An approach and preliminary evaluation. *Criminal Justice Review*, 7: 46–50.
- Sims, Barbara. 2000. Victim restitution: A review of the literature. *The Justice Professional*, 13: 247–269.
- Turner, Susan and Judith Greene. 1999. The FARE program experiment: Implementation and outcomes of day fines for felony offenders in Maricopa County. *Justice System Journal*, 21: 1–21.
- Urban, Lynn S., Jenna L. St. Cyr, and Scott H. Decker. 2003. Goal conflict in the juvenile court: The evolution of sentencing practices in the United States. *Journal of Contemporary Criminal Justice*, 19: 454–479.
- Von Hirsch, Andrew. 2001. Proportionate sentences for juveniles: How different than for adults? *Punishment & Society*, 3: 221–236.
- Walgrave, Lode. 2004. Restoration in youth justice. In (Michael H. Tonry and Anthony N. Doob, eds.), *Youth Crime and Youth Justice: Comparative and Cross-National Perspectives*. Chicago, IL: University of Chicago Press.
- Walsh, Tamara. 2005. Won't pay or can't pay? Exploring the use of fines as a sentencing alternative for public nuisance type offences in Queensland. *Current Issues in Criminal Justice*, 17: 217–238.
- Weatherburn, Don and Steve Moffatt. 2011. The specific deterrent effect of higher fines on drink-driving offenders. *British Journal of Criminology*, 51: 789–803.
- Weisburd, David L., Tomer Einat, and Matt Kowalski. 2008. The miracle of the cells: An experimental study of interventions to increase payment of court-ordered financial obligations. *Criminology & Public Policy*, 7: 9–36.

Court Cases Cited

- Miller v. Alabama*, 567 U. S. (2012).
- Roper v. Simmons*, 543 U. S. 551 (2005).

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The Costs of Delinquency

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Haynes, Cares, and Ruback (2014, this issue) present an overview of both the theoretical background and the history of economic sanctions in the criminal justice system. They follow with predictive analyses of who is more likely to receive economic sanctions, the amount imposed, and whether percentage of amount paid affects subsequent reoffending. This article should be considered an important step in understanding the implementation and outcomes of juvenile restitution, as well as a valuable contribution to expanding the dialogue on restitution. Most of the prior work on restitution has focused on adults, and many of the studies that involved juveniles are now quite dated. Finding appropriate and effective intermediate sanctions similar to those described by Mears, Shollenberger, Willison, Owens, and Butts (2010) has been an ongoing quest for the juvenile justice system. Understanding the impact and effectiveness of these interventions is absolutely critical from both a human and a fiscal perspective. As Haynes et al. point out, the topic of restitution is timely because of the current interest of both policy makers and the public in implementing less punitive, more effective approaches to juvenile justice. They offer several important takeaway points.

Main Takeaways

Restorative Justice and Timeliness of Exploration of Restitution

The first takeaway point is that restitution is a restorative intervention. A critical component of restorative policies is that the offender (juvenile) should understand the harm he or she has caused to the victim. Repairing this harm through restitution or through other means can, as Haynes et al. (2014) put it, increase victim satisfaction with the criminal justice system as well as facilitate the offender's reintegration into the community. Restorative approaches

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are generally well accepted by stakeholders and have demonstrated positive outcomes. In the current era of movement toward more rational juvenile justice policies, it is critical that we learn as much as possible about implementation and effectiveness of less punitive approaches.

Who Pays?

Haynes et al. (2014) note that in their sample, youth from two-parent households were more likely to have economic sanctions imposed, suggesting that judges took into account the family's ability to pay. This finding raises some important questions (to be discussed in the subsequent discussion) regarding implementation of restitution with juvenile offenders.

Findings

Haynes et al. (2014) present several key findings. First, in the study sample, restitution was imposed in only approximately one third of cases eligible for this sanction. The data did not support determination of why restitution was not ordered in most eligible cases. However, one predictor of imposition of restitution was a two-parent household, suggesting that judges may have considered the family's economic circumstances.

With regard to recidivism, outcomes were only tested for youth who had economic sanctions imposed. Among this sample, for youth with economic sanctions ordered, payment compliance was associated with a more favorable outcome in cases in which the youth violated the conditions of his or her sanctions. In the words of Haynes et al. (2014), “[compliance with] economic sanctions mattered more for *how* violations were handled (i.e., whether the juvenile's sentence was revoked) than for *whether* juveniles violated the conditions of their sentence.” In other words, for youth who had economic sanctions imposed, there was no relationship between payment compliance and likelihood of reoffending (either new charges or violations); however, youth who complied with payment and reoffended were treated less harshly by judges than youth who were less compliant with economic sanctions. The reasons for this finding are not clear, but the finding is worthy of note. Perhaps payments were considered by the court to be attempts at compliance. A less optimistic interpretation is that payment compliance has no effect on youth behavior but does affect system response. It is unfortunate that the data did not permit analysis of whether fees or restitution were paid. Without examining whether the economic sanctions paid were fees or actual restitution to victims, one could pessimistically hypothesize that those less likely to be revoked were those who paid fees while little concern was given to repairing harm done to victims.

Reflections and Implications

Need for More Research

Most existing studies that have examined the impact of restitution on juvenile recidivism are dated. Studies cited by Haynes et al. (2014) ranged from 1982 through 2005, although the 2005 study actually consisted of an overview of earlier studies, including some studies

focusing on restitution. A recent meta-analysis by Lipsey (2009) revealed favorable outcomes for youth ordered to pay restitution or perform community service, with those sanctions associated with an overall 9% reduction in recidivism (see also Lipsey, Howell, Kelly, Chapman, and Carver, 2010). Notably, though, the studies included in that meta-analysis were conducted between 1958 and 2002. In fact, a thorough electronic search revealed few if any recent studies that have addressed restitution and recidivism outcomes. Even the Haynes et al. study sample consisted of cases docketed in the year 2000.

Clearly, there is a need for further study of the impact of restitution on recidivism. Few would disagree that the approach “makes sense” at a gut level and offers many likely benefits to the victim, youth, and community, as well as for the public image of the juvenile court. However, there is also a need to establish the impact on recidivism. Future studies should seek to fill two main gaps, including:

1) Attempt to sort out causation and correlation. As noted, although the current study does not support conclusions regarding the impact of economic sanctions or compliance with economic sanctions on new offending, several prior studies have shown an association between juvenile restitution and reductions in recidivism. It will be important in future studies to use techniques such as propensity score matching, coarsened exact matching, and possibly even random assignment to identify any effect of restitution on recidivism. It is possible that a juvenile’s ability to pay restitution is a proxy for a relatively stable and affluent family, which is in turn a predictor of the family having more financial and emotional resources to curb future delinquency. Given that the current study found a relationship between the youth residing in a two-parent home and the likelihood of restitution being imposed, further exploration of this question is relevant. Studies controlling for household socioeconomic status demonstrating recidivism reductions would certainly support more widespread interest in restitution among policy makers and courts.

If we are to optimize the effectiveness of intermediate sanctions, we must uncover *why*, and the mechanisms by which, they are effective. Future studies of restitution should include assessments to determine changes in targeted risk and protective factors. For example, a random control trial (RCT) was conducted of the Florida Department of Juvenile Justice’s victim impact intervention provided to youth within residential care ($N = 320$). Results showed youth assigned to receive the intervention evidenced significantly greater reductions in several risk domains from pre- to post-test (Baglivio and Jackowski, 2013). This RCT found program participants more aware of their feelings and understanding the feelings of others, as well as better at expressing affection and dealing with others’ anger, stating the finding was “in line with the logic model of a curriculum aimed at increasing empathy towards others, and captures both the cognitive and affective components of empathy as outlined in prior research (Baglivio and Jackowski, 2013: 14–16). Analyses showed the intervention more effective for males than for females. Currently, the authors of that analysis are tracking study youth for recidivism outcomes to examine which, if any, changes

are predictive. Without scrutiny of intermediate measures, such as changes in risk/needs domains, the causes (and magnitudes of their effects) of any outcome differences (such as recidivism differences) are purely speculative. Furthermore, future studies should include analyses of the effectiveness of intermediate sanctions across subgroups of youth including race/ethnicity, gender, and first-time versus repeat offenders.

2) Who really pays, and does it matter? The question of household affluence and juvenile restitution raises another important question. Is juvenile restitution paid by the juvenile or by parents? If parents pay sanctions, potentially any possible impact on recidivism will be diluted. Current economic conditions have made it increasingly difficult for teens to find employment, and difficult job searches are only complicated by factors such as an arrest record, being younger than 16 years of age, and transportation barriers. So for many youth, there are likely few options to earn the funds needed to pay restitution, and undoubtedly (as acknowledged by Haynes et al. [2014]), in many cases, parents pay the tab. Although this may be the only viable option in many situations, presumably many of the assumed and demonstrated effects of a restorative approach are lost. In fact, if parents pay restitution, then the sanction essentially becomes a sanction against the parent(s).

Future research could shift the focus from the juvenile to the parent(s). Holding parents economically responsible for the behavior of their children has taken hold in several jurisdictions, including Florida, over the past several years. In Florida, these sanctions take the form of “cost of care” where parents are billed for the use of certain services or sanctions including detention and residential commitment. Generally, the fee is \$1 to \$5 per day and is billed to the parent monthly. Although this may not seem like a steep fee, many families are simply unable to pay these costs. The court has the option of waiving these fees, which it often does, if the family presents a case that it is unable to pay.

There are many reasons why these types of sanctions might be applied, but two present themselves as the most prominent. First, it is not uncommon for the average citizen to present his or her belief that parents are as much responsible for their child’s behavior as the child themselves. Arguably, if parents were more effective in the parenting, then the delinquent behavior could have been avoided. Therefore it is only logical that we punish the parents along with the child. This will provide sufficient motivation to encourage parents to be more involved with their children and to set effective boundaries for their behavior. Others may argue that although parents hold some of the responsibility for delinquency, it does not follow that imposition of a short-term economic disincentive will have any impact on reversing the years of family disarray and disadvantage that so often play a role in the development of delinquency. Furthermore, this approach could be perceived as punishing single-parent households where the parent works two jobs and is therefore not as available to provide the supervision and consistency in sanction and the praise necessary to affect youth behavior. Additionally, issues of disproportionate minority contact may arise if certain subgroups are less able to “pay their way out” of the system than more affluent groups. Future analyses should examine whether disadvantaged youth ordered to pay restitution are

violated disproportionately for failure to pay or are maintained under probation supervision for longer periods of time based on slower repayment.

A second justification for imposition of fees on parents, not necessarily related to presumed recidivism outcomes, is to provide at least a small offset to enormous costs of delinquency programs, particularly residential care. Future studies should focus on determining how restitution is paid (by the juvenile or by the guardians) and whether there is any difference in outcomes based on who pays. Similarly, studies should examine jurisdictions such as Florida in which fees are explicitly imposed on parents to determine the impact of such policies.

Another important area for study and dialogue, if restitution is an effective sanction, is how to facilitate and support means for youth to pay. Programs such as Project Payback (Howard, 2011) coach older, employable youth in finding and maintaining a job and provide community service opportunities to earn restitution funds for younger or less employable youth. However, programs like this one require a steady stream of funding to employ staff as well as to pay youth for community service. Cost-effectiveness studies of such programs are needed and are an important area for future exploration.

Examining community service completion may be more fruitful than analysis of percent of restitution paid, especially if data do not permit knowledge of whether the youth or parents paid the tab. Predominately only youth of working age will be capable of paying monetary restitution. However, we know that age of onset is predictive of later offending with young offenders having a larger percentage of serious, violent, and chronic offending careers (Baglivio, Jackowski, Greenwald, and Howell, 2014; Howell, 2009; Snyder, 1998) and being more likely to persist into adulthood (Loeber and Farrington, 2012). Creating opportunities for completion of community service hours would ensure restorative programs are available to all youth, regardless of age, and ensure it is the actual offender repairing the harm caused, and not his or her parents.

Conclusion

Graduated and intermediate sanctions are critical components of juvenile justice systems. It is our goal, as criminologists and practitioners, to ensure that sanctions have the desired effect. We must strive to understand why some interventions are effective and others are not, and who they work best for under which circumstances. We should develop data and studies that permit examination of these intricacies and allow examination of how interventions are actually implemented and who is affected by them. In this case, if the juvenile is the target of the sanction, we must be sure it is indeed the juvenile who completes it. Restitution and community service projects are attractive sanctions in light of both current fiscal realities for many juvenile justice systems and the move toward more rehabilitative programming. Building empathy, increasing responsibility, and repairing harm done to victims may be essential. Future endeavors should seek to uncover whether those factors are affected by

restitution and community services, and whether juveniles who show greater improvements in those areas evidence better outcomes.

References

- Baglivio, Michael, and Katherine Jackowski. 2013. Evaluating the effectiveness of a victim impact intervention through the examination of changes in dynamic risk scores. *Criminal Justice and Policy Review*. Epub ahead of print, doi:10.1177/0887403413489706.
- Baglivio, Michael T., Katherine Jackowski, Mark A. Greenwald, and James C. Howell. 2014. Serious, violent, and chronic juvenile offenders: A statewide analysis of prevalence and prediction of subsequent recidivism using risk and protective factors. *Criminology & Public Policy*. 13: 79–82.
- Haynes, Stacy Hoskins, Allison C. Cares, and R. Barry Ruback. 2014. Juvenile economic sanctions: An analysis of their imposition, payment, and effect on recidivism. *Criminology & Public Policy*. 13: 31–60.
- Howard, Gretchen. 2011. Project Payback: A Juvenile Restitution Program. Retrieved February 22, 2014 from victimsofcrime.org/docs/Report/2011_RestitutionReport_4-JuvenileRestitution.pdf?sfvrsn=0.
- Howell, James C. 2009. *Preventing and Reducing Juvenile Delinquency: A Comprehensive Framework*. Thousand Oaks, CA: Sage.
- Lipsey, Mark W. 2009. The primary factors that characterize effective interventions with juvenile offenders: A meta-analytic overview. *Victims & Offenders*, 4: 124–147.
- Lipsey, Mark W., James C. Howell, Marion Kelly, Gabrielle Chapman, and Darrin Carver. 2010. *Improving the Effectiveness of Juvenile Justice Programs: A New Perspective on Evidence-Based Practice*. Washington, DC: Center for Juvenile Justice Reform, Georgetown Public Policy Institute, Georgetown University.
- Loeber, Rolf and David P. Farrington. 2012. *From Juvenile Delinquency to Adult Crime: Criminal Careers, Justice Policy, and Prevention*. New York: Oxford University Press.
- Mears, Daniel P., Tracey L. Shollenberger, Janeen B. Willison, Colleen E. Owens, and Jeffrey A. Butts. 2010. Practitioner views of priorities, policies, and practices in juvenile justice. *Crime & Delinquency*, 56: 535–563.
- Snyder, Howard N. 1998. Serious, violent, and chronic juvenile offenders: An assessment of the extent of and trends in officially recognized serious criminal behavior in a delinquent population. In (Rolf Loeber and David P. Farrington, eds.), *Serious & Violent Juvenile Offenders: Risk Factors and Successful Interventions*. Thousand Oaks, CA: Sage.

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Juvenile Economic Sanctions

A Logical Alternative?

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Research around the world has consistently shown that people of low socioeconomic status are more likely to interact with the criminal justice system (Bennett and Broe, 2008; Weatherburn, 2001; as to juveniles, see Weatherburn and Lind, 1998). In Australia, almost 40% of young offenders come from the areas of lowest socioeconomic status, and Indigenous young people are overrepresented in the youth justice system by up to 25 times (Australian Institute of Health and Welfare, 2013).

This context of disadvantage cannot be ignored when evaluating the efficacy of different sentencing options. In one Australian study, criminal defendants experiencing homelessness or impaired decision-making capacity were asked their views on various sentencing alternatives (Walsh, 2011). Their comments regarding fines were scathing. One respondent said:

What's the point of fining people that are on benefits, which is only going to make their lives harder down the track, and they're just going to keep reoffending? There's no logic. (Walsh, 2011: 24)

Does the fact that the people receiving the economic sanctions view “no logic” to their situation mean that we are barking up the wrong tree here? Not necessarily, but the matter is certainly worthy of further exploration.

Like other countries around the world, in the context of juvenile justice Australia has experimented with a range of penalties: detention, fines and restitution, conferencing, cautions, and community supervision. Most Australian young people who are found guilty of a criminal offense receive a noncustodial penalty. Only around one in ten juvenile offenders receives a custodial sentence, and this rate has remained steady for many years (Australian Bureau of Statistics, 2008, 2013). Most juveniles are cautioned or dismissed with

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a reprimand, whereas others receive probation or a good behavior bond, often accompanied by a community supervision or work order (Australian Bureau of Statistics, 2013). In some circumstances, courts are empowered to make orders with respect to the parents of juvenile offenders as well. Such orders include restitution or compensation orders and orders to attend court with the child, to attend parenting classes, or to take some action in respect of the child to assist in his or her development or to influence his or her behavior. Such orders, however, are rarely imposed by the courts.

Few Australian juveniles receive monetary orders. Approximately 15% of young offenders receive a monetary order as their primary penalty (Australian Bureau of Statistics, 2013). However, fines are used extensively in the adult criminal justice system (Australian Bureau of Statistics, 2012). Fines are the penalty of choice in lower criminal courts, particularly for public order offenses, common assault, and property offenses (Walsh, 2005). But with more and more defendants failing to pay, as well as the administrative costs of enforcing economic sanctions continuing to increase, the utility of fines has been questioned (New South Wales Sentencing Council, 2006: 9). All of this makes the Haynes, Cares, and Ruback (2014, this issue) article extremely relevant in the Australian context and important to the general body of knowledge.

In this policy essay, I will suggest that there are at least two reasons to doubt the efficacy of monetary penalties in bringing about rehabilitation and restoration in the juvenile justice context. First, I will question whether economic sanctions are truly restorative or rehabilitative. Second, I will discuss the relevance of young offenders' capacity to pay and the impact this has on restoration and rehabilitation.

Economic Sanctions as Restorative or Rehabilitative

The starting point in any examination of sentencing must be to ask the following questions: What kinds of penalties will address offending behavior? What will reduce the prospect of the person committing offenses in the future? It is well established that the answer to these questions will vary for each offender (Livingston, Stewart, Allard, and Ogilvie, 2008; Sclater and Piper, 2000; White, 2002). Each person's behavior is influenced by a range of criminogenic factors and structural forces, and determining the causes of the behavior will require an examination into the person's individual circumstances (Cottle, Lee, and Heilbrun, 2001). This means that, if defendants are to be rehabilitated and if future behavior is to be influenced, then judicial officers will need to get to know the person they are sentencing.

Conducting an examination into defendants' individual circumstances, and developing a sanction that addresses them, is more resource intensive than applying a standard penalty, but many believe it is warranted in the interests of both community safety and cost effectiveness. This kind of approach to sentencing is not unusual: It is applied every day within problem-solving courts around the world that apply therapeutic jurisprudential techniques (Binder, 2002; Burton, 2006; Kendall, 2003/2004; Lee, 2000; in Australia, see Freiberg,

2001; Walsh, 2011). Research has shown consistently, particularly in respect of vulnerable defendant groups, that recidivism can be reduced by meeting defendants where they are at, providing them with much needed social welfare and treatment services, and by applying “local justice” solutions (Farole, Puffett, Rempel, and Byrne, 2005; Lippman, 2007). In fact, some offenders report that merely being treated with dignity and respect “like a person not a number” enhances their sense that justice is being done, encourages acquiescence and compliance with penalties ultimately imposed, and brings about positive changes in their lives (Walsh, 2011).

With regard to young people, the rehabilitative effects of sentencing are especially relevant. As Haynes et al. (2014) remark, young people might be more open to, and capable of, rehabilitation. Merely giving young people a second chance can make a significant impact (Cowdery, 2006). If the causes of their offending behavior can be identified and addressed, then the young person might be supported to turn his or her life around and “grow out” of crime (Australian Human Rights Commission, 1997).

In Australia, there is widespread support (including among prosecutors) for diversionary programs for juvenile offenders, involving community supervision orders and intervention plans, as opposed to custodial and monetary orders (Cowdery, 2006). It is agreed that the focus of youth justice sentencing must be on restoration of all involved and reintegration of the young offender back into the community (Braithwaite, 1989; Hayes and Hayes, 2008).

The question for consideration here is as follows: Can economic sanctions meet the sentencing goals of restoration and rehabilitation? Once it is acknowledged that defendants often come from disadvantaged backgrounds, the effectiveness and appropriateness of fines as a sentencing option must be seriously questioned. Fine enforcement agencies in Australia report that a significant proportion of fines remain unpaid (see, for example, Western Australia Department of the Attorney General, 2012: 40). Governments might say these are “flagrant and repeated refusals” to pay (Queensland Office of the Premier and Trade, 2003), but over the years, research across several jurisdictions has indicated that nonpayment is far more likely to be the result of an inability to pay rather than a refusal to pay (Clarke, Forell, and McCarron, 2008; Morris and Gelsthorpe, 1990; Raine, Dunstan, and Mackie, 2003; Sullivan, 2011).

Monetary sanctions are inherently inequitable. If defendants cannot pay their fines, then the penalty cannot be rehabilitative—rather, it could encourage further offending if necessities of life must be foregone to enable payment (DeJong and Franzeen, 1993; Sentencing Advisory Council Victoria, 2012). The deterrent effect of the penalty also is diluted because the offender will perceive it to be arbitrary and inherently unjust, and it is well known that alienation from the justice system can itself have a criminogenic effect (Janeksela, 1977). In addition, to emphasize or enhance the role of monetary sanctions could instill false hope in victims if they expect full compensation from young, disadvantaged offenders (Roach, 2003).

Capacity to Pay

Haynes et al. (2014) accept that young people will be less likely to be able to pay a fine than adults, so the shortcomings of monetary orders seem more acute in a juvenile context (Australian Human Rights Commission, 1997). Young people have fewer actual or potential sources of income, so their capacity to pay will be less.

As Haynes et al. (2014) mention, the parents might elect or be forced to bear responsibility for their child's economic sanctions, and there seems to be some public support for this approach (Acton, 1996; Brank and Weisz, 2004). Yet, this is widely critiqued within the literature for several reasons. First, young offenders often come from disadvantaged backgrounds, so their parents likely cannot discharge the amount. The social and economic disadvantage faced by these families will be exacerbated by monetary penalties (Hil, 1996). Second, imposing responsibility on parents to account for the offenses of their children could increase tension within the household and have an adverse impact on family functioning and interfamilial relationships (Hutchinson, Parada, and Smandych, 2009). Third, as mooted by Haynes et al. (2014), parental payment of monetary penalties might diminish the individual responsibility the young person experiences and might reduce its rehabilitative effect (Maute, 1995; Weinstein, 1991).

At least some of these problems with monetary penalties can be addressed. The day fine system provides a model for imposing economic sanctions in a manner that is fair and equitable. Defendants' fine amounts are tailored to both the gravity of the offense and their capacity to pay (Greene, 1988; Mahoney and Thornton, 1988; Morris and Tonry, 1990). With regard to parental payment of fines, it has been suggested that young people could be required to reimburse their parents and to demonstrate how that will be achieved (Panzer, 1997).

But do the problems with economic sanctions run deeper than this? Fundamentally, the concepts of parental responsibility for offending and the individual responsibility of the young person are necessarily in conflict. Young people cannot be exhorted to accept responsibility for their actions if, meanwhile, the state is blaming their parents (Hil, 1996; Hollingsworth, 2007). Within the current social context, surveillance of parenting is loaded with an expectation of "positivity" and restraint (Kremer, Smith, and Lawrence, 2010; Turner and Sanders, 2006), so requiring parents to prevent their children from engaging in certain activities and behaviors might not be practically, or legally, possible without also providing them with the right to do so (Hollingsworth, 2007). Furthermore, devolving responsibility for juvenile crime to parents inappropriately and unrealistically ignores the structural causes of crime (and bad parenting) and absolves the state from its share of the responsibility (Goldson and Jamieson, 2002; Hil, 1996; White, 1998). In Australia, this conflict is resolved somewhat by limiting parental responsibility for offending to situations in which the parent can reasonably be considered to have contributed to the commission of the offense (see the Youth Justice Act of 1992; Children [Protection and Parental Responsibility] Act of 1997).

The approach in Australia has been to favor penalties that require the young person to engage in active restitution. Most young offenders in Australia on whom a penalty is imposed receive a bond or probation order, often with conditions attached (Childrens Court of Queensland, 2012; New South Wales Bureau of Crime Statistics and Research, 2012). These conditions can include community service work; attendance at welfare, psychology, or other treatment services; and requirements in relation to schooling and behavior (Sentencing Advisory Council Victoria, 2012: 80, 82). Formal diversion programs exist in most Australian jurisdictions, providing young offenders with supervision, counseling, and welfare assistance (Maxwell and Hayes, 2006; Polk, Adler, Muller, and Rechtman, 2003).

Most often, young people are sentenced by specialist magistrates in a Children's Court. In many cases, the sentence is actually an "intervention plan" determined within a youth justice conference setting. Youth justice conferences in Australia are based on the New Zealand model, which involves sharing histories and face-to-face negotiation with all stakeholders including the offender, the victim, family members, and supporters (Cunha, 1999). The most common tasks imposed on young offenders sentenced in this manner are apologies and personal development exercises (which include behavioral, educational, and treatment programs), followed by community work and financial reparation (Taussig, 2012). Australian evaluations have found recidivism rates to be much lower for young people who have participated in conferencing, and both victims and offenders report high levels of satisfaction with the process (KPMG for Department of Human Services, 2010; Luke and Lind, 2002; Trimboli, 2000).

In short, in Australia, a long view on cost-effectiveness has been taken. It benefits the community if the young offender can grow up to become a productive member of society. This means that an attempt should be made to address all aspects of disadvantage: economic stability, drug and alcohol use, education, and psychological well-being. In recognition of this, Australian inquiries have invariably concluded that monetary penalties are inappropriate in the juvenile context (Australian Human Rights Commission, 1997; New South Wales Sentencing Council, 2006; Sentencing Advisory Council Victoria, 2012).

Conclusions

Efforts should be directed toward designing community-based sentences that address the offending behavior of the individual young person. Through the use of therapeutic jurisprudential techniques, sentences can be tailored to the individual circumstances of young offenders. Periodic detention, home detention, before- and after-school programs, and community-based treatment can be used in combination to treat and support young offenders and provide pathways out of crime. Community service and restitution orders that give young offenders an "inside view" of the impact of their behavior should be preferred. For example, community work at a fire station might be imposed for arson, and restorative work on walls and public buildings could be imposed for graffiti and willful damage offenses (see Panzer, 1997; Peterson, 1987). Restoration and rehabilitation must be the goals, but

there are many ways of achieving this that are not inequitable. Reparation should not be viewed in dollar terms but more broadly to include apologies, community service work, and compensation by way of personal services (Roach, 2003). The hope is that these kinds of penalties will seem “logical” to victims, the general public, and young offenders themselves.

References

- Acton, Robert B. 1996. Gubernatorial initiatives and rhetoric of juvenile justice reform. *Journal of Law and Policy*, 5: 277–338.
- Australian Bureau of Statistics. 2008. *Criminal Courts, Australia, 2006–2007*. Canberra: Commonwealth of Australia.
- Australian Bureau of Statistics. 2012. *Criminal Courts, Australia, 2010–2011*. Canberra: Commonwealth of Australia.
- Australian Bureau of Statistics. 2013. *Criminal Courts, Australia, 2011–2012*. Canberra: Commonwealth of Australia.
- Australian Human Rights Commission. 1997. *Seen and Heard: Priority for Children in the Legal Process*. Canberra: Commonwealth of Australia.
- Australian Institute of Health and Welfare. 2013. Youth justice in Australia 2011–12: An overview. *AIHW Bulletin*, 115: 1–24.
- Bennett, Hayley and Tony Broe. 2008. Brains, biology and socio-economic disadvantage in sentencing: Implications for the politics of moral culpability. *Criminal Law Journal*, 32: 167–179.
- Binder, Steven R. 2002. *The Homeless Court Program: Taking the Court to the Streets*. Washington, DC: American Bar Association.
- Braithwaite, John. 1989. *Crime, Shame and Reintegration*. Cambridge, U.K.: Cambridge University Press.
- Brank, Eve and Victoria Weisz. 2004. Paying for the crimes of their children: Public support of parental responsibility. *Journal of Criminal Justice*, 32: 465–475.
- Burton, Mandy. 2006. Judicial monitoring of compliance: Introducing “problem solving” approaches to Domestic Violence Courts in England and Wales. *International Journal of Law, Policy and the Family*, 20: 366–378.
- Childrens Court of Queensland. 2012. *Annual Report*. Brisbane: Queensland Government.
- Clarke, Sophie, Suzie Forell, and Emily McCarron. 2008. Fine but not fair: Fines and disadvantage. *Justice Issues*, 3.
- Cottle, Cindy C., Ria J. Lee, and Kirk Heilbrun. 2001. The prediction of criminal recidivism in juveniles: A meta-analysis. *Criminal Justice and Behaviour*, 28: 367–394.
- Cowdery, Nicholas. 2006. Alternatives to conventional sentencing: Some recent developments. *The Judicial Review*, 7: 365–377.
- Cunha, Jennifer M. 1999. Family group conferences: Healing the wounds of juvenile property crime in New Zealand and the United States. *Emory International Law Review*, 13: 283–343.

- DeJong, William and Stan Franzen. 1993. On the role of intermediate sanctions in corrections reform: The views of justice professionals. *Journal of Crime and Justice*, 16: 47–73.
- Farole, Donald J. Jr., Nora Puffett, Michael Rempel, and Francine Byrne. 2005. Applying problem-solving principles in mainstream courts: Lessons for state courts. *Justice System Journal*, 26: 57–75.
- Freiberg, Arie. 2001. Problem-oriented courts: Innovative solutions to intractable problems. *Journal of Judicial Administration*, 11: 8–27.
- Goldson, Barry and Janet Jamieson. 2002. Youth crime, the parenting deficit and state intervention: A contextual critique. *Youth Justice*, 2: 82–99.
- Greene, Judith. 1988. Structuring criminal fines: Making an intermediate penalty more useful and equitable. *The Justice System Journal*, 13: 37–50.
- Hayes, Sharon and Hennessey Hayes. 2008. Developing ethical identities in young offenders through restorative justice practice in Australia. *Queensland University of Technology Law and Justice Journal*, 8: 380–391.
- Haynes, Stacy, Allison C. Cares, and R. Barry Ruback. 2014. Juvenile economic sanctions: An analysis of their imposition, payment, and effect on recidivism. *Criminology & Public Policy*, 13: 31–60.
- Hil, Richard. 1996. Counting the cost: Juvenile crime, parents and restitution. *Just Policy*, 8: 11–19.
- Hollingsworth, Kathryn. 2007. Responsibility and rights: Children and their parents in the youth justice system. *International Journal of Law, Policy and the Family*, 21: 190–219.
- Hutchinson, Terry C., Gosia Parada, and Russell Smandych. 2009. Show me a bad kid and I'll show you a lousy parent: Making parents responsible for youth crime in Australian and Canadian contexts. *Australasian Canadian Studies*, 26: 49–86.
- Janeksela, Galan M. 1977. Deviants have bad attitudes. *International Journal of Criminology and Penology*, 5: 337–347.
- Kendall, Julieta. 2003/2004. Can it please the court? An analysis of the Teen Court system as an alternative to the traditional juvenile justice system. *Journal of Juvenile Law*, 24: 155–164.
- KPMG for Department of Human Services. 2010. *Review of the Youth Justice Group Conferencing Program: Final Report*. Melbourne, Australia: KPMG.
- Kremer, Marianne, Anne B. Smith, and Julia A. Lawrence. 2010. Family discipline incidents: An analysis of parental diaries. *Journal of Family Studies*, 16: 251–263.
- Lee, Eric. 2000. *Community Courts: An Evolving Model*. Washington, DC: U.S. Department of Justice Office of Justice Programs.
- Lippman, Jonathon. 2007. Achieving better outcomes for litigants in the New York State courts. *Fordham Urban Law Journal*, 34: 813–831.
- Livingston, Michael, Anna Stewart, Tony Allard, and James Ogilvie. 2008. Understanding juvenile offending trajectories. *Australian and New Zealand Journal of Criminology*, 41: 345–363.

- Luke, Garth and Bronwyn Lind. 2002. Reducing juvenile crime: Conferencing versus court. *Crime and Justice Bulletin*, 69: 1–20.
- Mahoney, Barry and Marlene Thornton. 1988. Means-based fining: Views of American trial court judges. *The Justice System Journal*, 13: 51–63.
- Maute, Michelle L. 1995. New Jersey takes aim at gun violence by minors: Parental criminal liability. *Rutgers Law Journal*, 26: 431–468.
- Maxwell, Gabrielle and Hennessey Hayes. 2006. Restorative justice developments in the Pacific region: A comprehensive survey. *Contemporary Justice Review*, 9: 127–154.
- Morris, Allison and Loraine Gelsthorpe. 1990. Not paying for crime: Issues in fine enforcement. *Criminal Law Review*, 839–851.
- Morris, Norval and Michael H. Tonry. 1990. *Between Prison and Probation: Intermediate Punishments in a Rational Sentencing System*. New York: Oxford University Press.
- New South Wales Bureau of Crime Statistics and Research. 2012. *Persons Found Guilty in Finalized Children's Court Appearances in 2012* (spreadsheet). Sydney, Australia: New South Wales Government.
- New South Wales Sentencing Council. 2006. *The Effectiveness of Fines as a Sentencing Option: Court-Imposed Fines and Penalty Notices, Interim Report*. Sydney, Australia: New South Wales Government.
- Panzer, Cherie. 1997. Reducing juvenile recidivism through pre-trial diversion programs: A community's involvement. *Journal of Juvenile Law*, 18: 186–207.
- Peterson, Scott. 1987. Court-ordered criminal restitution in Washington. *Washington Law Review*, 62: 357–372.
- Polk, Kenneth, Christine Adler, Damon Muller, and Katherine Rechtman. 2003. *Early Intervention: Diversion and Youth Conferencing, A National Profile and Review of Current Approaches to Diverting Juveniles from the Justice System*. Canberra: Australian Attorney-General's Department.
- Queensland Office of the Premier and Trade. 2003. Government to enact new controls on public drunkenness. Media Release: 12 September 2003.
- Raine, John, Eileen Dunstan, and Alan Mackie. 2003. Financial penalties as a sentence of the court: Lessons for policy and practice from research in the magistrates' courts of England and Wales. *Criminal Justice: International Journal of Policy and Practice*, 3: 181–197.
- Roach, Kent. 2003. The role of crime victims under the Youth Criminal Justice Act. *Alberta Law Review*, 40: 965–989.
- Sclater, Shelley D. and Christine Piper. 2000. Re-moralising the family? Family policy, family law and youth justice. *Child and Family Law Quarterly*, 12: 135–151.
- Sentencing Advisory Council Victoria. 2012. *Sentencing Children and Young People in Victoria*. Melbourne, Australia: Sentencing Advisory Council.
- Sullivan, Gary. 2011. *Poor, Powerless and in Trouble with the Law*. Melbourne, Australia: Victoria Law Foundation.
- Taussig, Isabel. 2012. Youth justice conferences: Participant profile and conference characteristics. *Crime and Justice Statistics Bureau Brief*, 75: 1–13.

-
- Trimboli, Lily. 2000. *An Evaluation of the NSW Youth Justice Conferencing Scheme*. Sydney, Australia: New South Wales Bureau of Crime Statistics and Research.
- Turner, Karen and Matthew Sanders. 2006. Dissemination of evidence-based parenting and family support strategies: Learning from the Triple P-Positive Parenting Program system approach. *Aggression and Violent Behaviour*, 11: 176–193.
- Walsh, Tamara. 2005. Won't pay or can't pay? *Current Issues in Criminal Justice*, 17: 217–238.
- Walsh, Tamara. 2011. *A Special Court for Special Cases*. Brisbane: University of Queensland and Australasian Institute of Judicial Administration.
- Weatherburn, Don. 2001. What causes crime? *Crime and Justice Bulletin*, 54: 1–10.
- Weatherburn, Don and Bronwyn Lind. 1998. Poverty, parenting, peers and crime-prone neighbourhoods. *Trends and Issues in Criminal Justice*, 85: 1–6.
- Weinstein, Toni. 1991. Visiting the sins of the child on the parent: The legality of criminal parental liability statutes. *Southern California Law Review*, 64: 859–901.
- Western Australia Department of the Attorney General. 2012. *Annual Report 2011/2012*. Perth: Western Australian Government.
- White, Robert. 1998. Curtailing youth: A critique of coercive crime prevention. *Crime Prevention Studies*, 9: 117–137.
- White, Robert. 2002. Pros and cons of early intervention. *Youth Studies Australia*, 21: 16–23.

Statutes Cited

- Children (Protection and Parental Responsibility) Act (NSW), s 11(1) (1997).
Youth Justice Act (Qld), s258(1) (1992).

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EDITORIAL INTRODUCTION

SERIOUS, VIOLENT, AND CHRONIC JUVENILE OFFENDERS

Delinquency Referrals; Predictive and Protective Factors for Serious, Violent, and Chronic Offenders; and Juvenile Justice Interventions

Kenneth C. Land

Duke University

Criminologists have been studying the development of delinquent/criminal behavior in longitudinal cohort studies for more than four decades—dating back to the first Philadelphia Birth Cohort Study (Wolfgang, Figlio, and Sellin, 1972). Theories and statistical models for the detection and study of different trajectories of offending began to be developed more than two decades ago (Moffitt, 1993; Nagin and Land, 1993). Within this tradition, the study of risk factors and successful interventions for serious and violent juvenile offenders has received concerted attention for more than 15 years (Loeber and Farrington, 1998).

With Baglivio, Jackowski, Greenwald, and Howell (2014, this issue), this tradition of research comes to fruition in the sense of providing a strong evidence base for policy changes and changes in resource allocation in the Florida Department of Juvenile Justice (FDJJ). Among some 222,640 individual juveniles referred to the FDJJ from July 1, 2007 to June 30, 2011, Baglivio et al. examine the prevalence of serious, violent, and chronic (SVC) offenders and assess similarities and differences between those youth and other youth. Differences in prevalence by gender and race/ethnicity and age at first referral are compared for the serious, violent, and chronic offenders versus other juveniles referred. Baglivio et al. then examine whether *subsequent* (to FDJJ referral) official reoffending of these juveniles is predicted by similar risk and protective factors as other youth. This is the key innovative contribution of the study, as these analyses are essential to guide both resource allocation

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strategies as well as to identify the types of interventions that may be most effective with different groups of referred youth.

Baglivio et al. (2014) find that the proportion of youth meeting the serious, violent, and chronic classification is stable over the years of the study. Males were over twice as likely to be serious, violent, and chronic offenders. SVC offenders were almost three times more likely to have been first referred when 12 years old or younger. Predictive risk and protective factors were substantively different for these serious, violent, and chronic youth. In particular, *prosocial attitudes* were found to be predictive of lower likelihood of recidivism for SVC juveniles. This attitudinal measure includes several factors including impulsivity, empathy, respect for authority, and attitude toward law-abiding behavior.

Baglivio et al. (2014) note that the findings from their study have contributed to the policy dialogue of the potential for rehabilitation/habilitation of all juvenile and young adult offenders, and they specifically describe how these findings have led to (a) a reduction in the number of residential commitment beds from more than 8,000 in 2006 to less than 2,400 in August 2013, which includes a greater than 50% reduction in the last 3 years; (b) a reinvestment of some of those cost savings from “deep-end” residential placement reductions to front-end prevention and community-based services; and (c) a closer scrutiny and reduction of residential commitment of low and moderate risk to reoffend youth. The authors report that these changes have not resulted in increased juvenile crime, as the delinquency arrest rate in Florida has declined 22% from fiscal year 2010–2011 through fiscal year 2012–2013, with a 23% reduction in total number of referrals (arrests).

The three scholars commenting on the Baglivio et al. (2014) article in their policy essays are accomplished researchers in studies of juvenile delinquency and rehabilitation. Loeber and Ahonen (2014, this issue) state that “Baglivio et al.’s extended approach to serious and violent offenders is of great importance to policy makers on all levels,” and Piquero (2014, this issue) assesses Baglivio et al. as “a very good example of a careful, descriptive analysis of” SVC juvenile offenders in the state of Florida. In addition, these authors highlight dimensions of the research and its application to juvenile justice policy.

After noting that the Baglivio et al. (2014) article shows the key importance of individually developed treatment or rehabilitation plans during incarceration, Loeber and Ahonen (2014) describe the relevance of research findings for four categories of professionals who deal with SVC offenders: legislators, city and regional officials, individuals heading justice institutions, and practitioners in the community. This is a valuable nuanced discussion of the pressures and constraints placed on individuals in each of these categories. This discussion leads to questions concerning target groups for interventions, particularly the concentration of SVC offenders (and youth on their way to becoming SVC offenders) in certain communities or neighborhoods and the need to recognize agency among some individuals in the sense that they expose themselves to a range of known risk factors and

thereby create their own environment. Loeber and Ahonen then cite the need for development of screening instruments for young populations to identify those who are likely to become tomorrow's SVC offenders. They conclude by arguing that the research base for early childhood indicators is much better than it was 10 years ago and that this can be used to address two important questions: "(a) whether the numbers of youth at risk for SVC offending is increasing; and (b) whether the risk exposure to known accumulation of risk factors will put one or more generations for youth at risk for SVC offending." This would complement and extend the Baglivio et al. approach.

Piquero (2014) notes that "because adolescent offenders have not yet emotionally or psychosocially matured, their current (and future) criminal trajectories remain in a state of flux, and they are potentially responsive to effective interventions and correctional programming." The "focus on the most serious of juvenile offenders, assuming they can be correctly identified, is *the* policy-relevant sample for both the juvenile and adult justice systems." Piquero also cites the Baglivio et al. (2014) finding regarding the influence of prosocial attitudes to be predictive of a lower likelihood of recidivism for SVC juveniles and notes that one of its elements, impulsivity, "is similar to self-control, which has been found to be an important correlate of antisocial, delinquent, and criminal behavior more generally, but also it has been found to be an important correlate in life domains more generally as its influence is felt throughout in areas such as education, employment, and relationships." Piquero further notes that these findings imply that the development and adoption of intervention programs that help children to gain impulse control, such as the Stop Now and Plan (SNAP) program the FDJJ has implemented in three counties, may be particularly instrumental. He concludes that in many ways "the article by Baglivio et al. (2014) represents a very good example of a research–policy–practice relationship that coincides well with the idea of translational criminology, i.e., the translation of scientific discoveries into policy and practice."

In sum, both policy essays assess Baglivio et al. (2014) positively. Piquero (2014) highlights the study's implications for further development and adoption of interventions aimed at the development of impulse control. Loeber and Ahonen (2014) cite the complexity of components and actors in the juvenile justice system and encourage further research on the potential of early childhood screening instruments. This research article and the policy essays show that impacts of studies of the development of delinquent behavior on juvenile justice policy and practice are substantial and provide useful suggestions for further research and program monitoring. In particular, the accuracy of the predictive risk and protective factors identified by Baglivio et al. needs to be monitored and periodically assessed, possibly by application of machine learning algorithms (Berk and Bleich, 2013), for as Piquero cautions the "prospective identification of SVC offenders is exceedingly difficult and may be fraught with errors." The bottom line of the policy essays and my assessment, however, is that the Baglivio et al. research and juvenile justice policy applications represent an advance along this pathway.

References

- Baglivio, Michael T., Katherine Jackowski, Mark A. Greenwald, and James C. Howell. 2014. Serious, violent, and chronic juvenile offenders: A statewide analysis of prevalence and prediction of subsequent recidivism using risk and protective factors. *Criminology & Public Policy*, 13: 83–116.
- Berk, Richard A. and Justin Bleich. 2013. Statistical procedures for forecasting criminal behavior: A comparative assessment. *Criminology & Public Policy*, 12: 513–544.
- Loeber, Rolf and Lia Ahonen. 2014. What are the policy implications of our knowledge on serious, violent, and chronic offenders? *Criminology & Public Policy*, 13: 117–125.
- Loeber, Rolf and David P. Farrington (eds.). 1998. *Serious & Violent Juvenile Offenders: Risk Factors and Successful Interventions*. Thousand Oaks, CA: Sage.
- Moffitt, Terrie E. 1993. Adolescence-limited and life-course-persistent antisocial behavior: A developmental taxonomy. *Psychological Review*, 100: 674–701.
- Nagin, Daniel S. and Kenneth C. Land. 1993. Age, criminal career, and population heterogeneity: Specification and estimation of a nonparametric mixed Poisson model. *Criminology*, 31: 327–362.
- Piquero, Alex R. 2014. Moving from description to implementation of evidence-based research findings. *Criminology & Public Policy*, 13: 127–134.
- Wolfgang, Marvin E., Robert M. Figlio, and Thorsten Sellin. 1972. *Delinquency in a Birth Cohort*. Chicago, IL: University of Chicago Press.
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RESEARCH ARTICLE

SERIOUS, VIOLENT, AND CHRONIC JUVENILE OFFENDERS

Serious, Violent, and Chronic Juvenile Offenders

A Statewide Analysis of Prevalence and Prediction of Subsequent Recidivism Using Risk and Protective Factors

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Research Summary

The prevalence of serious, violent, and chronic offenders is assessed across 5 years of delinquency referrals to a centralized juvenile justice agency. Differences in prevalence by gender and race/ethnicity and by age at first referral are compared for these youth with the other juveniles referred. Analyses examine whether subsequent official reoffending of these juveniles is predicted by similar risk and protective factors as with other youth. Stability in the proportion of youth meeting the serious, violent, and chronic classification was found. Males were more than twice as likely to be serious, violent, and chronic offenders. Serious, violent, and chronic offenders were almost three times more likely to have been first referred when 12 years old or younger. Predictive risk and protective factors are substantively different for these serious, violent, and chronic youth. Policy implications regarding appropriate delinquency interventions to address significant risk and protective factors for different subgroups of youth are discussed.

The views expressed in this article are those of the authors and not necessarily those of the Florida Department of Juvenile Justice. Direct correspondence to Michael T. Baglivio, Florida Department of Juvenile Justice, Bureau of Research and Planning, 2737 Centerview Drive, Tallahassee, FL, 32399 (e-mail: Michael.Baglivio@djj.state.fl.us).

Policy Implications

Our study examines the prevalence rates of juvenile offenders classified as serious, violent, and chronic, thereby necessitating an analysis of resource allocation strategies for a juvenile justice agency. In light of this and other empirical findings, agency policies have been adjusted and new policies implemented, including a reduction in the number of residential beds by more than 50% in the last 3 years and reallocation of “deep-end” resources to prevention and community-based programming.

Keywords

juvenile offender, offending career types, serious, violent, chronic offending

Criminologists have repeatedly demonstrated that a small segment of juvenile offenders commits most of all juvenile offenses, including those crimes categorized as serious and violent (DeLisi and Piquero, 2011; Hawkins, Catalano, and Brewer, 1995; Howell, Krisberg, and Jones, 1995; Vaughn, Salas-Wright, DeLisi, and Maynard, 2013; Wolfgang, Figlio, and Sellin, 1972). Similar findings have accrued when we broaden the scope to examine the general population, finding fewer than 10% of the general population believed to account for more than 50% of all crimes (Barnes, 2013; Gottfredson and Hirschi, 1986; Nagin and Farrington, 1992; Piquero, 2011). This small group can be distinguished from other offenders and from nonoffenders in not only the harm to individuals and society they inflict but also the age of onset of criminal behavior, the likelihood of longer “criminal careers,” and the likelihood of increasing seriousness of involvement (DeLisi and Piquero, 2011; Farrington et al., 1990; Loeber and Farrington, 1998a; Moffitt, 1993).

Research consistently has shown a clear relationship between (a) serious, violent, and chronic (SVC) delinquency and (b) a variety of problems and deficits, including substance use, mental health (including psychopathy) and externalizing behavior problems, low self-control, problems at school, and victimization histories (DeLisi and Vaughn, 2008; Huizinga, Loeber, Thornberry, and Cothorn, 2000; Jonkman, van Yperen, and Prinsen, 2008; Moffitt, 1993; Piquero, Moffitt, and Wright, 2007; Vaughn and Howard, 2005; Vaughn et al., 2013). The consistent findings in criminal career research of a small life-course-persistent group have led to several recent empirical explorations into this “severe 5%” and into the uniqueness of this group (Vaughn et al., 2011, 2013).

This article examines the prevalence of SVC offenders in a statewide diverse sample of juvenile offenders across a 5-year period of referrals (juvenile arrests). In addition, this article examines subsequent offending and the factors predictive of subsequent offending of youth classified as SVC and non-SVC. Because of the paucity of inclusion of protective factors in prior research, we include both risk and protective factors, as assessed by a risk/needs assessment administered to all youth, in predictive models.

The research reported in this article relies on juvenile court records to describe juvenile offender careers. Pittsburgh Youth Study researchers compared SVC offender careers from childhood onward as reflected in arrest and self-report data (Stouthamer-Loeber and Loeber, 2002). Almost two thirds (60%) of the SVC group had a court petition by age 18. Although gaps remain, juvenile court data provide useful databases for an examination of distinctive features of offender careers. Because the adjudication process in juvenile courts is nonadversarial, court findings of delinquency often come from youth self-confessions, as well as from parent and teacher reports. Thus, juvenile offenders rarely are in a position to deny guilt for adjudicated offenses. Still, juvenile court data do not provide a complete history of offending careers. For one thing a lag in initial court referrals often occurs, and not all offenses are brought to the attention of authorities (Stouthamer-Loeber and Loeber, 2002).

Serious, Violent, and Chronic Offenders

One of the first analyses classifying offenders as SVC was undertaken in 1998 to provide support for implementing the Office of Juvenile Justice and Delinquency Prevention (OJJDP) Comprehensive Strategy for Serious, Violent, and Chronic Juvenile Offenders. Snyder (1998) conducted this pioneering analysis on 16 birth cohorts (youth who turned 18 years of age from 1980 through 1995) in Maricopa County (Phoenix), AZ. Snyder (1998) found that most of the 151,209 offending careers examined (64%) were not serious, violent, or chronic. Thirty-four percent contained a serious offense; 15% met criteria for chronic (four or more court referrals); 8% contained a violent offense; and only 3% met criteria for all three being serious, violent, and chronic.

Loeber, Farrington, and Waschbusch (1998) replicated the Snyder analysis using the Pittsburgh Youth Study finding similar subgroup sizes. A separate analysis used an older, 1958, birth cohort and examined gender differences in SVC prevalence (Kempf-Leonard, Tracy, and Howell, 2001). Kempf-Leonard et al. found a much higher prevalence of SVC (14.2%) for males and a lower (2%) prevalence for females; however, this study measured delinquency in terms of officially recorded police encounters, including police contacts that did not result in arrests. The question remains whether these prevalence rates hold true today for youth born in 1989 or later, and how they differ by gender and race/ethnicity.

Although it is not classified into the SVC groupings, research examining criminal careers and the severe 5% has shed light on these questions. Prior criminal career research has identified the male-to-female ratio of career offenders to be between 9:1 and 12:1, whereas less is known of race/ethnicity differences (DeLisi and Piquero, 2011). In a nationally representative sample of more than 40,000 adults (ages 18 and older), Vaughn et al. (2011), using latent class analysis, found a 5.3% severe class characterized by high levels of both antisocial behavior and substance use. They found both Blacks and Hispanics less likely than Whites to be in the severe 5%; gender differences were not reported. Vaughn et al. (2013)

examined whether a “downward extension” of the 5% applied to youth. Using a nationally representative sample of 18,614 youth (12 to 17 years of age), a severe group of 4.7% was identified by latent class analysis. They found severe youth were 101% more likely to be Black than White and that the severe members were 76% more likely to be male. Both the adult and the adolescent studies used measures of externalizing behaviors, such as alcohol and substance use, as well as variables measuring delinquent and violent behavior. Neither examined official offending. The authors acknowledged that the primary limitations of these studies are the reliance on self-report of antisocial behavior and the absence of official justice system parameters such as arrests or system contacts (Vaughn et al., 2011, 2013). Furthermore, these analyses did not examine whether certain characteristics or risk and protective factors, within the most severe, were stronger predictors of subsequent antisocial behavior.

Age of Onset

The relationship between age and crime, as well as the existence of the age–crime curve, have been a consistent focus for criminologists for many years (Farrington, 1986; Nagin and Land, 1993; Tittle and Grasmick, 1997; Wilson and Herrnstein, 1985). Specifically, aggregate crime increases in early adolescence, peaks around 18 years of age, and then declines significantly thereafter until reaching a stable low that levels off in young adulthood (Farrington, 1986). Criminal career and life-course research has identified trajectories with varying ages of onset, prevalence, frequency of offending, continuity/persistence, and ages of desistance (Piquero, Hawkins, and Kazemian, 2012). In Snyder’s (1998) SVC analysis, those who started offending early had a much larger percentage of serious, violent, and chronic careers. Studies have shown this relationship holds regardless of race and gender (Loeber, Farrington, and Petechuk, 2003). Research has demonstrated that early onset offenders have a two to three times higher risk of later violence, serious offenses, and chronic offending, and they are more likely to carry weapons, become gang members, and engage in substance use (Howell, 2009, 2012; Krohn, Thornberry, Rivera, and Le Blanc, 2001; Loeber and Farrington, 2001; Loeber et al., 2003).

Research on risk factors predictive of offending behavior has identified a history of antisocial behavior evident from a young age, in a variety of settings, and involving a variety of different acts, as one of the four strongest predictors of offending (Andrews and Bonta, 2003). Research has documented the correlation between (a) early age of onset of offending behavior and (b) higher levels of frequency and seriousness of crime (DeLisi and Piquero, 2011; Loeber and Farrington, 1998a; Tolan, 1987; Tolan and Thomas, 1995). Early age of onset is typically referenced as 12 years old or younger at the time of the first offense. Meta-analyses have demonstrated that the strongest childhood predictors of subsequent serious or violent offenses at ages 15–25 are involvement in delinquency and drug use at ages 6–11 (Howell, 2009; Lipsey and Derzon, 1998). Delinquency involvement at ages 6–12 also has been demonstrated to be a risk factor for gang membership (Howell,

2009). Young offenders have been found to have a larger percentage of serious, violent, and chronic offending careers (Howell, 2009; Snyder, 1998), and they are more likely to become juveniles who persist into adulthood (Loeber and Farrington, 2012).

However, as noted by Thornberry (2005: 160), "Onset is not destiny. Regardless of when one starts, careers take on different lengths and shapes, depending on later aspects of life-course development." Although early age of onset is associated with a longer career, the highest concentration of desistance occurs during late adolescence and early adulthood irrespective of age of onset (Loeber and Farrington, 2012). Whereas early starters might have longer careers because they began offending earlier, most of all careers desist by early adulthood. The policy implications of this finding are enormous in that many of the young men who fed into the adult criminal justice system for long periods would have desisted in the next few years regardless of legal intervention.

The recent National Research Council of the National Academy of Sciences (2013) report drew attention to developmental theories of delinquency onset, persistence, and desistance. Developmental criminologists led by Loeber (Loeber et al., 1993; see also Loeber, Slot, and Stouthamer-Loeber, 2008) have documented empirically (in multiple cities and a national youth sample) three main pathways in the development of delinquency from childhood to adolescence: the authority conflict pathway (predelinquent offenses), the covert pathway (concealing and serious property offenses), and the overt pathway (violent offenses). This model reveals an orderly progression over time from minor misbehavior, to moderately serious delinquency, and next to serious property and violent offenses and with greater frequency; that is, ultimately to serious, violent, and chronic offender status during adolescence. The three pathways have been verified for a large proportion of offenders in four large cities and in a nationally representative U.S. sample of adolescents (Loeber et al., 2008), and they apply to girls as well as boys (Gorman-Smith and Loeber, 2005). This research has provided reassurance that developmental theories can describe onset, maintenance, and desistance patterns in persistent serious and violent offender careers.

Current Focus

This study examines the prevalence of delinquency referrals that are SVC offenders received by the Florida Department of Juvenile Justice to assess the most recent 5-year trend. To date, few studies have examined the prevalence of SVC youth on a statewide scale for every juvenile referred (equivalent to an adult arrest) across multiple years. This study is a significant departure from the methodology employed in the seminal Snyder (1998) SVC study. Snyder (1998) examined cohorts of youth once they "aged out" of juvenile offending by turning 18 years old. He then examined the complete criminal careers of those 18-year-olds. This current study instead focused on the prevalence of the SVC career types referred each fiscal year (defined as July 1 through June 30) for the purpose of strategizing resource allocation. This difference is substantial in that the prevalence of SVC youth reported in the current study is a low/conservative estimate, as the referrals in a given fiscal year are

composed of youth younger than 18 who therefore might not have completed their juvenile offending careers. The intent is to capture the prevalence of career typologies referred within a given time frame and not necessarily the percent of juvenile *careers* that fit the typologies.

Next, we examine whether the makeup of SVC youth differs from other non-SVC youth. We explore demographic differences in terms of gender and race/ethnicity to add to the limited prior research with respect to those subgroups. We also examine differences in the age of youth at the time of his or her first referral to the system in light of the previous research on age at first offense and serious delinquency discussed previously. Finally, we examine whether the risk and protective scores, from an actuarial risk/needs assessment, differ between SVC and non-SVC youth.

After the examination of SVC prevalence across the 5-year period, we then examined whether the subsequent recidivism of SVC youth is predicted by the same conglomerate of risk and protective factors as non-SVC youth. A subsample of all juveniles that completed a Florida Department of Juvenile Justice (FDJJ) placement during fiscal year 2009–2010 were first grouped according to the SVC categorizations and then tracked for both subsequent referral/adult arrest 12 months postcompletion and subsequent adjudication/adjudication withheld/conviction. To our knowledge, no prior studies have examined risk and protective factors in predicting *subsequent* offending of the SVC categorization. These analyses are essential to guide both resource allocation strategies and to investigate the types of interventions that might be most effective with different groups of referred youth. If SVC offenders differ in risk and promotive profiles, then juvenile justice systems should be targeting those youth with interventions specific to their needs that are predictive of reoffending (Andrews and Bonta, 2003).

Therefore, we address three research questions:

1. What has been the prevalence of SVC offenders referred in each of the most recent fiscal years, and how has it varied?
2. Do SVC juvenile offenders differ in makeup by age at first offense, race, gender, or risk and protective factors from non-SVC offenders?
3. Do the risk and/or protective factors predictive of subsequent offending by SVC youth differ from other youth offenders?

Methods/Measures

Sample

The FDJJ is one of the largest juvenile justice systems in the United States. The FDJJ differs from many justice systems in the United States in that it is a centralized, statewide system rather than a bifurcated or a county-based system. The current study uses data on all youth who received a delinquency referral (equivalent to an adult arrest) to the Florida Department of Juvenile Justice across the most recent 5 fiscal years, beginning with fiscal year 2007–2008 and continuing through fiscal year 2011–2012. A fiscal year runs from July

1 to June 30. Therefore, the current data include all youth referred, and the data are assessed using the Positive Achievement Change Tool (PACT, described subsequently), from July 1, 2007 to June 30, 2011. As youth are regularly reassessed using the PACT, the decision was made to use the most recent PACT assessment for each youth in any given fiscal year. Therefore, each youth was included only one time per fiscal year (the same youth could be included in multiple fiscal years only if the youth received another delinquency referral in a different fiscal year). Using the most recent PACT assessment, which would be the last assessment that the youth received in any given fiscal year, allows for capturing the most comprehensive picture of that youth at fiscal year-end in terms of both (a) delinquency history and (b) assessment of risk/need and protective factors. This process resulted in a final sample of 363,617 records, representing 222,640 individual juveniles for the 5-year period (140,977 youth received delinquency referrals in multiple fiscal years examined).

PACT

The FDJJ implemented the PACT, a fourth-generation actuarial risk/needs assessment designed to assess a youth's overall risk to reoffend, as well as to rank order criminogenic needs/dynamic risk factors, statewide in 2006. The assessment process is designed as a semistructured interview protocol and uses Motivational Interviewing techniques (Miller and Rollnick, 2002). The two versions of the PACT are the prescreen, with 46 items, and the full assessment, consisting of 126 items. Both versions produce identical overall risk to reoffend classifications (low, moderate, moderate-high, and high) for any given youth. The overall risk to reoffend score is based on a matrix of the criminal history and social history subscores (see the Appendix; see also Baglivio, 2009, for further explanation of PACT domains and scoring). The PACT assesses static, dynamic, risk, and protective factors; rank orders criminogenic needs that are automated into a case plan; and requires reassessments to gauge rehabilitative progress.

The prescreen and full assessment both produce a criminal history sub-score (extent and seriousness of prior official offending and justice system placements) and a social history subscore (individual, family, and environmental risk factors, many of which are dynamic). The overall risk score and the criminal and social history subscores for an individual youth are always identical for both the prescreen and the full assessment, as only the questions in the prescreen used for scoring are used in the full assessment for scoring (e.g., if the same youth was administered a prescreen and a full assessment, then the overall risk score, the criminal history, and the social history scores would be identical). The PACT full assessment consists of 12 domains; 11 contain questions that compose the social history score, and 1 is used to produce the criminal history score (see the Appendix for PACT domains by assessment type). Each of the 12 domains has a risk score, and most have a protective score.

The current policy of the FDJJ is to assess each youth entering the system using the PACT prescreen. Youth scoring moderate-high or high risk to reoffend on the prescreen are

assessed using the full assessment. Every youth scoring moderate-high or high is reassessed using the PACT full assessment every 90 days (unless the youth is placed in a residential commitment program). Low or moderate risk to reoffend youth are reassessed every 180 days. Any time a youth scores moderate-high or high risk, reassessment will consist of the full assessment. The predictive validity of the PACT has been examined in several studies, each using a different sample of youth officially referred to the FDJJ (Baglivio, 2009; Baglivio and Jackowski, 2013; Winokur-Early, Hand, and Blankenship, 2012).

The full sample was subdivided by fiscal year, creating five cohorts of referrals. Youth were then classified as serious; violent; chronic; SVC; non-SVC (youth could have met criteria for zero, one, or two of the categories, but not all three); and not S, V, or C (youth did not meet criteria for any of the three categories). The criminal history domain of the PACT captures sufficient information to enable construction of the categories. All criminal history information is automated from a centralized database and is therefore not self-reported by the youth (eliminating recall issues of whether the youth was knowledgeable of the charges, placements, etc.). It captures only official delinquency referrals, not self-reported offending.

Serious offenders were categorized as any youth with a history of a felony offense. The serious offender classification was constructed from a PACT item measuring the total number of referrals for a felony offense that resulted in diversion, adjudication withheld, adjudication, or deferred prosecution or referral to adult court. A youth was classified as a serious offender for any indication greater than zero.

Violent offenders were categorized as any youth with a history of a felony offense against a person or a weapon/firearm charge. The violent offender classification was constructed from two PACT items, one measuring the number of against-person felony referrals and one measuring the total number of referrals for which the most serious adjudicated offense was a weapon charge. Again, the referrals must have resulted in diversion, adjudication withheld, adjudication, or deferred prosecution or referral to adult court. A youth was classified as a violent offender for any indication greater than zero for either item. The inclusion of offenses in which a weapon is used is based on prior research (Garrido and Morales, 2007; Thornberry, Huizinga, and Loeber, 1995).

Chronic offenders were categorized as any youth with a history of four or more official referrals (either misdemeanor or felony). The chronic classification was constructed from two PACT items, one measuring the total number of referrals for which the most serious offense was a nontraffic misdemeanor and the other measuring the total number of referrals for a felony offense. Both the misdemeanor and the felony offenses had to have resulted in diversion, adjudication withheld, adjudication, or deferred prosecution or referral to adult court to count toward the total. A youth was classified as a chronic offender if the sum of those two items equaled four or more. For official records, prior research operationalizing chronic has ranged from three or more previous legal adjudications (Garrido and Morales, 2007), to four or more court referrals (Loeber et al., 2003; Snyder, 1998), to nine or more

convictions (Farrington and West, 1993). The measure of chronic as four or more referrals is in keeping with that used by Snyder (1998) and other previous research (Loeber et al., 2003).

SVC was categorized as any youth who met criteria for serious, violent, and chronic, as described previously.

Non-SVC was categorized as any youth who was not classified as *SVC*. These non-*SVC* youth could have met criteria for zero categories, or one or two categories, but not all three. For example, a youth would be non-*SVC* if that youth were classified as serious and violent but not as chronic.

Not S, V, or C was categorized as any youth who did not meet any of the criteria for serious, violent, or chronic.

PACT data were used to construct the previous categorizations rather than to examine data capturing exact charges. The purpose of this approach was a result of the policy implications of a finding of risk/need and protective factor differences by categorization. Juvenile probation officers conduct the PACT assessment and use the results to create individualized case plans for each youth. A simple automated report could be generated to indicate to the officer whether the youth was *SVC*, for example, along with a list of predictive factors that are most likely to lead to reoffending reduction. The practical implications in terms of meaningful repercussions for officers working with youth provided the impetus for using only readily available PACT data for the *SVC* categorizations.

PACT risk and protective scores were used to predict subsequent reoffending in multivariate models. Each PACT domain has a risk score and most have protective scores. The score is a result of responses to the items of that domain, all of which are related to the topic of the overall domain (for example, the current school status domain contains items related to grades and attendance during the most recent school term). Domain risk and protective scores are provided by the PACT software, which were the scores used in the analyses.

Recidivism/reoffending was examined for a subsample of youth who completed a FDJJ placement (probation supervision, residential commitment, day treatment program, etc.) during fiscal year 2009–2010 and was captured using two measures. The first measure captured whether the youth had a subsequent referral or adult arrest within 12 months (365 days) from the day that youth completed a placement. The second captured whether the youth had a subsequent adjudication/adjudication withheld/adult conviction for an offense committed within 12 months of completing probation supervision. Fundamentally, these measures capture arrest and conviction (either juvenile or adult, as some youth turned 18 years old within the 12-month follow-up necessitating the inclusion and examination of adult data). The follow-up period began at the date at which the youth completed the placement.

Completion was used for several reasons. First, the official definition of recidivism for the FDJJ is a subsequent adjudication/adjudication withheld/adult conviction for an offense committed within 12 months of completing a FDJJ placement, necessitating that measure

for policy implication purposes. Second, if we began tracking youth while they were still receiving FDJJ services, then we would essentially be evaluating the effectiveness of the services/interventions in which those youth were participating. Without controlling for the interventions and the intensity, duration, and quality of those interventions, we would not be accurately examining risk and protective factor prediction of subsequent offending.

The *age at first referral* was examined using the five categories captured by the PACT assessment of “12 years old and under,” “13 years old,” “14 or 15 years old,” “16 years old,” and “older than 16.” This measure represents how old the youth was when the youth received his or her first official delinquency referral (equivalent to an adult arrest).

Gang association was examined using a self-report measure of the youth’s friendship network. Two PACT items were used to construct gang association, one measuring whether the youth had a history of being a gang member/associate, or friends that were in a gang, and the other measuring whether the youth was currently in a gang or associates with others who are in a gang. The two items were combined, such that an affirmative response to either item classified the youth for gang association. Items asking specifically whether the youth himself or herself had a history or was currently in a gang would have been preferable to these items asking about the youth *or* the youth’s friends, but this was the closest approximation available using PACT data. Prior research has used a single self-reported item for gang membership (Melde and Esbensen, 2011) and has indicated the validity of self-report measures for gang membership (Krohn, Ward, Thornberry, Lizotte, and Chu, 2011; Thornberry, Krohn, Lizotte, and Chard-Wierschem, 1993; Thornberry, Krohn, Lizotte, Smith, and Tobin, 2003).

Analyses

We examine first the prevalence of the serious; violent; chronic; SVC; non-SVC; and not serious, violent, or chronic categories across the five fiscal years. We examine the age at first referral differences between SVC and non-SVC offenders across those 5 years. To illustrate the most recent trends, we examine the serious; violent; chronic; SVC; non-SVC; and not serious, violent, or chronic categories by gender and race/ethnicity for the most recent sample of youth (fiscal year 2011–2012).

The next step was to select a subsample of youth that was used for recidivism analyses. We selected all youth who completed a placement during fiscal year 2009–2010, as rearrest and reconviction data were available for each of these youth. We compared the full sample of these service completers with the SVC service completers; non-SVC service completers; and service completers who did not meet criteria for serious, violent, or chronic, on both subsequent rearrest and reconviction. We used independent samples *t* tests to compare SVC offenders with non-SVC offenders in the subgroup of completers for fiscal year 2009–2010 on each of the PACT risk and protective factors to assess whether certain domains or areas of risk and promotive circumstances differ between the groups. The recidivism analysis then employed binary logistic regression. As the dependent variable was dichotomous (recidivism

TABLE 1

SVC by Fiscal Year

Time Period	N	SVC	Serious	Violent	Chronic	Not S, V, or C
FY 2007–2008	84,586	9.2%	56.5%	30.2%	15.3%	41.8%
FY 2008–2009	80,540	9.0%	55.7%	29.4%	15.3%	42.5%
FY 2009–2010	72,713	8.9%	52.1%	29.0%	15.1%	45.8%
FY 2010–2011	65,858	8.7%	54.1%	28.2%	15.5%	44.1%
FY 2011–2012	59,920	8.7%	54.6%	27.9%	15.6%	43.6%
Total	363,617	8.9%	54.7%	29.0%	15.4%	43.5%
ANOVA tests		88.00 (<0.001)	4.10 (0.003)	30.34 (<0.001)	2.02 (0.089)	75.22 (<0.001)

Notes. For ANOVA, the *F*-statistic is reported with the *p* value in parentheses.

yes/no), logistic regression was the appropriate statistical procedure. Logistic regression analyses allowed for testing risk and protective factors (in the form of PACT domain scores) for recidivism prediction for each category examined. We employed several regression models for the rearrest recidivism measure (reconviction results were similar; not reported).

Results

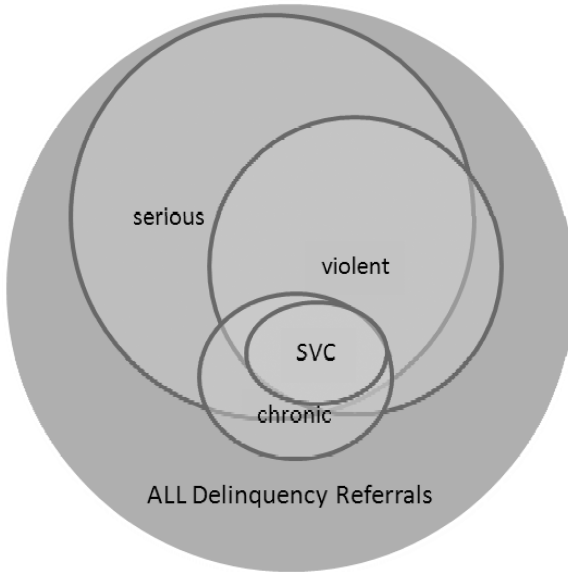
Prevalence

The prevalence rates of serious; violent; chronic; SVC; non-SVC; and for youth not meeting criteria for serious, violent, or chronic, for each of the 5 fiscal years examined can be observed in Table 1. For the full sample of 363,617 juvenile offenders, 43.5% did not meet criteria for serious, violent, or chronic; 54.7% contained serious offense histories; 29.0% had violent offense histories; 15.4% were chronic offenders; and just fewer than 8.9% were SVC offenders. Figure 1 provides a graphical illustration of these groups. In terms of overlap of categories: 94% of the chronic are also serious, 59% of the chronic are violent, 26% of the serious are chronic, 51% of the serious are violent, 31% of the violent are chronic, 31% of the violent meet criteria for SVC, 16% of the serious meet criteria for SVC, and 58% of the chronic meet criteria for SVC (results not shown).

Even with substantial reductions in the number of youth with PACT assessments referred during the 5-year period (from 84,586 in fiscal year 2007–2008 down to 59,920 in 2011–2012), the rates of the categories examined have remained remarkably stable. We find a less than 1% increase in the percent of youth who are chronic offenders and roughly a 2% reduction in violent and serious offense histories across the 5 years, as well as a 0.5% decrease in the percent of SVC offenders. This shows that even while crime has been decreasing and the juvenile justice system has been receiving fewer youth referred (reduced by 29% during the study period), the system is not receiving only the more “hardcore” offenders. Although the relative stability of prevalence from a practical standpoint might

FIGURE 1

SVC Venn Diagram



Notes. The outer circle represents all official delinquency referrals to the juvenile justice system. The portion of the outer circle not covered by serious, violent, or chronic circles represents all youth with fewer than four official referrals and no felony or weapon referrals. Overlaps of circles represent youth with multiple categorizations. The circles and overlaps are drawn proportional to the percent of youth with those categorizations.

seem evident, analyses of variance (ANOVAs) were conducted on the individual annual proportions to examine statistical variation across the 5-year period. As shown in Table 1, the proportion of youth who are SVC offenders has declined significantly during the 5-year period, as has the proportion of violent offenders referred each year. The proportion of youth meeting none of the S, V, or C classifications has significantly differed during the years (reaching a peak in FY 2009–2010 at the same time the proportion of serious offenders was lowest). The proportion of chronic youth has not differed significantly during the 5 years examined. It is important to examine changes in each classification during the years to assess whether they are mere fluctuations or significant trends, increases, or decreases. It is not enough to examine just the proportion of SVC youth as that number masks trends in the three classifications that make it up. Knowing whether the number of violent offenders referred is decreasing significantly while the number of chronic offenders is increasing is more informative than simply finding the proportion of SVC youth that has remained stable, for example.

TABLE 2

SVC by Age at First Referral per Fiscal Year

Age at First Referral	FY 2007–2008		FY 2008–2009		FY 2009–2010		FY 2010–2011		FY 2011–2012	
	Non-SVC	SVC	Non-SVC	SVC	Non-SVC	SVC	Non-SVC	SVC	Non-SVC	SVC
N	76,839	7,747	73,287	7,253	66,249	6,464	60,157	5,701	54,717	5,203
Older than 16	12.9%	0.3%	12.6%	0.2%	12.4%	0.3%	12.5%	0.3%	12.5%	0.3%
16	16.1%	2.2%	16.3%	1.9%	16.1%	2.2%	16.0%	2.4%	16.3%	2.4%
15	18.1%	7.0%	18.3%	7.6%	18.5%	8.1%	18.5%	8.2%	18.2%	7.8%
13 to 14	32.7%	34.4%	33.2%	35.4%	33.8%	36.0%	34.1%	36.9%	34.4%	38.2%
12 or younger	20.2%	56.0%	19.6%	55.0%	19.2%	53.5%	18.8%	52.2%	18.6%	51.4%

Note. The age at first offense categories are those captured by the PACT assessment and were left “as is” for these analyses.

In light of the importance of the age of onset in criminal career research, we next examined the age at which youth were first referred (first juvenile “arrest”). Table 2 shows the age at first referral for SVC youth and non-SVC youth for each of the 5 years. Overall, 19.4% of the non-SVC youth were 12 years old or younger at the time of their first referral, compared with 53.9% for SVC youth. In other words, SVC youth were almost three times more likely to have been 12 years old or younger when they received their first official delinquency referral. Across the 5 years, we do observe a lower percentage of those 12 years old and younger youth and a higher percentage of youth in the age range 13–15 years old. It is important to remember that the age at first offense is not a product of youth being classified in this study as serious, violent, or chronic; it is the age that a youth was first “arrested” and has nothing to do with the number of prior offenses or the length of his or her criminal career. For non-SVC youth, a one-way ANOVA revealed that the mean age at first referral did not differ across the 5-year period ($F = 0.773$, $p = .542$; results not shown for brevity). For SVC youth, the mean age at first offense did differ across the 5 years ($F = 7.951$, $p < .001$) with the age for SVC youth during both FY 2007–2008 and FY 2008–2009 significantly younger than the mean age of first referral for SVC youth for both FY 2010–2011 and FY 2011–2012. This finding demonstrates that significantly fewer SVC youth were referred for the first time at younger ages recently than a few years ago.

To demonstrate the gender and race/ethnicity differences in SVC prevalence, we present the most current fiscal year, 2011–2012 (see Table 3). Examining Table 3, we observe that males are roughly twice as likely to meet criteria for serious, violent, chronic, and SVC and are half as likely not to meet any of those criteria. This discrepancy is not as pronounced as previous research specifically using SVC classifications, finding differences between males and females of upward of three to four times higher serious delinquency for males (Huizinga et al., 2000; Kempf-Leonard et al., 2001), four violent males for every violent female, three chronic males for every chronic female, and seven SVC males for every one SVC female (Kempf-Leonard et al., 2001). However, similar to the current analysis, others have reported

TABLE 3

Fiscal Year 2011–2012 SVC by Gender and Race/Ethnicity

Subgroup	N	SVC	Serious	Violent	Chronic	Not S, V, or C
Male	43,706	10.2%	62.2%	31.5%	18.2%	36.0%
Female	16,213	4.7%	34.2%	18.1%	8.7%	64.1%
White	23,702	5.1%	49.3%	20.3%	11.7%	49.1%
Black	26,445	12.8%	59.6%	35.4%	20.6%	38.4%
Hispanic	9,415	6.5%	54.8%	26.2%	11.6%	43.7%
Other	355	3.7%	42.5%	17.7%	8.5%	56.6%
Total	59,920	8.7%	54.6%	27.9%	15.6%	43.6%

Note. Data read across rows. For example, row three shows of the 23,702 White youth, 49.3% were serious, 20.3% were violent, and 11.7% were chronic; 5.1% of the White youth were SVC; and 49.1% were neither serious, violent, nor chronic.

males roughly twice as likely to be chronic and referred for a serious or violent offense (Johansson and Kempf-Leonard, 2009). The results by race/ethnicity show youth classified as “other” (predominately Asian) are less likely to be serious, violent, chronic, or SVC; followed by White youth and then by Hispanic youth; with the highest percentage of Black youth being serious, violent, chronic, and SVC. Black youth met criteria for SVC at a rate twice that of Hispanic youth and 2.5 times that of White youth. This result is in keeping with prior research finding disproportionately higher rates of SVC offenders among Black youth (Kempf-Leonard et al., 2001; Loeber and Farrington, 1998a, 1998b).

Risk, Protective, and Recidivism Differences

Next, we examined the predictive ability of the PACT risk and protective factors for subsequent offending. Because the youth have already been designated as SVC; non-SVC; or not serious, violent, or chronic, the time order of risk factors predicting offending is correct. The PACT assessments were administered prior to the 12-month tracking period, and after the SVC classification had been made. Therefore, the risk and protective factors were measured prior to the subsequent offending. This approach is in contrast to other SVC studies that simply correlated which classifications had which risk factor profiles. Furthermore, we include promotive factors in our analyses.

First, we created a separate pool of youth that would allow for a 1-year follow-up using the most recent eligible fiscal year meeting that criteria. Descriptive statistics for the fiscal year 2009–2010 youth who completed a FDJJ service can be observed in Table 4. The sample is 34,497 youth, approximately 8% SVC (2,757 youth), 69% male, and ethnically diverse. As shown, the SVC group is 67% male and 63.4% Black, compared with the group that is neither serious, violent, nor chronic (not S, V, or C), which is 56% male and 37.4% Black. Table 4 also shows the overall risk to reoffend level as assessed by the PACT, ranging from low, moderate, moderate-high, or high, for each of the subgroups. Overall, 6.5% of

TABLE 4

Descriptive Statistics FY 2009–2010 Service Completers

Offender Classification	All Service Completers	Male Service Completers	Female Service Completers	SVC Service Completers	Non-SVC Service Completers	Not S, V, or C Service Completers
<i>N</i>	34,497	23,832	10,665	2,757	31,740	17,989
Male	69.1%	100%	0.0%	85.4%	67.7%	56.3%
White	42.4%	41.6%	44.3%	25.0%	43.9%	45.8%
Black	41.5%	41.5%	41.6%	63.4%	39.6%	37.4%
Hispanic	15.3%	16.2%	13.4%	11.3%	15.7%	15.9%
SVC	8.0%	9.9%	3.8%	100.0%	0.0%	0.0%
Serious	45.8%	55.2%	24.8%	100.0%	41.1%	0.0%
Violent	23.9%	28.3%	14.2%	100.0%	17.3%	0.0%
Chronic	14.1%	17.5%	6.5%	100.0%	6.7%	0.0%
Non-SVC	92.0%	90.1%	96.2%	0.0%	100.0%	100.0%
Not S, V, or C	52.1%	42.5%	73.7%	0.0%	56.7%	100.0%
Low risk	70.2%	64.9%	82.0%	0.8%	76.2%	92.1%
Moderate risk	10.9%	12.2%	7.9%	7.4%	11.2%	5.7%
Moderate-high risk	12.4%	15.2%	6.2%	55.8%	8.7%	1.7%
High risk	6.5%	7.7%	3.9%	36.0%	4.0%	0.5%
Age at First Offense						
Over 16	12.7%	11.7%	15.2%	0.3%	13.8%	17.3%
16	15.9%	15.1%	17.7%	1.9%	17.1%	19.7%
15	18.1%	17.6%	19.0%	8.6%	18.9%	19.7%
13 to 14	33.2%	32.9%	33.7%	36.7%	32.9%	30.9%
12 and under	20.1%	22.7%	14.4%	52.6%	17.3%	12.4%
Gang association	4.5%	5.5%	2.1%	13.6%	3.7%	2.3%
Rearrested	35.3%	41.0%	22.5%	68.2%	32.5%	24.6%
Reconvicted	21.1%	25.3%	12.1%	46.6%	19.0%	13.2%

Notes. A "service completer" is any youth who completed a FDJJ placement successfully during fiscal year 2009–2010. The numbers reported are percentages for each sample column, except *N* is reported as the actual number of youth represented in that column. The percentages for White, Black, and Hispanic might not sum to 100 because youth classified as "other" (not reported because of small sample sizes) were excluded. The risk level is based on the overall risk score of the PACT assessment.

the sample was high risk; whereas 36% of the SVC group was high risk; and only 0.5% of the not S, V, or C group. Although this result makes intuitive sense, as one axis of the PACT scoring is criminal history, as indicated previously (see the Appendix), it still shows the vast differences between the groups. The age at first offense data demonstrate similar findings, with SVC youth three times more likely to have been 12 years old or younger at the time of their first official referral than those who did not meet criteria for SVC and four times more likely than those not serious, violent, or chronic.

Finally, we examined whether the youth evidenced gang association, as defined previously, for each subgroup. We find that males are more than 2.5 times more likely than females to indicate gang association. More striking, we find SVC youth more than 3.5 times

more likely to indicate gang association than youth not meeting criteria for SVC and almost 6 times more likely than youth not meeting criteria for serious, violent, or chronic. Although Table 4 shows 13.6% of SVC youth indicated gang association, it should be noted that one of every four youth with gang association is an SVC offender (24.4%, result not shown). These results are substantial but significantly lower than the two thirds of chronic, violent offenders who were gang members in the Rochester Youth Development Study (Thornberry et al., 1995).

Compared with females who completed services, males who completed services were significantly younger at first offense ($t = 16.8, p < .001$, Cohen's $d = 0.18$); had a significantly greater risk to reoffend ($t = 34.5, p < .001$, Cohen's $d = 0.42$); were more likely to be chronic ($t = 32.3, p < .001$, Cohen's $d = 0.37$), serious ($t = 57.6, p < .001$, Cohen's $d = 0.75$), violent ($t = 31.7, p < .001$, Cohen's $d = 0.39$), SVC ($t = 22.9, p < .001$, Cohen's $d = 0.26$); and more likely to have gang association ($t = 17.0, p < .001$, Cohen's $d = 0.19$). The percent of females who were not serious, violent, or chronic was significantly greater than the percent of males ($t = 58.5, p < .001$, Cohen's $d = 0.77$). In comparing SVC youth with youth who did not meet all three criteria (non-SVC), we find that a greater percentage of SVC youth was male ($t = 24.6, p < .001$, Cohen's $d = 0.81$), a lower percentage was White ($t = 21.8, p < .001$, Cohen's $d = 0.75$), and SVC youth have a younger age of first referral ($t = 72.9, p < .001$, Cohen's $d = 2.2$), have a higher risk to reoffend ($t = 146.2, p < .001$, Cohen's $d = 4.87$), and are likely to have gang association ($t = 15.1, p < .001$, Cohen's $d = 0.56$).

Table 4 also shows the reoffending prevalence for the subgroups; 35.3% of the sample received a new juvenile referral or adult arrest within 365 days (rearrested). The SVC youth were more than two times more likely to be rearrested than the youth not meeting SVC criteria and 2.77 times more likely than the youth not meeting criteria for serious, violent, or chronic. Subsequent reconviction reveals similar patterns. Although approximately 21% of the sample was reconvicted for an offense that occurred within the 365 day follow-up, SVC youth were almost 2.5 times more likely to be reconvicted than non-SVC youth and more than 3.5 times more likely than youth not meeting criteria for serious, violent, or chronic. This basic recidivism analysis demonstrates that the classification of serious, violent, and chronic, as defined in the current study, does indeed identify a unique subset of a small number of youth referred to the FDJJ in a given fiscal year and that these youth have much higher recidivism rates than the vast majority of youth referred. Regarding recidivism across gender, the proportion rearrested and the proportion reconvicted were significantly higher for males who completed services ($t = 36, p < .001$, Cohen's $d = 0.47$ and $t = 31.2, p < .001$, Cohen's $d = 0.38$, respectively). The recidivism rate measured by rearrest and by reconviction was higher for SVC service completers than for non-SVC completers ($t = 38.4, p < .001$, Cohen's $d = 0.41$ and $t = 28.3, p < .001$, Cohen's $d = 1.02$, respectively). Subsequent analyses identify the unique risk and protective factors of SVC youth for which to target delinquency prevention and intervention.

TABLE 5

Service Completers: Risk Factor Comparisons non-SVC Youth Versus SVC Youth

C-PACT Risk Domain	Non-SVC M (SD)	SVC M (SD)	Mean Difference	t Value	Cohen's d
	<i>N</i> = 31,740	<i>N</i> = 2,757			
Overall risk score	1.40 (0.81)	3.27 (0.63)	−1.87	−146.22**	4.87
Social history subscore	3.65 (2.45)	5.08 (2.86)	−1.42	−25.37**	0.91
Criminal history subscore	5.31 (4.14)	17 (4.42)	−11.70	−133.70***	4.74
	<i>N</i> = 7,637	<i>N</i> = 1,933			
School history	3.31 (1.84)	4.01 (1.65)	−0.69	−16.03**	1.78
Current school	3.87 (4.03)	4.08 (4.42)	−0.22	−1.97*	0.07
Current leisure time use	0.18 (0.39)	0.23 (0.42)	−0.05	−5.03**	0.19
Employment history	0.06 (0.30)	0.08 (0.33)	−0.01	−1.74	0.07
Current employment	0.00 (0.04)	0.00 (0.02)	0.00	1.69	0.05
History of relationships	1.77 (0.75)	1.92 (0.69)	−0.15	−8.42**	0.30
Current relationships	1.89 (1.76)	2.15 (1.91)	−0.27	−5.54**	0.21
Family history	1.72 (2.05)	2.02 (2.25)	−0.30	−5.32**	0.20
Current living arrangement	5.20 (4.01)	5.73 (4.17)	−0.53	−5.02**	0.19
Alcohol/drug history	3.24 (4.62)	3.64 (4.70)	−0.40	−3.34**	0.07
Current alcohol/drugs	0.98 (2.75)	1.09 (2.94)	−0.11	−1.47	0.06
Mental health history	1.32 (1.76)	1.61 (1.88)	−0.28	−5.98**	0.22
Current mental health	0.08 (0.39)	0.11 (0.44)	−0.02	−1.92	0.07
Current attitude/behavior	3.59 (3.60)	4.33 (3.87)	−0.74	−7.60**	0.29
Current aggression	1.91 (2.07)	2.39 (2.28)	−0.48	−8.37**	0.32
Current skills	3.30 (4.58)	3.41 (4.72)	−0.10	−0.89	0.02

Notes. *M* = mean; *SD* = standard deviation. Two-tailed tests were employed. The mean reported with standard deviation in parentheses. The *t* statistic for equal variances was not assumed to be used when Levene's test for equal variances *F* statistic is significant ($p < .05$). The *N* for overall risk score is higher, and social and criminal history subscores are higher than for domain scores as domain scores only produced for youth receiving a C-PACT full assessment.

* $p < .05$. ** $p < .01$.

SVC versus Non-SVC Comparison

Table 5 presents the comparison of SVC offenders versus non-SVC offenders (anyone who does not meet criteria for all three categories SVC) on the overall risk to reoffend score of the PACT, the two subcomponent measures (social history and criminal history) that make up the scoring matrix as shown in the Appendix, and the risk factor domain scores for the 34,497 youth subsample. As shown, the SVC group has significantly higher scores on the overall risk score, the two subcomponent scores, and 11 of 16 risk domains. Finding the social history subcomponent score higher for SVC youth indicates not only that they have more priors, elevated seriousness of priors, and more justice system placements (as evidenced by the higher criminal history score and their classification as SVC) but also that they evidence more risk in multiple domains shown to be both correlated with and predictive of reoffending. There was not a single risk domain in which the non-SVC youth scored significantly higher than the SVC youth, and in fact, only current employment

TABLE 6

Service Completers: Protective Factor Comparisons non-SVC Youth Versus SVC Youth

C-PACT Protective Domain	Non-SVC M (SD)	SVC M (SD)	Mean Difference	t Value	Cohen's d
	N = 7,637	N = 1,933			
School history	2.20 (1.038)	1.93 (0.971)	0.269	10.72**	0.38
Current school	5.50 (3.071)	4.67 (3.304)	0.828	9.98**	0.37
Current leisure time use	2.63 (1.646)	2.30 (1.568)	0.334	8.28**	0.30
Employment history	0.84 (1.423)	0.87 (1.419)	-0.035	-0.97	0.02
Current employment	2.25 (2.036)	2.42 (1.856)	-0.171	-3.54**	0.12
History of relationships	2.01 (1.021)	1.90 (1.013)	0.110	4.24**	0.09
Current relationships	7.60 (2.807)	7.20 (3.006)	0.405	5.36**	0.20
Family history	3.95 (1.089)	3.79 (1.174)	0.162	5.48**	0.21
Current living arrangement	13.20 (4.412)	12.31 (4.537)	0.895	7.92**	0.16
Alcohol/drug history	4.92 (2.269)	4.87 (2.272)	0.051	0.89	0.02
Current alcohol/drugs	0.08 (0.33)	0.06 (0.302)	0.012	1.52	0.05
Mental health history	8.46 (2.177)	8.19 (2.267)	0.272	4.76**	0.18
Current mental health	0.18 (0.59)	0.19 (0.600)	-0.013	-0.83	0.02
Current attitude/behavior	11.22 (5.012)	10.17 (5.227)	1.005	7.95**	0.30
Current aggression	4.84 (2.713)	4.22 (2.797)	0.621	8.77**	0.32
Current skills	13.06 (6.427)	12.42 (6.403)	0.640	3.91**	0.08

Notes. M = mean; SD = standard deviation. Two-tailed tests were performed. The mean is reported with standard deviation in parentheses. The t statistic for equal variances was not assumed to be used when Levene's test for equal variances F statistic is significant ($p < .05$). The N for protective scores reflects those domain scores only produced for youth receiving a C-PACT full assessment. The higher the mean score for each domain, the more protective that domain is for the youth.

* $p < .05$. ** $p < .01$.

risk had roughly equal means (mean difference = 0.001). Of the significant differences, effect sizes ranged from a low of Cohen's $d = 0.07$ for current school and for alcohol/drug history to a high of Cohen's $d = 4.74$ for the criminal history subscore. These results show that SVC youth are exposed to substantial risk in a myriad of areas including school, relationships/peers, living arrangements and family history, antisocial attitudes, aggression, alcohol and substance use histories, and mental health problem histories.

Although many studies of SVC or career criminals examine only risk factors, we include protective/promotive factors to allow for a more holistic view of the youth's circumstances. Table 6 shows the comparisons across PACT protective factors for SVC youth versus youth not meeting SVC criteria. Similar to the analysis for risk factors, SVC youth evidence significantly lower protective scores across a majority of domains (11 of 16 with Cohen's d ranging from 0.08 for current skills to 0.38 for school history). Of note, the SVC youth did show significantly higher protective scores on one domain, current employment (which includes items related to understanding what is required to maintain a job, interest in employment,

whether currently employed, and positive relationships with employers/coworkers; Cohen's $d = 0.12$). No significant differences were found in employment history. Additional, perhaps surprising, findings were the lack of significant findings for either alcohol and drug domains (history and current) or current mental health problems.

Next in our comparisons of SVC and non-SVC youth, we ran several logistic regression models using subsequent referral/adult arrest as the dependent measure (dichotomous yes/no). Table 7 shows the results from two binary logistic regression models for the full 34,497 youth sample, and the SVC; non-SVC; and youth not meeting criteria for serious, violent, or chronic subsamples. The intent is to show which factors (risk in models 1 and protective in model 2) predict a subsequent referral/adult arrest for each group. The models do not predict who will be classified in each subgroup, as those classifications have already been determined. The models show which factors predict a new offense for the youth placed in each classification. Time order is correct as the assessment was administered prior to the follow-up period. We wished to examine whether different risk and protective factors "mattered" for the various classifications. The point of this analysis is to shed some light on the targets for interventions that will most likely be effective for different subgroups of youth based on our SVC designations.

Model 1 entered sex and race (White/non-White) as well as all PACT risk domains as independent variables. As Table 7 shows, some consistency is found across groups for model 1; male youth and non-Whites are more likely to subsequently be arrested for each subsample. Criminal history (number and seriousness of prior offenses and prior justice system placements) and current substance use also predict referral/arrest for each subsample. School history risk and current relationships risk (delinquent peers) are predictive for the full sample and all subsamples, except SVC youth. Mental health (current or history) risk is not predictive of rearrest for any subsample, except youth not meeting criteria for serious, violent, or chronic, where it is inversely related such that youth with higher risk scores in current mental health problems are *less* likely to reoffend. Higher risk in antisocial attitudes was predictive of reoffending for the full sample and the youth not meeting criteria for serious, violent, or chronic. Current substance use was universally predictive across all subgroups. The skills domain was predictive for SVC youth but in the inverse direction with decreased reoffending for youth with higher risk in social skills.

Model 2 entered race (White/non-White) and each PACT protective score as independent variables predicting subsequent referral/adult arrest for the full sample and each subgroup as described previously (see Table 6 for protective domains entered). Criminal history was not included as there is no protective score for this domain, only an absence of risk. Race was significant for each subgroup such that White youth were less likely to reoffend. School history (no expulsion/suspension history, no special education needs, and current enrollment or graduated) was predictive of lower reoffending for the total sample and each subsample except the SVC youth. Importantly, the only protective domains predictive of lower likelihood of recidivism for SVC youth were lower levels of past

T A B L E 7

Logistic Regression Predicting Subsequent Referral/Rearrest of Service Completers

Regression Model	Full Sample	SVC Youth	Non-SVC Youth	Not S, V, or C Youth
Model 1: PACT domain risk scores and demographics	Male (1.91)**	Male (2.08)**	Male (1.84)**	Male (1.95)**
	Minority (1.21)**	Minority (1.19)**	Minority (1.21)*	Minority (1.22)**
	Criminal history (1.10)**	Criminal history (1.04)**	Criminal history (1.11)**	Criminal history (1.16)**
	School history (1.08)**	Current substance use (1.07)**	School history (1.10)**	School history (1.11)**
	Current school status (1.02)**	Skills (0.97)*	Current school status (1.02)**	Current relationships (1.09)*
	Relationship history (1.10)**		Relationship history (1.10)*	Current substance use (1.05)*
	Current relationships (1.05)**		Current relationships (1.06)**	Current mental health (0.62)*
	Past substance use (1.02)**		Past substance use (1.03)**	Attitudes (1.05)*
	Current substance use (1.06)**		Current substance use (1.06)**	
	Attitudes (1.02)*			
Model 2: PACT domain protective scores	Minority (1.36)**	Minority (1.226)**	Minority (1.31)**	Minority (1.28)**
	School history (0.84)**	Past substance (0.915)*	School history (0.82)**	School history (0.79)**
	Current school status (0.98)**	Attitudes (0.953)**	Use of free time (0.95)**	Past substance use (0.92)**
	Use of free time (0.95)**		Employment history (0.95)*	Mental health (1.07)*
	Employment history (0.96)*		Current employment (1.06)**	Current mental health (1.63)**
	Current employment (1.05)**		Past substance use (0.93)**	Attitudes (0.96)**
	Family history (0.98)*		Attitudes (0.97)**	
	Past substance use (0.93)**			
	Attitudes (0.97)**			

Notes. The odds ratios are reported in parentheses. The boldfaced odds ratio indicates the domain was inversely related to the outcome. For example, an examination of Model 1 for Not S, V, or C Youth: Current relationships and current substance use were significant predictors of rereferral/rearrest, the former at $p < .05$, such that the higher the current relationships risk score, the more likely a subsequent arrest, and the higher the risk score in current substance use, the more likely a subsequent arrest will occur. Current mental health was also a significant predictor ($p < .05$) of subsequent arrest, although inversely such that the higher the risk score in Mental Health, the less likely a subsequent arrest will occur. For Model 2 protective scores, odds ratios greater than 1.0 indicate the higher the protective score, the greater the likelihood of subsequent arrest.

* $p < .05$. ** $p < .01$.

substance use and more prosocial attitudes. Interestingly, these two protective domains were significant for the total sample and each subgroup as well. As past substance use is a static factor (there is nothing a juvenile justice worker can do to change the level of past use), the attitudes domain is the only dynamic/changeable protective factor significant for the SVC youth.

Conclusions/Policy Implications

A key issue with respect to SVCs is the choice of systems, the traditional juvenile justice system or the adult criminal justice system. Earlier reviews of transfer studies reported that transferred youth are more likely to reoffend, reoffend more quickly and at higher rates, and commit more serious offenses after release from prison than juveniles retained in the juvenile justice system (Bishop and Frazier, 2000; Howell, 1996). A recent systematic review of transfer studies conducted by the Task Force on Community Preventive Services (2007) of the Centers for Disease Control and Prevention (CDC) (Hahn et al., 2007; McGowan et al., 2007) found that transferring juveniles to the adult justice system generally increases, rather than decreases, rates of violence. This systematic review found that transferred juveniles are 34% more likely to be rearrested for violent or other crimes than juveniles retained in the juvenile justice system. A meta-analysis has shown that well-implemented rehabilitative programs in juvenile justice systems can be effective even for serious and violent offenders (Lipsey and Wilson, 1998), and this was demonstrated in a large-scale study in Philadelphia (Philadelphia County), PA, and in Phoenix (Maricopa County), AZ (Chung, Schubert, and Mulvey, 2007; Mulvey et al., 2010). This dual-city study also strongly supported the effectiveness of graduated sanctions with SVC offenders. In the most stringent study of graduated sanctions for young offenders committed to residential and nonresidential placement, researchers compared recidivism rates for equivalent groups of juveniles in Florida who were transferred to criminal court or retained in the juvenile justice system (Johnson, Lanza-Kaduce, and Woolard, 2011).

The current study uses a statewide sample and examines risk *and* protective factors as well as *subsequent* offending of SVC versus non-SVC youth. The purpose of the current study was to examine the prevalence of SVC offenders who are referred each year to a large centralized juvenile justice system. Our first research question as to whether the prevalence in SVC youth was stable across the 5-year period found a slow decline from 2007 to 2012. The second analysis found that SVC youth were substantially more likely to have been in the youngest classification of age at first referral, more likely to be male and minority, more likely to have gang association, and more likely to have more risk and fewer protective factors in the preponderance of domains examined. Most of the prior SVC and criminal career research has not included an analysis of protective factors. The finding that SVC youth have fewer protective factors in 12 of 16 factors examined further builds on the extent of their deficits in addition to those outlined in prior research. Our third research question examined whether the risk and protective factors predictive of subsequent offending differed

for SVC youth versus other referred youth. We found very few dynamic risk or protective factors predicted whether an already categorized SVC youth would reoffend. Only current substance use (as a risk) and having prosocial attitudes (as a protective factor) predicted subsequent SVC rearrest in the hypothesized direction. In comparison, many risks increase and protective factors decrease a non-SVC youth's likelihood of reoffending. Knowing that a small segment of offenders, or youth, or the population as a whole, have deficits in risk and protective domains is informative, but knowing which of those assessed deficits are predictive of continued offending is instrumental to providing effective prevention and intervention.

These results suggest some need for different interventions targeted to the different subsamples or show that only some intervention targets will be effective at reducing recidivism for SVC youth. SVC youth would benefit from interventions reducing current substance use, as would all other subsamples of youth. However, youth not classified as serious, violent, or chronic also would benefit from interventions aimed at a myriad of other dynamic factors from reducing antisocial peer association (current relationships), to reducing current substance use, and to reducing antisocial attitudes. Youth classified as non-SVC would benefit from interventions aimed at increasing attendance, improving grades, increasing positive conduct in school (current school status), reducing antisocial peer associations, and decreasing current substance use.

As attitudes is the only dynamic domain protective for all youth, including SVC youth, interventions aimed at enhancing prosocial attitudes and restructuring antisocial attitudes seem to present themselves as prime options for juvenile justice systems. This domain is a scale measure that encompasses the youth's impulsivity, belief in control of his or her own antisocial behavior, empathy for victims, respect for others' property, respect for authority, attitude toward law-abiding behavior, whether he or she accepts responsibility for antisocial behavior, and belief he or she will be successful in meeting the conditions of FDJJ supervision. Therefore, there seems to be a few areas of focus in which attitudes, as measured by the PACT, can be addressed. Cognitive-behavioral interventions, such as those aimed at the "stop-think-act" concept, helping youth to generate multiple options in a given situation and weigh consequences to each, might reduce impulsivity and increase self-efficacy. Furthermore, victim impact interventions might enhance empathy and increase levels of respect both for other people's property as well as for others in general.

Also of interest is that the attitudes domain is the only dynamic protective domain predictive of lower reoffending for youth not meeting criteria of serious, violent, or chronic (as race, school history, and past substance use cannot be changed, and reducing protective aspects of current mental health, as that domain is inversely related such that higher protective scores lead to greater likelihood of reoffending, is unethical to say the least). For the full sample and youth categorized as non-SVC, increasing prosocial use of free time (interest and involvement in prosocial community and recreational activities) seems to be

a target for intervention. For the full sample, current school status serves as a protective factor illustrating the importance of enrollment in school and a belief in the value of education, current positive conduct, good grades, and regular attendance to protect youth from reoffending.

Future research should examine the combinations of risk and protective factors predictive of subsequent offending across SVC subgroups. For instance, the question of which protective factors decrease the likelihood of future offending for youth with various risk profiles across the SVC subgroups should be addressed. That research would guide intervention strategies by specifically linking intervention targets based on the risk profile presented by individual youth, more so than that accomplished in this study by showing targets for more broad subgroups of youth. Future research should examine whether the risk and protective factors that are predictive of reoffending are similar for male and female youth and across race/ethnicity. Prior research has found seven SVC males for every SVC female (Kempf-Leonard et al., 2001) and ratios between 9:1 and 12:1 for career criminals (DeLisi and Piquero, 2011), whereas the current study shows a male-to-female ratio of 2:1. The current study included a large number of both SVC females (more than 400) and SVC Hispanics (more than 300). Future research should continue examining gender and race/ethnicity differences in SVC offending across multiple birth cohorts using the same measures/definitions for serious, violent, and chronic to rule out methodological discrepancies as causes of prevalence differences. The current study used official offending of a juvenile justice sample, whereas recent evaluations using nationally representative samples examined the severe 5% using self-reported substance use and antisocial behaviors. Additionally, comparisons of risk and protective factors of offenders, SVC offenders, and nonoffenders, by gender, such as recent efforts by Borduin and Ronis (2012) with violent, nonviolent, and nonoffending females, should be investigated.

Finally, longitudinal studies should be employed that examine whether the interventions targeted at the suggested domains actually prevent non-SVC youth from becoming SVC in the future. If we intervene prior to an at-risk youth being classified as SVC, then can we indeed halt that offending pathway progression? These endeavors should examine whether the age–crime curve of cohorts of youth can be reduced through targeting interventions across the continuum of services, with an emphasis on those targeted to high risk for SVC careers.

It should be reiterated that the prevalence rates of SVC offending are for the percent of youth referred each year to the juvenile justice system, not the percent of careers that are SVC. The youth examined in this study have not yet turned 18 years of age, and therefore, some of those classified as non-SVC might in fact reach the threshold for those criteria before they age out of juvenile justice jurisdiction. As Loeber and Farrington (1998b: 19) noted, “It should be kept in mind, however, that these percentages are a function of age, and they will vary for younger juvenile populations who have not yet gone through the full risk window.”

Although not without its limitations, the current study has the potential for considerable policy implications and has influenced policy in Florida already. The results of both the prevalence and the regression analyses could be fundamental drivers to ensure that the goals and intent of the Comprehensive Strategy for Serious, Violent, and Chronic Offenders are achieved (Howell, 2003). Knowledge of the prevalence of the SVC and corresponding subgroups assists in determining the amount of services needed at each graduated step along a comprehensive continuum of services. Recently, an approach has been developed to translate what is known regarding effective interventions from Lipsey's (2009) meta-analytic work and his Standardized Program Evaluation Protocol (SPEP) into practice by incorporating that tool into the comprehensive strategy, allowing juvenile justice agencies to compare the current services offered with the best practices shown to improve outcomes for youth (Howell and Lipsey, 2012; Lipsey and Howell, 2012; Lipsey, Howell, Kelly, Chapman, and Carver, 2010).

The regression results presented in the current study demonstrate the best risk and protective factor targets for intervention for each subgroup of youth who fit along that continuum. Using only data available from the PACT assessment makes possible the capability to create automated reports where frontline juvenile probation officers would be informed which youth are SVC; non-SVC; and youth not meeting criteria for serious, violent, or chronic after completion of the assessment. The reports also could provide a list of the most promising domain targets for intervention (established on the earlier regression results) based on the classification indicated.

The current study continues the policy dialogue of the potential for rehabilitation/habilitation of all juvenile and young adult offenders. Recently, scholars have debated the notion of a middle-tier court/justice system, between the juvenile and criminal systems, for young adults, largely based on research related to developmental neuroscience, maturity, and criminal careers (Cauffman, 2012; Farrington, Loeber, and Howell, 2012; Gibson and Krohn, 2012; Loeber and Farrington, 2012; Woolard, 2012). The last 10 years also has witnessed U.S. Supreme Court cases preventing the death penalty (*Roper v. Simmons*, 2005) and life without parole for nonhomicide (*Graham v. Florida*, 2011) and for homicide offenses (*Jackson v. Hobbs*, 2012; *Miller v. Alabama*, 2012) committed by adolescents. Although they are few, the current study found identifiable dynamic risk/need and protective factor domains that could be addressed to reduce subsequent SVC offender recidivism (most notably, substance use and antisocial attitudes). However, the number of potential targets is fewer than those not classified as SVC. SVC offenders seem to be different from non-SVC offenders in risk and protective factors, as well as in recidivism outcomes; yet they are not without hope for intervention. Future studies should examine the response of SVC offenders to evidence-based programs and interventions that target these specific criminogenic domains. Cognitive behavioral therapy, drug treatment, and multisystem family therapies would be fruitful programs for study, as well as the differences in reentry needs of SVC and non-SVC youth. Furthermore, examining female and male SVC offenders, risk and

protective factors predictive of recidivism for each, as well as responses to intervention is critical future work. We must continue to work to examine the effectiveness of interventions for the highest risk youth and young adults if we hope to guide policies for the judicial and justice system treatment of those offenders.

In an effort toward system reform, the Florida Department of Juvenile Justice has implemented several policy changes. The number of residential commitment beds has been reduced from more than 8,000 in 2006 to fewer than 2,400 in August 2013, which includes reduction of more than 50% in the last 3 years. Furthermore, the Florida Legislature has reinvested some of those cost savings from “deep-end” residential placement reductions to front-end prevention and community-based services. Additional policy changes include a closer scrutiny of residential commitment of low and moderate risk to reoffend youth. Data such as those presented in the current study have helped to illustrate the proportion of juvenile offenders most appropriate for residential placement. A recent policy has been implemented wherein any low risk to reoffend youth being considered for a recommendation to the court for residential commitment must be staffed by the local multidisciplinary team together with an FDJJ Headquarters team before the recommendation goes to the court. During the period of January 2011 to December 2012, the number of low risk to reoffend youth placed in residential programs has been reduced more than 56%, with a corresponding reduction of more than 42% for moderate risk to reoffend. These changes have not resulted in increased juvenile crime, as the delinquency arrest rate in Florida has decreased 22% from fiscal year 2010–2011 through fiscal year 2012–2013, with a 23% reduction in the total number of referrals (arrests).

Policies have been implemented in Florida specifically as a direct result of this study. The FDJJ has moved to a negotiation process for contract procurement, including residential programs, day treatment programs, and some community-based therapies. Staff members trained on the results of the current study are included as members of each of these negotiation teams. These trained staff use the information presented in this study on the risk and protective factors predictive of subsequent recidivism to ensure the negotiated proposals include interventions that target the dynamic identified needs, as well as dosage and fidelity monitoring requirements. This is part of an overarching process by which the FDJJ is using data to allocate resources more appropriately across the continuum of services to achieve the vision of a Comprehensive Strategy (Howell, 2003).

The knowledge of which risk and protective factors are prime targets for which subgroups of youth is integral to efforts to maximize resources and ensure funds are allocated toward interventions that match what is now known to reduce subsequent offending the most. As the FDJJ moves reform efforts to each additional Judicial Circuit, the authors of the current study are included as members in a team of trainers of local probation officers. This training includes the findings of the current study as well as how that knowledge can be used to refer youth to appropriate interventions and to enhance targeting and matching of intervention efforts.

One key step in the reform effort is to map the continuum of services available in each county. This continuum mapping not only details the available services and who they are intended to serve (universal prevention, at-risk youth, probation youth, residential programs, etc.), but also it details the capacity and any current waiting list issues for each service. With this information, the FDJJ and key stakeholders get a comprehensive view of exactly what is available (and how much of it) and can address gaps in services more efficiently. The continuum map is matched to the results of the current study to ensure the available intervention services address the critical risk and protective domains for the group identified. This process has been incorporated in the reform push in 5 of Florida's 20 circuits, with additional circuits to be added in 2014. Service mapping has recently uncovered a gap in interventions available for child delinquents (younger than 12 years old), which has led to initiatives to implement such services on a pilot basis in three counties. The Stop Now and Plan (SNAP) intervention, with separate programs for boys and girls younger than 12, has been chosen for implementation in the three counties. Implementation of such interventions is intended to decrease the prevalence of those early onset youth (in terms of at-risk behavior if not official delinquency) who become SVC offenders.

The FDJJ has developed and implemented a dispositional matrix to guide recommendations from juvenile probation officers to the courts. Knowledge of the prevalence of SVC offenders and each SVC subgroup helped guide this exercise by examining proportions of matrix cells in which various restrictiveness levels would be appropriate. Adherence to the matrix guidelines is tracked on a monthly basis across the entire state. This monitoring allows for examination of whether the percent of cases disposed according to acceptable ranges of the matrix is increasing across time and whether that figure increases as reforms are implemented in each county. Dispositions above the guidelines (more restrictive than the guidelines suggest), below the guidelines, acceptable within the guidelines, and optimal within the guidelines (the least restrictive option in a given cell of the matrix) are tracked to provide a snapshot each month for each county and illuminates those performing well and those performing poorly. Knowledge of this information necessitates meetings with stakeholders (judges, public defenders, prosecutors, etc.) and/or training for front-line probation officers responsible for the recommendations and the supervisors who monitor those decisions.

Additional efforts have included the implementation of the SPEP program scoring against evidence-based guidelines, mentioned previously, to evaluate all FDJJ residential programs, which began in July 2013. As part of this effort, the FDJJ has created and implemented a dosage tracking module in its centralized database. The module captures not only which interventions a youth receives but also the number of sessions and the number of contact hours per session. These dosage data, together with the SPEP treatment quality components evaluating whether the facilitators of interventions are trained on those interventions and whether the program conducts internal fidelity monitoring, will allow

for an analysis of previously “black box” concepts. We believe a required data tracking module capturing intervention dosage for all juvenile offenders on a statewide scale might be the first of its kind. It might be the case that different offender subgroups (such as SVC youth) require different interventions, or that they require different dosages of the same interventions. Examining intensity and duration of interventions provided across the state, available for each youth, allows for the study of those nuances. Only by evaluating each service that youth receive can an agency (a) ensure that the services provided actually match the best available research to date on effective interventions and (b) make notable progress toward achieving the mantra of the right service, to the right youth, at the right time, and in the right dosage.

Achieving adherence to the comprehensive strategy entails early delinquency prevention and cutting off the “supply” of future serious, violent, and chronic offenders by reducing the prevalence of child delinquents in the general population, while managing the “demand” side in providing effective delinquency intervention to those already meeting serious, violent, and chronic status. Effective intervention, therefore, has the capability of lowering the age–crime curve by following the evidence-based mantra of providing the right quality service to the right youth, at the right time, and at the right dosage and intensity.

References

- Andrews, Don A. and James Bonta. 2003. *The Psychology of Criminal Conduct*, 3rd Edition. Cincinnati, OH: Anderson.
- Baglivio, Michael T. 2009. The assessment of risk to recidivate among a juvenile offending population. *Journal of Criminal Justice*, 37: 596–607.
- Baglivio, Michael T. and Katherine Jackowski. 2013. Examining the validity of a juvenile offending risk assessment instrument across gender and race/ethnicity. *Youth Violence and Juvenile Justice*, 11: 26–43.
- Barnes, J. C. 2013. Analyzing the origins of life-course-persistent offending: A consideration of environmental and genetic influences. *Criminal Justice and Behavior*, 40: 519–540.
- Bishop, Donna M., and Charles E. Frazier. 2000. Consequences of transfer. In (Jeffrey E. Fagan and Franklin E. Zimring, eds.), *The Changing Borders of Juvenile Justice: Transfer of Adolescents to the Criminal Court*. Chicago, IL: University of Chicago Press.
- Borduin, Charles M. and Scott T. Ronis. 2012. Research note: Individual, family, peer, and academic characteristics of female serious juvenile offenders. *Youth Violence and Juvenile Justice*, 10: 386–400.
- Cauffman, Elizabeth. 2012. Aligning justice system processing with developmental science. *Criminology & Public Policy*, 11: 751–758.
- Chung, He L., Carol A. Schubert, and Edward P. Mulvey. 2007. An empirical portrait of community reentry among serious juvenile offenders in two metropolitan cities. *Criminal Justice and Behavior*, 34: 1402–1426.
- DeLisi, Matt and Alex R. Piquero. 2011. New frontiers in criminal careers research, 2001–2011: A state-of-the-art review. *Journal of Criminal Justice*, 39: 289–301.

- DeLisi, Matt and Michael G. Vaughn. 2008. The Gottfredson-Hirschi critiques revisited: Reconciling self-control theory, criminal careers, and career criminals. *International Journal of Offender Therapy and Comparative Criminology*, 52: 520–537.
- Farrington, David P. 1986. Age and crime. In (Michael H. Tonry and Norval Morris, eds.), *Crime and Justice: An Annual Review of Research*, Vol. 7. Chicago, IL: University of Chicago Press.
- Farrington, David P., Rolf Loeber, Delbert S. Elliot, David J. Hawkins, Denise B. Kandel, Malcolm W. Klein, et al. 1990. Advancing knowledge about the onset of delinquency and crime. In (Benjamin B. Lahey and Alan E. Kazdin, eds.), *Advances in Clinical and Child Psychology*, Vol. 13. New York: Plenum Press.
- Farrington, David P., Rolf Loeber, and James C. Howell. 2012. Young adult offenders: The need for more effective legislative options and justice processing. *Criminology & Public Policy*, 11: 729–750.
- Farrington, David P. and Donald J. West. 1993. Criminal, penal and life histories of chronic offenders: Risk and protective factors and early identification. *Criminal Behaviour and Mental Health*, 3: 492–523.
- Garrido, Vicente and Luz A. Morales. 2007. Serious (violent or chronic) juvenile offenders: A systematic review of treatment effectiveness in secure corrections. In *The Campbell Collaboration Reviews of Intervention and Policy Evaluations (C2-RIPE)*. Philadelphia, PA: Campbell Collaboration.
- Gibson, Chris, L. and Marvin D. Krohn. 2012. Raising the age: Issues in emerging adulthood and adult court referral of youthful offenders. *Criminology & Public Policy*, 11: 759–768.
- Gorman-Smith, Deborah and Rolf Loeber. 2005. Are developmental pathways in disruptive behaviors the same for girls and boys? *Journal of Child and Family Studies*, 14: 15–27.
- Gottfredson, Michael R. and Travis Hirschi. 1986. The true value of lambda would appear to be zero: An essay on career criminals, criminal careers, selective incapacitation, cohort studies, and related topics. *Criminology*, 24: 213–234.
- Hahn, Robert A., Angela McGowan, Akiva Liberman, Alex Crosby, Mindy Fullilove, Robert Johnson, et al. 2007. *Effects on Violence of Laws and Policies Facilitating the Transfer of Youth from the Juvenile to the Adult Justice System*. Atlanta, GA: Centers for Disease Control and Prevention.
- Hawkins, J. David, Richard F. Catalano, and David D. Brewer. 1995. Preventing serious, violent, and chronic juvenile offending: Effective strategies from conception to age 6. In (J. C. Howell, Barry Krisberg, J. David Hawkins, and John J. Wilson, eds.), *A Sourcebook: Serious, Violent, & Chronic Juvenile Offenders*. Thousand Oaks, CA: Sage.
- Howell, James C. 1996. Juvenile transfers to the criminal justice system: State-of-the-art. *Law & Policy*, 18 (January/April): 17–60.
- Howell, James C. 2003. Diffusing research into practice using the comprehensive strategy for serious, violent, and chronic juvenile offenders. *Youth Violence and Juvenile Justice: An Interdisciplinary Journal*, 1: 219–245.

- Howell, James C. 2009. *Preventing and Reducing Juvenile Delinquency: A Comprehensive Framework*. Thousand Oaks, CA: Sage.
- Howell, James C. 2012. *Gangs in America's Communities*. Thousand Oaks, CA: Sage.
- Howell, James C., Barry Krisberg, and Michael Jones. 1995. Trends in juvenile crime and youth violence. In (James C. Howell, Barry Krisberg, J. David Hawkins, and John J. Wilson, eds.), *A Sourcebook: Serious, Violent, & Chronic Juvenile Offenders*. Thousand Oaks, CA: Sage.
- Howell, James C. and Mark W. Lipsey. 2012. Research guidelines for juvenile justice programs. *Justice Research and Policy*, 14: 17–34.
- Huizinga, David, Rolf Loeber, Terence P. Thornberry, and Lynn Cothorn. 2000. Co-occurrence of delinquency and other problem behaviors. *Juvenile Justice Bulletin*. Washington, DC: Office of Juvenile Justice and Delinquency Prevention.
- Johansson, Pernilla and Kimberly Kempf-Leonard. 2009. A gender-specific pathway to serious, violent, and chronic offending? Exploring Howell's risk factors for serious delinquency. *Crime & Delinquency*, 55: 216–240.
- Johnson, Kristin, Lonn Landza-Kaduce, and Jennifer Woolard. 2011. Disregarding graduated treatment: Why transfer aggravates recidivism. *Crime & Delinquency*, 57: 756–777.
- Jonkman, Harry, Tom van Yperen, and Bert Prinsen. 2008. Prevention. In (Rolf Loeber, N. Wim Slot, Peter H. van der Laan, and Machteld Hoeve, eds.), *Tomorrow's Criminals: The Development of Child Delinquency and Effective Interventions*. Burlington, VT: Ashgate.
- Kempf-Leonard, Kimberly, Paul E. Tracy, and James C. Howell. 2001. Serious, violent, and chronic juvenile offenders: The relationship of delinquency career types to adult criminality. *Justice Quarterly*, 18: 449–478.
- Krohn, Marvin D., Terence P. Thornberry, Craig Rivera, and Mark Le Blanc. 2001. Later careers of very young offenders. In (Rolf Loeber and David P. Farrington, eds.), *Child Delinquents: Development, Intervention, and Service Needs*. Thousand Oaks, CA: Sage.
- Krohn, Marvin D., Jeffrey T. Ward, Terence P. Thornberry, Alan J. Lizotte, and Rebekah Chu. 2011. The cascading effects of adolescent gang involvement across the life course. *Criminology*, 49: 991–1028.
- Lipsey, Mark W. 2009. The primary factors that characterize effective interventions with juvenile offenders: A meta-analytic overview. *Victims & Offenders*, 4: 124–147.
- Lipsey, Mark W. and James H. Derzon. 1998. Predictors of violent or serious delinquency in adolescence and early adulthood: A synthesis of longitudinal research. In (Rolf Loeber and David P. Farrington, eds.), *Serious & Violent Juvenile Offenders: Risk Factors and Successful Interventions*. Thousand Oaks, CA: Sage.
- Lipsey, Mark W. and James C. Howell. 2012. A broader view of evidence-based programs reveals more options for state juvenile justice systems. *Criminology & Public Policy*, 11: 515–523.
- Lipsey, Mark W., James C. Howell, Marion Kelly, Gabrielle Chapman, and Darrin Carver. 2010. *Improving the Effectiveness of Juvenile Justice Programs: A New Perspective on*

Evidence-Based Practice. Washington, DC: Center for Juvenile Justice Reform, Georgetown Public Policy Institute, Georgetown University.

- Lipsey, Mark W. and David B. Wilson. 1998. Effective intervention for serious juvenile offenders: A synthesis of research. In (Rolf Loeber and David P. Farrington, eds.), *Serious & Violent Juvenile Offenders: Risk Factors and Successful Interventions*. Thousand Oaks, CA: Sage.
- Loeber, Rolf and David P. Farrington. 1998a. *Serious & Violent Juvenile Offenders: Risk Factors and Successful Interventions*. Thousand Oaks, CA: Sage.
- Loeber, Rolf and David P. Farrington. 1998b. Never too early, never too late: Risk factors and successful interventions for serious and violent juvenile offenders. *Studies on Crime and Crime Prevention*, 7: 7–30.
- Loeber, Rolf and David P. Farrington. 2001. Executive summary. In (Rolf Loeber and David P. Farrington, eds.), *Child Delinquents: Development, Intervention, and Service Needs*. Thousand Oaks, CA: Sage.
- Loeber, Rolf and David P. Farrington. 2012. *From Juvenile Delinquency to Adult Crime: Criminal Careers, Justice Policy, and Prevention*. New York: Oxford University Press.
- Loeber, Rolf, David P. Farrington, and David Petechuk. 2003. Child delinquency: Early intervention and prevention. *Child Delinquency Bulletin Series*. Washington, DC: Office of Juvenile Justice and Delinquency Prevention.
- Loeber, Rolf, David P. Farrington, and Daniel A. Waschbusch. 1998. Serious and violent juvenile offenders. In (Rolf Loeber and David P. Farrington, eds.), *Serious and Violent Juvenile Offenders: Risk Factors and Successful Interventions*. Thousand Oaks, CA: Sage.
- Loeber, Rolf, N. Wim Slot, and Magda Stouthamer-Loeber. 2008. A cumulative developmental model of risk and promotive factors. In (Rolf Loeber, N. Wim Slot, Peter H. van der Laan, and Machteld Hoeve, eds.), *Tomorrow's Criminals: The Development of Child Delinquency and Effective Interventions*. Hampshire, U.K.: Ashgate.
- Loeber, Rolf, Phen Wung, Kate Keenan, Bruce Giroux, Magda Stouthamer-Loeber, Welmoet B. Van Kammen, and Barbara Maugham. 1993. Developmental pathways in disruptive child behavior. *Development and Psychopathology*, 5: 103–133.
- McGowan, Angela, Robert A. Hahn, Akiva Liberman, Alex Crosby, Mind Fullilove, and Robert Johnson. 2007. Effects on violence of laws and policies facilitating the transfer of juveniles from the juvenile justice system to the adult justice system: A systematic review. *American Journal of Preventive Medicine*, 32 (4 Suppl. #1): 7–28.
- Melde, Chris and Finn-Aage Esbensen. 2011. Gang membership as a turning point in the lifecourse. *Criminology*, 49: 513–552.
- Miller, William R. and Steven Rollnick. 2002. *Motivational Interviewing: Preparing People for Change*. New York: Guilford Press.
- Moffitt, Terrie E. 1993. Adolescence-limited and life-course-persistent antisocial behavior: A developmental taxonomy. *Psychological Review*, 100: 674–701.
- Mulvey, Edward P., Laurence Steinberg, Alex R. Piquero, Michelle Besana, Jeffrey Fagan, Carol Schubert, and Elizabeth Cauffman. 2010. Trajectories of desistance and continuity in antisocial behavior following court adjudication among serious adolescent offenders. *Developmental Psychopathology*, 22: 453–475.

- Nagin Daniel S. and David P. Farrington. 1992. The onset and persistence of offending. *Criminology*, 30: 501–523.
- Nagin, Daniel S. and Kenneth C. Land. 1993. Age, criminal career, and population heterogeneity: Specification and estimation of a nonparametric mixed Poisson model. *Criminology*, 31: 327–362.
- National Research Council, National Academy of Sciences. 2013. *Reforming Juvenile Justice: A Developmental Approach*. Washington, DC: The National Academies Press.
- Piquero, Alex R. 2011. James Joyce, Alice in Wonderland, the Rolling Stones, and criminal careers. *Journal of Youth and Adolescence*, 40: 761–775.
- Piquero, Alex R., J. David Hawkins, and Lila Kazemian. 2012. Criminal career patterns. In (Rolf Loeber and David P. Farrington, eds.), *From Juvenile Delinquency to Adult Crime: Criminal Careers, Justice Policy, and Prevention*. New York: Oxford University Press.
- Piquero, Alex R., Terrie E. Moffitt, and Bradley E. Wright. 2007. Self-control and criminal career dimensions. *Journal of Contemporary Criminal Justice*, 23: 72–89.
- Snyder, Howard N. 1998. Serious, violent, and chronic juvenile offenders: An assessment of the extent of and trends in officially recognized serious criminal behavior in a delinquent population. In (Rolf Loeber and David P. Farrington, eds.), *Serious & Violent Juvenile Offenders: Risk Factors and Successful Interventions*. Thousand Oaks, CA: Sage.
- Stouthamer-Loeber, Magda and Rolf Loeber. 2002. Lost opportunities for intervention: Undetected markers for the development of serious juvenile delinquency. *Criminal Behavior and Mental Health*, 12: 69–82.
- Thornberry, Terence P. 2005. Explaining multiple patterns across the life course and across generations. *The ANNALS of the American Academy of Political and Social Science*, 602: 156–195.
- Thornberry, Terence P., David Huizinga, and Rolf Loeber. 1995. The prevention of serious delinquency and violence: Implications from the program of research on the causes and correlates of delinquency. In (James C. Howell, Barry Krisberg, J. David Hawkins, and John J. Wilson, eds.), *Sourcebook on Serious Violent and Chronic Juvenile Offenders*. Thousand Oaks, CA: Sage.
- Thornberry, Terence P., Marvin D. Krohn, Alan J. Lizotte, and Deborah Chard-Wierschem. 1993. The role of juvenile gangs in facilitating delinquent behavior. *Journal of Research in Crime and Delinquency*, 30: 55–87.
- Thornberry, Terence P., Marvin D. Krohn, Alan J. Lizotte, Carolyn A. Smith, and Kimberly Tobin. 2003. *Gangs and Delinquency in Developmental Perspective*. New York: Cambridge University Press.
- Tittle, Charles R. and Harold G. Grasmick. 1997. Criminal behavior and age: A test of three provocative hypotheses. *Journal of Criminal Law & Criminology*, 88: 309–342.
- Tolan, Patrick H. 1987. Implications of age of onset for delinquency risk identification. *Journal of Abnormal Child Psychology*, 15: 47–65.
- Tolan, Patrick H. and Peter Thomas. 1995. The implications of age of onset for delinquency risk: II. Longitudinal data. *Journal of Abnormal Child Psychology*, 23: 157–181.

- Vaughn, Michael G., Matt DeLisi, Tracy Gunter, Qiang Fu, Kevin M. Beaver, Brian E. Perron, et al. 2011. The severe 5%: A latent class analysis of the externalizing behavior spectrum in the United States. *Journal of Criminal Justice*, 39: 75–80.
- Vaughn, Michael G. and Matthew O. Howard. 2005. The construct of psychopathy and its potential contribution to the study of serious, violent, and chronic youth offending. *Youth Violence and Juvenile Justice*, 3: 235–252.
- Vaughn, Michael G., Christopher P. Salas-Wright, Matt DeLisi, and Brandy R. Maynard. 2013. Violence and externalizing behavior among youth in the United States: Is there a severe 5%? *Youth Violence and Juvenile Justice*, e-pub ahead of print.
- Wilson, James Q. and Richard Herrnstein. 1985. *Crime and Human Nature*. New York: Simon & Schuster.
- Winokur-Early, Kristin, Greg A. Hand, and Julie L. Blankenship. 2012. *Validity and Reliability of the Florida Positive Achievement Change Tool (PACT) Risk and Needs Assessment Instrument: A Three-Phase Evaluation (Validation Study, Factor Analysis, Inter-Rater Reliability)*. Tallahassee, FL: Justice Research Center.
- Wolfgang, Marvin E., Robert M. Figlio, and Thorsten Sellin. 1972. *Delinquency in a Birth Cohort*. Chicago, IL: University of Chicago Press.
- Woolard, Jennifer L. 2012. Young adults: How different is “different enough” for social science, law, and policy? *Criminology & Public Policy*, 11: 723–728.

Court Cases Cited

- Graham v. Florida*, 130 S. Ct. (2011).
- Jackson v. Hobbs*, No. 10–9647 (2012).
- Miller v. Alabama*, No. 10–9646 (2012).
- Roper v. Simmons*, 543 U.S. 551 (2005).

Appendix: PACT Scoring Matrix and Domains

Criminal History Score	Social History Risk Score		
	0 to 5	6 to 9	10 to 18
0 to 5	Low	Low	Moderate
6 to 8	Low	Moderate	Moderate-High
9 to 11	Moderate	Moderate-High	High
12 to 31	Moderate-High	High	High
Pre-Screen	Full Assessment		
Domain #	Domain Name	Domain #	Domain Name
1	Record of Referrals	1	Record of Referrals
2	Social History	2	Gender
3	Mental Health	3A	School History
4	Attitude/Behavior Indicators	3B	Current School Status
		4A	Historic Use of Free Time
		4B	Current Use of Free Time
		5A	Employment History
		5B	Current Employment
		6A	History of Relationships
		6B	Current Relationships
		7A	Family History
		7B	Current Living Arrangements
		8A	Alcohol and Drug History
		8B	Current Alcohol and Drugs
		9A	Mental Health History
		9B	Current Mental Health
		10	Attitudes/Behaviors
		11	Aggression
		12	Skills

Note. The Overall Risk Classification of the PACT is derived from a matrix of the Criminal History (0–31) and Social History (0–18) sub-scores. For example, a youth scoring 13 of Criminal History and a 7 on Social History would be classified as High risk to re-offend.

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POLICY ESSAY

SERIOUS, VIOLENT, AND CHRONIC JUVENILE OFFENDERS

What are the Policy Implications of Our Knowledge on Serious, Violent, and Chronic Offenders?

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Baglivio, Jackowski, Greenwald, and Howell (2014, this issue) have replicated several aspects of previous studies, fortifying our knowledge about serious, violent, and chronic (SVC) offenders as a small group of individuals who are responsible for a disproportionate amount of serious crime (e.g., Loeber and Farrington, 2012; Loeber, Farrington, and Waschbusch, 1998; Moffitt, 1993, to mention a few). The sample is impressive: State-wide data on all juveniles referred to the Florida Department of Juvenile Justice (FDJJ) during the course of 5 years. What makes this particular study stand out is the inclusion of protective factors to balance the effect of risk factors, which is a leap forward in the study of serious offending. Taken together, Baglivio et al.'s extended approach to serious and violent offenders is of great importance to policy makers on all levels. This is also true for agencies that depend on accurate and precise risk assessments to identify individuals who are most at risk for recidivism and, in the end, reduce the financial burden on society caused by crime as well as increase public value of the administration of justice.

A wide array of papers and books have covered the topic of increasing public value and making official institutions such as the justice system more accessible and customer user-friendly, somewhat resembling the efforts of companies within the commercial/private sector (reviewed by Moore, 2013). One of the more important questions is what public value means to different groups and how is this attainable. Public value is sometimes defined as the individual's perception of use and perception of the quality of an organization's

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services; however, this does not always go together with an actual organization's primary and official goals (Moore, 2013). The justice system deals with at least three primary parties: the offender; the public (including victims of crimes); and professionals, with their mission to control, punish, and rehabilitate offenders, to fulfill the overarching goal of advancing public safety. Recognizing and increasing public value should not be limited to subjective experiences by individual clients but should also focus on "the efficient and effective achievement of mandated social outcomes" (Moore, 2013: 3). Demands are increasing on government agencies and the justice system to make use of performance-based self-evaluations at all levels. One way of facilitating this is to ensure that accurate predictions result from recidivism assessment tools (as will be discussed in this policy essay).

The Baglivio et al. (2014) article makes a contribution to the field in at least two ways. First, the research findings agree that offending peaks during adolescence and then slowly decreases. In fact, even the most seriously delinquent juveniles eventually desist or reduce their frequency of offending when entering young adulthood (Farrington, 1986; Loeber and Farrington, 2012). The Baglivio et al. research also contributes to and highlights the researchers' and policy makers' discussions about whether at 18 years of age individuals are mature enough to make the transition from the juvenile justice to the adult criminal justice system. It is also crucial for policy makers to decide whether this "maturity" to enter the adult system is based on an individual's developmental needs (similar in the adult system) or whether an individual is old enough to be punished by society. As a result of recent research on the timing of maturational processes (Steinberg and Cauffman, 2000), policy makers may want to think differently about the need to transfer juveniles who are serious offenders or repeat offenders to the criminal court. The human and financial costs attached to transferring juveniles to the adult court and the curtailing of rehabilitative interventions that usually follow is enormous (Loeber and Farrington, 2012). Furthermore, research has shown that the negative peer culture, which often prevails in juvenile institutions (e.g., Ahonen and Degner, 2012), also applies to adult prisons and is a strong risk factor for reoffending (Loeber and Farrington, 2012). Taken together, it is less likely that the maturational and desistance processes are promoted within the scope of the adult justice system. Instead, the adult justice system may add fuel to the fire because of its negative environment, thereby creating a higher risk for recidivism (Loeber and Farrington, 2012). The need to enhance maturational processes and teach juvenile offenders positive skills is often neglected by officials and the public, steering offenders toward punishment for their offenses rather than promoting rehabilitation. This tendency is often reinforced by victims of crime and their families demanding protection from offenders and punishments for their wrongdoings. However, it is likely that many juveniles who are transferred from the juvenile to the adult justice system are SVC offenders, who in the more hostile environment of adult institutions will have even fewer incentives and possibilities to desist from offending.

The Baglivio et al. (2014) article shows the tremendous importance of individually developed treatment or rehabilitation plans during incarceration. Andrews and Bonta (1998)

emphasized the necessity of implementing a risk–need–responsivity model where it is crucial to assess and categorize juveniles to create individual programs. The SVC group is, according to the RNR model, a high-risk group and, therefore, in need of the most intense treatment. In addition, SVC offenders often have co-morbid psychiatric symptoms that are not necessarily considered criminogenic needs or the primary focus in treatment (noncriminogenic needs; e.g., Gendreau and Andrews, 1994). However, anxiety problems, depression, substance abuse, and other common symptoms need to be addressed to enhance overall responsivity to treatment. With this said, all of these factors need to be addressed at the same time to improve pro-criminal attitudes (Lurigio, 2013).

Relevance of Research Findings for Four Categories of Professionals Dealing with SVC Offenders

We distinguish between four categories of professionals who deal with SVC offenders: legislators, city and regional officials, individuals heading institutions, and practitioners in the community. Legislators play a complex role, with several responsibilities regarding SVC offenders. First, they are responsible for the safety of the citizens in their state or country, and they can pass laws to augment rather than lower penalties for delinquents, such as “three strikes and you are out”; lengthening sentences specifically for SVC offenders; or increasing the transfer of juvenile SVC offenders into the adult justice system. This is not the place to examine the efficacy and costs of each of these actions (but see Loeber and Farrington, 2012), but their effect can be vast on the size of jail and prison populations and justice costs. Typically, legislators are known to become reactive to SVC offenders rather than to advance preventive approaches. Second, and on the positive side, legislators have the power to fund research on SVC offenders and thus promote better knowledge on SVC offenders’ delinquency careers, desistance patterns, and the impact of current or innovative justice practices on their recidivism rate. Third, legislators have the power to assign state or national funds for programs that can curtail SVC offending or prevent new generations of youth from becoming SVC offenders.

The tasks faced by city and regional officials regarding SVC offenders are often quite different from those of legislators. Typically, they are dependent on state and federal funds and on a local tax base for local programs dealing with SVC offenders. Because of their daily activities, they are much closer than legislators to problems caused by SVC offenders in their communities, and they are more aware of options to deal with SVC offenders, including preventive approaches. Part of the power of city and regional officers lies in interacting with the public and generating awareness about effective approaches. Legislators, however, like the city and regional officers, are prone to political pressures particularly because they do not want to be seen as “weak on crime and criminals,” which often makes them veer to applying repressive and punitive approaches rather than preventive approaches. In addition, financial and personnel investments aimed at preventing SVC offending often take years to

come to fruition and usually fall outside the time period that elected officials occupy their positions.

Directors of institutions, detention centers, and other justice settings are different from the above-mentioned categories of individuals. The managers focus on security and confinement issues and only secondarily on rehabilitative tasks such as preparing incarcerated juveniles or adult prisoners for their return to the community and, in the process, reduce their recidivism. This aspect of their work is often difficult because of the relatively high recidivism risk of SVC offenders, their re-exposure to preexisting risk accumulation in their home community, together with SVC offenders' tendencies to act in an irresponsible manner or exhibit high-risk behaviors. In that sense, institutional officers often share with elected officials an interest in penalties and containment rather than advance preventive approaches. On the positive side, institutional officers sometimes are responsible for the implementation of the best practices such as evidence-based programs and self-evaluations, as directed by legislators and regional/city officers. These practices need to fit in with security concerns while facilitating rehabilitation initiatives.

Practitioners in the community vary somewhat in their balance between safety, containment, rehabilitation, and preventive approaches, with the police understandably focusing on safety and containment. Meanwhile, individuals in the helping professions (social workers, psychiatrists, psychologists, child protection personnel) focus more on rehabilitation and, sometimes, on prevention at the community level. For example, the implementation of evidence-based interventions is challenging because it often needs thorough support from legislators, city and regional officers, and directors of institutions. Without that support, practitioners and front-line staff often have difficulty adapting such innovations because of restrictions of time; caseload; and lack of personnel, finances, or both.

As a result of space limitations, this review on the categories of policy makers and practitioners cannot fully explain aspects of the required work that can lead to innovations at the community interface between SVC offenders, youth at risk to become SVC offenders, and their victims. It is clear, however, that the professionals who have contact with SVC offenders often are in a position to change systems of care and to support such care in communities by advancing preventive approaches that stem from the continuous flow of new SVC recruits joining existing SVC offenders.

Selection of Target Groups for Interventions

For several reasons, it is debatable that an overly narrow focus on SVC offenders is the best approach to reducing their recidivism and decreasing their victimization of others. Currently, the focus on SVC offenders is out of convenience rather than out of what clearly links a system of strategies for effective prevention or remediation. SVC offenders are a heterogenous group, and they include violent offenders, some of whom are at a low risk for recidivism; drug dealers, some whom are at very high risk for recidivism;

and juvenile delinquents, some of whom are likely to desist between late adolescence and adulthood (Loeber and Farrington, 2012). Even less surprising is the fact that among the SVC offenders, only the chronic offenders are at a much higher risk for reoffending. The dilemma is, of course, how to tackle the fact that *chronic* often means to commit crimes repeatedly, which in its own right is a sort of recidivism. Another related issue is researchers' search for different delinquent careers within the category of SVC offenders. In recent years, trajectory research has improved empirical distinctions between different trajectories of serious offenders according to their developmental course of offending over time (Nagin, 2005). However, the analyses so far are postdictive rather than predictive, and they are thus not yet practical enough for professionals working with offenders to distinguish prospectively between offenders at risk for different negative life-outcomes.

Thus, it remains to be seen whether the concept of SVC offenders is optimal and what alternative categories of offenders apply, as well as which ones of these would fit better into systems of effective interventions that can clearly lead to reductions in crime in communities. Thus, we think that it is fruitful to discuss who SVC offenders actually are and, possibly, to revise their categorization and definition. Two examples can illustrate this. First, the delinquency pattern of SVC offenders tends to unfold between childhood and adolescence, and there is some evidence for developmental pathways signifying their orderly development of nondelinquent antisocial behavior first followed by gradual changes in offense patterns that usually involve increasing severity levels of offending (Loeber et al., 1993). Thus, knowledge of developmental pathways tends to aid policy makers' decisions on when to intervene early on with well-known and defined high-risk populations of youth prior to their escalation to serious and repeated law-breaking.

Another complementary approach to improving community safety is a focus on victims of crime. Research findings agree that offenders and victims often share many characteristics and risk factors (Lauritsen, Sampson, and Laub, 1991). For example, lethal and nonlethal violence is often directed at individuals who are engaged in repeated illegal activities, including drug dealing and dealing in stolen goods, which often lead to conflicts between parties that get settled outside of the law (Loeber and Farrington, 2011). Thus, one approach to SVC offenders is to focus on victims of violence who because of their wounds seek treatment at community clinics or hospitals, aiming to reduce their chance of revictimization.

Third, policy makers can benefit from research findings on the concentration of SVC offenders (and youth on their way to becoming SVC offenders) in certain communities or neighborhoods. For example, some psychologically oriented criminologists often focus on individuals rather than on high-risk individuals in certain communities. It is not surprising that SVC offenders often face more risk factors (e.g., criminal attitudes, a history of violence, an early onset of antisocial and delinquent behavior, or living in a disadvantaged neighborhood) than other offenders (e.g., Andrews and Bonta, 1998; Loeber and Farrington, 2012; Tremblay and LeMarquand, 2001).

Exposure versus Agency

Accurate prediction of future criminal behavior and recidivism is one of the, if not *the*, most important challenge in criminological research and practice. There are several different challenges to construct and implement efficient screening devices. The screening instruments attempt to isolate and categorize individuals, especially the serious, violent, or chronic offenders, according to his or her prior offense patterns and background factors. The Baglivio et al. (2014) study (and other earlier studies) show that SVC offenders are exposed to a much higher level of risk factors in most areas measured (11 out of 16), and that SVC offenders are more often involved in gangs (e.g., Loeber and Farrington, 1998). What is often not highlighted is the role the individual offender plays in the interaction with the risk and the promotive factors to which they are exposed. It is tempting to think of this as merely a methodological problem solvable through the development of increasingly sophisticated statistical models, but this is too simplistic. Researchers in their statistical models often see offenders as passive recipients of risk (and promotive) factors rather than as individuals who expose themselves to a range of known risk factors.

The notion of offenders creating their own risk environment has implications for policy makers. The formulation and execution of treatment programs will be very different if the offender is considered a product of risk factor exposure or if the individual is seen as an active agent in his or her own development. For instance, some treatment programs are very instrumental (e.g., token economy and more contemporary alternative programs) where the individual practice corrects responses to certain conditions, whereas others focus on internalization of positive norms and values that in the end results in socially accepted responses (e.g., milieu therapy and motivational interview) and reduces offenders seeking out high-risk situations and environments.

Screening Needs and the Effectiveness of Interventions

Much has been written about screening juvenile and adult offenders for recidivism risk (e.g., Hoge, Vincent, and Guy, 2012; Le Blanc, 1998). Information on recidivism risk is relevant for officials' decisions on who should receive justice penalties and of what kind, or who should receive rehabilitative services. Much less developed are screening instruments for young populations to identify those who are likely to become tomorrow's SVC offender (but see Howell, 2001). Policy makers and practitioners can greatly benefit from well-validated screening instruments, and where such instruments are lacking or are underdeveloped, the officials have the power to steer research funds to their development and sponsor the training of users of screening instruments. We clearly see many options for the development and use of screening instruments for different categories of practitioners. Which screening instruments can be easily administered by parents or by teachers and helpers in schools? Which instruments would be useful to the police in their decisions to refer to the court or divert youth? Similarly, which instruments are useful for juvenile court personnel to prosecute or divert youth?

It is probably redundant to state that knowledge of treatment effects and cost–benefit ratios of interventions are crucial components for the decision makers’ ability to choose rationally one intervention over another. Unfortunately, even though such information has become more readily available by means of the World Wide Web, the information is not always reflected in local and regional officials’ decisions about the use of resources leading to effective and cost–benefit interventions. Thus, there is much work that remains to be done to improve the transmission of knowledge about SVC offenders and programs to reduce and prevent SVC offending.

Improving Information Gathering Concerning Youth at Risk of Becoming SVC Offenders

Research publications have little difficulty in pointing out gaps in knowledge concerning SVC offenders (Loeber and Farrington, 1998, 2012). Less prominent in publications, however, are the gaps in knowledge that can aid policy makers in making better decisions concerning future crime waves in the manner that is currently done in many other fields such as the forecasting of storms, hurricanes, and floods. Crime statistics clearly show that there are major increases and decreases in crime rates over time. Much less clear is to what extent such changes in community-level crimes are preceded by reliable indicators of future changes in the collective presence of SVC offenders in communities. For example, is it possible to identify early on that a next generation of youth will emerge at risk for SVC offending? We argue that the research base for early indicators is much better than it was 10 years ago and that city and regional officials are in a much better situation to gauge two important criteria: (a) whether the numbers of youth at risk for SVC offending is increasing; and (b) whether the risk exposure to known accumulation of risk factors will put one or more generations for youth at risk for SVC offending. Thus, we advocate a two-pronged approach to improving information gathering and communication that focuses on the critical duality of early problem behaviors and risk exposure. This orientation is based on the sensible notion that SVC offenders are not a static entity but that recruits emerge every day and every year in new waves. This orientation also assures a proactive set of actions rather than having to deal with SVC offenders after years of victimizing others.

References

- Ahonen, Lia and Jurgen Degner. 2012. Negative peer cultures in juvenile institutional settings: Staff as couch coaches or couch slouches. *Journal of Offender Rehabilitation*, 51: 316–330.
- Andrews, Don A. and James Bonta. 1998. *The Psychology of Criminal Conduct*, 2nd Edition. Cincinnati, OH: Anderson.
- Baglivio, Michael T., Katherine Jackowski, Mark A. Greenwald, and James C. Howell. 2014. Serious, violent, and chronic juvenile offenders: A statewide analysis of prevalence and prediction of subsequent recidivism using risk and protective factors. *Criminology & Public Policy*, 13: 83–116.

- Farrington, David P. 1986. Age and crime. In (Michael H. Tonry and Norval Morris, eds.), *Crime and Justice: An Annual Review of Research*, vol. 7. Chicago, IL: University of Chicago Press.
- Gendreau, Paul and Don A. Andrews. 1994. *The Correctional Program Assessment Inventory*. St John, Canada: University of New Brunswick and Carleton Press.
- Hoge, Robert D., Gina M. Vincent, and Laura S. Guy. 2012. Prediction and risk/needs assessment. In (Rolf Loeber and David P. Farrington, eds.), *From Juvenile Delinquency to Adult Crime: Criminal Careers, Justice Policy and Prevention*. New York: Oxford University Press.
- Howell, James C. 2001. Risk/needs assessment and screening devices. In (Rolf Loeber and David P. Farrington, eds.), *Child Delinquents: Development, Intervention and Service Needs*. Thousand Oaks, CA: Sage.
- Lauritsen, Janet L., Robert J. Sampson, and John H. Laub. 1991. The link between offending and victimization among adolescents. *Criminology*, 29: 265–292.
- Le Blanc, Marc. 1998. Screening of serious and violent offenders: Identification, classification, and prediction. In (Rolf Loeber and David P. Farrington, eds.), *Serious and Violent Juvenile Offenders: Risk Factors and Successful Interventions*. Thousand Oaks, CA: Sage.
- Loeber, Rolf and David P. Farrington (eds.). 1998. *Serious & Violent Juvenile Offenders: Risk Factors and Successful Interventions*. Thousand Oaks, CA: Sage.
- Loeber, Rolf and David P. Farrington. 2011. *Young Homicide Offenders and Victims: Development, Risk Factors and Prediction from Childhood*. New York: Springer.
- Loeber, Rolf and David P. Farrington. 2012. *From Juvenile Delinquency to Adult Crime: Criminal Careers, Justice Policy, and Prevention*. New York: Oxford University Press.
- Loeber, Rolf, David P. Farrington, and Daniel A. Waschbusch. 1998. Serious and violent juvenile offenders. In (Rolf Loeber and David P. Farrington, eds.), *Serious and Violent Juvenile Offenders: Risk Factors and Successful Interventions*. Thousand Oaks, CA: Sage.
- Loeber, Rolf, Phen Wung, Kate Keenan, Bruce Giroux, Magda Stouthamer-Loeber, Welmoet B. Van Kammen, and Barbara Maugham. 1993. Developmental pathways in disruptive child behavior. *Development and Psychopathology*, 5: 103–133.
- Lurigio, Arthur J. 2013. Criminalization of the mentally ill: Exploring causes and evidence in the United States. *The Criminologist*, 6: 1–8.
- Moffitt, Terrie E. 1993. Adolescence-limited and life-course-persistent antisocial behavior: A developmental taxonomy. *Psychological Review*, 100: 674–701.
- Moore, Mark H. 2013. *Recognizing Public Value*. Cambridge, MA: Harvard University Press.
- Nagin, Daniel S. 2005. *Group-based Modeling of Development*. Cambridge, MA: Harvard University Press.
- Steinberg, Laurence, and Elizabeth E. Cauffman. 2000. A developmental perspective on jurisdictional boundary. In (Jeffrey A. Fagan and Franklin E. Zimring, eds.), *Changing Borders of Juvenile Justice: Transfer of Adolescents to the Criminal Court*. Chicago, IL: University of Chicago Press.

Tremblay, Richard E. and David LeMarquand. 2001. Individual risk and protective factors. In (Rolf Loeber and David P. Farrington, eds.), *Child Delinquents: Development, Intervention and Service Needs*. Thousand Oaks, CA: Sage.

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POLICY ESSAY

SERIOUS, VIOLENT, AND CHRONIC JUVENILE OFFENDERS

Moving from Description to Implementation of Evidence-Based Research Findings

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At the 2013 ASC meetings, a stellar panel composed of Todd Clear, Jim Lynch, Laurie Robinson, and Charles Wellford discussed the topic “The ASC and Public Policy.” Although several important comments were made during the various presentations, which were decidedly focused on the role of the ASC in public policy, one of the key themes to emerge from that session concerned the importance of recognizing the value of evidence-based science as well as an understanding of the political nature of the juvenile and criminal justice decision-making context both outside as well as inside the DC Beltway. It is not just producing the good science that matters, but equally difficult is overcoming the challenge of getting that work into the hands of policy makers in a way that they can then understand the research. Even more daunting is getting that work translated into effective public policy and scaling it up to a larger level.

On the heels of that backdrop, readers of *CPP* have just finished reading a very good example of a careful, descriptive analysis of serious, violent, and chronic (SVC) juvenile offenders from the state of Florida. Using a comprehensive data set of all youth who received a delinquency referral to the Florida Department of Juvenile Justice (FDJJ) between 2007–2008 and 2011–2012 as well as a subsample of all juveniles that completed a FDJJ placement during fiscal year 2009–2010 and then followed for a subsequent year post-completion to examine juvenile recidivism, Baglivio, Jackowski, Greenwald, and Howell (2014, this issue) extended Snyder’s (1998) very important analysis of SVC offenders to examine issues related to the prevalence of SVC offenders over time as well as the extent to which specific risk and protective factors related to recidivism (measured as both rearrest and reconviction). Aside from their substantive findings regarding the prevalence and characteristics associated with SVC and the correlates of recidivism, Baglivio et al. also discussed how their research has led to important changes in resource allocations throughout the FDJJ and how the

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127

FDJJ has adjusted old policies and implemented new policies, especially with respect to significantly decreasing residential placements and reallocating those resources to prevention and community-based programming with no substantive change in the overall juvenile crime rate, which has continued its downward trajectory.

The focus on the most serious of juvenile offenders, assuming they can be correctly identified, is *the* policy-relevant sample for both the juvenile and adult justice systems (Laub and Sampson, 2001; Mulvey et al., 2004). This is so because adolescent offenders have not yet emotionally or psychosocially matured, their current (and future) criminal trajectories remain in a state of flux, and they are potentially responsive to effective interventions and correctional programming. As reviewed most recently in the National Research Council's report *Reforming Juvenile Justice: A Developmental Approach* (Bonnie, Johnson, Chemers, and Schuck, 2013), the evidence regarding these three features of adolescents and the nature of their offending has been made more concrete over the past 10 to 15 years (Cauffman, 2012; Fagan, 2005; Scott and Steinberg, 2010; Steinberg, 2013; Zimring, 2000), so much so that the U.S. Supreme Court in three important decisions has ruled against executing juvenile offenders for murders they committed when they were younger than age 18 (*Roper v. Simmons* [2005]), prohibited states from imposing life without parole sentences to juvenile offenders who were convicted of nonhomicide offenses (*Graham v. Florida* [2011]), and deemed as unconstitutional mandatory life without parole sentences for juvenile offenders convicted of murder (*Miller v. Alabama* [2012] and *Jackson v. Hobbs* [2012]).¹ All of this comes at a time when substantial proportions of the U.S. citizenry favor effective interventions for juveniles in lieu of longer punishment spells (Nagin, Piquero, Scott, and Steinberg, 2006) and a more general belief that even serious juvenile offenders are worth saving (Cullen, Vose, Jonson, and Unnever, 2007; Farrington and Welsh, 2007; Piquero, Cullen, Unnever, Piquero, and Gordon, 2010), and legal scholars advance a scientifically backed argument for a "youth discount" with respect to sentencing juvenile offenders (Feld, 2013).

In the remainder of this policy essay, I consider the research of Baglivio et al. (2014) to identify and discuss briefly some specific and actionable next research and policy steps in the area of SVC offenders more generally.

Some Next Research Steps

Beginning with the two famous Philadelphia Birth Cohort Studies (Wolfgang, Figlio, and Sellin, 1972; Tracy, Wolfgang, and Figlio, 1990), an enduring fact in the field of criminology is the identification of a small group of chronic offenders, whose antisocial involvement begins early in the life course, increases in frequency throughout childhood and into adolescence, persists into early adulthood, and desists much later in the life

1. To be sure, the *Miller* decision did not preclude a life-without-parole sentence for juvenile murderers, but instead it required judges to consider issues related to culpability and youthfulness.

course than more transient offenders (Blumstein, Cohen, Roth, and Visser, 1986; Piquero, Farrington, and Blumstein, 2003, 2007). Because these offenders are responsible for a significant amount of crime, successful, early, and correct identification of them offers a very tempting policy focus (e.g., Schumacher and Kurz, 1998). The problem of course is that prospective identification of SVC offenders is exceedingly difficult and may be fraught with errors (Gottfredson and Hirschi, 1990; Laub and Sampson, 2003), which is made more complicated by the realization that some early chronic offenders recover from their criminal trajectories and another set of offenders who did not exhibit early chronic offending somehow began to do so in mid-to-late adolescence and continued into adulthood (Moffitt, Caspi, Dickson, Silva, and Stanton, 1996; Moffitt, Caspi, Harrington, and Milne, 2002).

These findings and cautions, however, should not dissuade researchers from continuing to gather data on the array of different risk and protective factors associated with antisocial, delinquent, and criminal offending throughout the various stages of the life course and across different types of samples (e.g., Loeber and Farrington, 1998). As new findings emerge from the various ongoing longitudinal studies throughout the world as well as consideration and exploration of more recently identified correlates of antisocial behavior, such as from the field of neuroscience (Glenn and Raine, 2014), describing the key correlates of antisocial behavior as well as the conditions which make these correlates more—or less—likely to be predictive of offending throughout the life course is critical because evidence-based programs are only as good as the evidence-based correlates that they are grounded in (see Sweeten, Piquero, and Steinberg, 2013).

One especially important but understudied issue in life-course research concerns the offending patterns of (mainly Hispanic) immigrants, a group whose perception of criminal involvement has cast a large shadow over the reality of their criminal involvement (Sampson, 2008). Fortunately, some longitudinal studies have been able to provide some basic data on immigrant offending patterns (see Maldonado-Molina, Piquero, Jennings, Bird, and Canino, 2009), the findings of which show a different pattern of offending involvement across first- and second-generation immigrants (see Bersani, 2014; Bersani, Loughran, and Piquero, 2013; Sampson, Morenoff, and Raudenbush, 2005). This line of work also has shown that the offending of immigrants tends to be influenced by some of the same risk and protective factors that are implicated in the offending of Native-born Americans but also that some unique factors such as assimilation and acculturation are relevant primarily for immigrants. Continued research on immigrants, broadly defined, offers a very important area for future research, which in turn may be useful to consider—as warranted—in prevention and intervention efforts.

Some Next Policy Steps

At least three important policy-related lessons and considerations for the future stem from the Baglivio et al. (2014) study. First, there is a need not only to consider but also more importantly to implement prevention and especially intervention programs that are focused

on cognitive and decision-making skills. One of the key findings to emerge from the Baglivio et al. study was the influence of prosocial attitudes, which was found to be predictive of lower likelihood of recidivism for SVC juveniles. This attitudinal measure encompassed a large range of factors including, for example, impulsivity, empathy, respect for authority, and attitude toward law-abiding behavior. One of these factors in particular, impulsivity, is similar to self-control, which has been found to be an important correlate of antisocial, delinquent, and criminal behavior more generally, but it also has been found to be an important correlate in life domains more generally as its influence is felt throughout in areas such as education, employment, and relationships (Moffitt, Poulton, and Caspi, 2013). Importantly, there is good evidence with respect to successful prevention and intervention efforts at improving self-control that, in turn, has been subsequently found to prevent future delinquency and offending (Piquero, Jennings, and Farrington, 2010).

Second, there is a need to continue to expand the range of evidence-based intervention programs for offenders in general and for SVC offenders in particular. In addition to the important work by the Center for the Study and Prevention of Violence with its Blueprints for Healthy Youth Development research project and the work of the Washington State Institute for Public Policy, the Office of Justice Programs maintains a very useful catalog on the effectiveness of programs and practices across a wide range of juvenile and criminal justice efforts (crimesolutions.gov). New programs are continually being developed, implemented, and evaluated throughout the world. One of these in particular, which the FDJJ has chosen for implementation in three counties, is the Stop Now and Plan (SNAP) intervention. Briefly, this intervention is a cognitive-behavioral self-control and problem-solving technique designed to help children and their parents interrupt negative behavior patterns and replace them with more positive options. Early evaluation studies, including a randomized controlled trial, has found that children exposed to SNAP show greater gains in impulse control than those in a control group, that SNAP-exposed children offend significantly less than those in a control group, that SNAP-treated children show greater changes in brain regions responsible for cognitive control and self-regulation than those in a control group, and further that parents experience positive benefits as well, including better parenting skills, less yelling, and so forth (see, e.g., Augimeri, Farrington, Koegl, and Day, 2007; Lipman et al., 2008).

Closing Remarks

At the outset of this policy essay, I highlighted the important sentiment that surrounded a recent ASC panel on ASC and public policy. In many respects, the article by Baglivio et al. (2014) represents a very good example of a research–policy–practice relationship that coincides well with the idea of translational criminology, i.e., the translation of scientific discoveries into policy and practice, which was a hallmark of John Laub’s Directorship of the National Institute of Justice. There, Laub (2012: 4) commented that, “Translational criminology aims to break down barriers between basic and applied research by creating a

dynamic interface between research and practice. This process is a two-way street. Scientists discover new tools and ideas for use in the field and evaluate their impact. In turn, practitioners offer novel observations from the field, which stimulate basic scientific investigations. This is the knowledge creation process, and researchers and practitioners play key roles here.” By undertaking careful, descriptive research of SVC offenders, Baglivio et al.’s research findings have been put into practice and the impact of new policies and decisions are continually being monitored by a researcher–practitioner working group partnership. This study offers a case exemplar of how careful scientific research can be used in the policy decision-making process in ways that help to craft and then implement an evidence-based response. As is (hopefully) universally understood, but sometimes in need of a reminder, juvenile and criminal justice policy are only as good as the scientific rigor that underlies it.

References

- Augimeri, Leena K., David P. Farrington, Christopher J. Koenig, and David Martin Day. 2007. The SNAPTM Under 12 Outreach Project: Effects of a community-based program for children with conduct problems. *Journal of Child and Family Studies*, 16: 799–807.
- Baglivio, Michael T., Katherine Jackowski, Mark A. Greenwald, and James C. Howell. 2014. Serious, violent, and chronic juvenile offenders: A statewide analysis of prevalence and prediction of subsequent recidivism using risk and protective factors. *Criminology & Public Policy*, 13: 83–116.
- Bersani, Bianca E. 2014. An examination of first and second generation immigrant offending trajectories. *Justice Quarterly*, 31: 315–343.
- Bersani, Bianca E., Thomas A. Loughran, and Alex R. Piquero. 2013. Comparing patterns and predictors of immigrant offending among a sample of adjudicated youth. *Journal of Youth and Adolescence*. Epub ahead of print. doi:10.1007/s10964-013-0045-z.
- Blumstein, Alfred, Jacqueline Cohen, Jeffrey A. Roth, and Christy A. Visher (eds.). 1986. *Criminal Careers and “Career Criminals.”* Washington, DC: National Academy Press.
- Bonnie, Richard J., Robert L. Johnson, Betty M. Chemers, and Julie A. Schuck (eds.). 2013. *Reforming Juvenile Justice: A Developmental Approach*. Committee on Assessing Juvenile Justice Reform, Committee on Law and Justice, National Research Council. Washington, DC: National Academies Press.
- Cauffman, Elizabeth. 2012. Aligning justice system processing with developmental science. *Criminology & Public Policy*, 11: 751–758.
- Cullen, Francis T., Brenda A. Vose, Cheryl N. Lero Jonson, and James D. Unnever. 2007. Public support for early intervention: Is child saving a “habit of the heart?” *Victims & Offenders*, 2: 109–124.
- Fagan, Jeffrey. 2005. Adolescence, maturity and the law: Why science and development matter in juvenile justice. *The American Prospect*, 16: A5–A7.
- Farrington, David P. and Brandon C. Welsh. 2007. *Saving Children from a Life of Crime: Early Risk Factors and Effective Interventions*. New York: Oxford University Press.

- Feld, Barry C. 2013. The youth discount: Old enough to do the crime, too young to do the time. *Ohio State Journal of Criminal Law*, 11: 107–148.
- Glenn, Andrea L. and Adrian Raine. 2014. Neurocriminology: Implications for the punishment, prediction, and prevention of criminal behaviour. *Nature Reviews Neuroscience* 15: 54–63.
- Gottfredson, Michael R. and Travis Hirschi. 1990. *A General Theory of Crime*. Stanford, CA: Stanford University Press.
- Laub, John H. 2012. Translational criminology. *Translational Criminology*, 3: 4–5.
- Laub, John H. and Robert J. Sampson. 2001. Understanding desistance from crime. In Michael H. Tonry (ed.), *Crime and Justice: A Review of Research*, Vol. 28. Chicago, IL: University of Chicago Press.
- Laub, John H. and Robert J. Sampson. 2003. *Shared Beginnings, Divergent Lives: Delinquent Boys to Age 70*. Cambridge, MA: Harvard University Press.
- Lipman, Ellen L., Meghan Kenny, Carrie Sniderman, Susanne O'Grady, Leena K. Augimeri, Sarah Khayutin, and Michael H. Boyle. 2008. Evaluation of a community-based program for young boys at-risk of antisocial behavior: Results and issues. *Journal of the Canadian Academy of Child and Adolescent Psychiatry*, 17: 12–19.
- Loeber, Rolf and David P. Farrington (eds.). 1998. *Serious & Violent Juvenile Offenders: Risk Factors and Successful Interventions*. Thousand Oaks, CA: Sage.
- Maldonado-Molina, Mildred M., Alex R. Piquero, Wesley G. Jennings, Hector Bird, and Glorisa Canino. 2009. Trajectories of delinquency among Puerto Rican children and adolescents at two sites. *Journal of Research in Crime and Delinquency*, 46: 144–181.
- Moffitt, Terrie E., Richie Poulton, and Avshalom Caspi. 2013. Lifelong impact of self-control: Childhood self-discipline predicts adult quality of life. *American Scientist*, 101: 353–359.
- Moffitt, Terrie E., Avshalom Caspi, Nigel Dickson, Phil A. Silva, and Warren Stanton. 1996. Childhood-onset versus adolescent-onset antisocial conduct problems in males: Natural history from ages 3 to 18 years. *Development and Psychopathology*, 8: 399–424.
- Moffitt, Terrie E., Avshalom Caspi, HonaLee Harrington, and B. J. Milne. 2002. Males on the life-course-persistent and adolescence-limited antisocial pathway: Follow-up at age 26 years. *Development and Psychopathology*, 14: 179–207.
- Mulvey, Edward P., Laurence Steinberg, Jeffrey Fagan, Elizabeth Cauffman, Alex R. Piquero, Laurie Chassin, George Knight, Robert Brame, Carol Schubert, Thomas Hecker, and Sandra Losoya. 2004. Theory and research on desistance from antisocial activity among serious juvenile offenders. *Youth Violence and Juvenile Justice*, 2: 213–236.
- Nagin, Daniel S., Alex R. Piquero, Elizabeth Scott, and Laurence Steinberg. 2006. Public preferences for rehabilitation versus incarceration of juvenile offenders: Evidence from a contingent valuation survey. *Criminology & Public Policy*, 5: 627–652.
- Piquero, Alex R., Francis T. Cullen, James D. Unnever, Nicole L. Piquero, and Jill A. Gordon. 2010. Never too late: Public optimism about juvenile rehabilitation. *Punishment and Society*, 12: 187–207.

- Piquero, Alex R., David P. Farrington, and Alfred Blumstein. 2003. The criminal career paradigm: Background and recent developments. In Michael H. Tonry (ed.), *Crime and Justice: A Review of Research*, Vol. 30. Chicago, IL: University of Chicago Press.
- Piquero, Alex R., David P. Farrington, and Alfred Blumstein. 2007. *Key Issues in Criminal Career Research: New Analyses of the Cambridge Study in Delinquent Development*. Cambridge, U.K.: Cambridge University Press.
- Piquero, Alex R., Wesley G. Jennings, and David P. Farrington. 2010. On the malleability of self-control: Theoretical and policy implications regarding a general theory of crime. *Justice Quarterly*, 27: 803–834.
- Sampson, Robert J. 2008. Rethinking crime and immigration. *Contexts*, 7: 28–33.
- Sampson, Robert J., Jeffrey D. Morenoff, and Stephen W. Raudenbush. 2005. Social anatomy of racial and ethnic disparities in violence. *American Journal of Public Health*, 95: 224–232.
- Schumacher, Michael and Gwen A. Kurz. 1998. *The 8% Solution: Preventing Serious, Repeat Juvenile Crime*. Thousand Oaks, CA: Sage.
- Scott, Elizabeth S. and Laurence Steinberg. 2010. *Rethinking Juvenile Justice*. Cambridge, MA: Harvard University Press.
- Snyder, Howard N. 1998. Serious, violent, and chronic juvenile offenders: An assessment of the extent of and trends in officially recognized serious criminal behavior in a delinquent population. In Rolf Loeber and David P. Farrington (eds.), *Serious and Violent Juvenile Offenders: Risk Factors and Successful Interventions*. Thousand Oaks, CA: Sage.
- Steinberg, Laurence. 2013. The influence of neuroscience on U.S. Supreme Court decisions involving adolescents' criminal culpability. *Nature Reviews Neuroscience*, 14: 513–518.
- Sweeten, Gary, Alex R. Piquero, and Laurence Steinberg. 2013. Age and the explanation of crime, revisited. *Journal of Youth and Adolescence*, 42: 921–938.
- Tracy, Paul E., Marvin E. Wolfgang, and Robert M. Figlio. 1990. *Delinquency Careers in Two Birth Cohorts*. New York: Plenum.
- Wolfgang, Marvin E., Robert M. Figlio, and Thorsten Sellin. 1972. *Delinquency in a Birth Cohort*. Chicago, IL: University of Chicago Press.
- Zimring, Franklin E. 2000. Penal proportionality and the young offender: Notes on immaturity, capacity, and diminished responsibility. In Thomas Grisso and Robert Schwartz (eds.), *Youth on Trial: A Developmental Perspective on Juvenile Justice*. Chicago, IL: University of Chicago Press.

Court Cases Cited

- Graham v. Florida*, 130 S. Ct. (2011).
- Jackson v. Hobbs*, No. 10–9647 (2012).
- Miller v. Alabama*, No. 10–9646 (2012).
- Roper v. Simmons*, 543 U.S. 551 (2005).

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EDITORIAL INTRODUCTION

SEX OFFENDER RESIDENCE RESTRICTIONS

Evidence of Ineffectiveness: Advancing the Argument Against Sex Offender Residence Restrictions

Richard Tewksbury

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Managing and responding to sex offenses and offenders has been a front and center issue in criminal justice discussions and debates for the last decade. Fears have abounded, hyperbole has dominated public and media discourse, and ever-increasing sanctions and restrictions have been quickly loaded on by policy makers. Sex offenders stand as today's boogey-man, feared and misunderstood by nearly all, and responded to with disgust, distrust, and disdain. Efforts to control sex offenses have taken numerous forms, resulting in both formal and informal sanctions. Standing as one of the most onerous of the restrictions imposed on sex offenders are residence restrictions—laws prohibiting sex offenders from living within specified distances of “child congregation locations.”

The logic of such restrictions is built on public safety—if sex offenders do not reside within sight or easy walking distance of places children gather, then those children will be spared sexual victimization. The logic falls apart, however, for sex offenders who do not target children, sex offenders who (as most do) target victims they know and with whom they interact, and for those who victimize in ways other than luring nearby children into their homes. There is an established and still growing body of literature demonstrating the fallacies of sex offender registration, notification (Jennings, Zgoba, and Tewksbury, 2012; Sandler, Freeman, and Socia, 2008; Tewksbury, Jennings, and Zgoba, 2012), and residency restrictions (Duwe, Donnay, and Tewksbury, 2008; Kang, 2012; Nobles, Levenson, and Youstin, 2012; Socia, 2012). Unfortunately, this is a realm where neither public policy nor

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public support is founded on the evidence. Laws continue to proliferate, and the public continues to support and favor such laws (Kernsmith, Craun, and Foster, 2009; Mancini, Shields, Mears, and Beaver, 2010; Schiavone and Jeglic, 2009). Interestingly, criminal justice system representatives, those with the most contact and responsibility for enforcing such restrictions, are far less likely to express support (Tewksbury and Mustaine, 2012; Tewksbury, Mustaine, and Payne, 2012).

In the subsequent article in this issue of *CPP*, Beth Huebner and colleagues (2014) examine the use and efficacy of residency restrictions in Michigan and Missouri. In both states, there is evidence of such laws being enforced, as (slightly) fewer sex offenders lived in the restricted zones once such were deemed out-of-bounds for sex offenders. But, when looking at prohibitions on known sex offenders residing within 1,000 feet of a school or daycare, Huebner et al. find little to no effect on sex offender recidivism. Sex offender recidivism is widely recognized as among the lowest of all forms of offenses, and when paired with the “extra” controls of residence restrictions, we gain no discernible benefit. In fact, recidivism by the offenders in Huebner et al.’s sample was so low that it was not possible to do any analysis of patterns of recidivism.

The implications of these findings are addressed in two notable policy essays by Elizabeth Mustaine (2014, this issue) and Kelly Socia (2014, this issue). Mustaine argues that although policies such as residential restrictions may have a “feel good” effect for some, the balance of the evidence clearly shows, at best, a negligible effect of such laws. What we do see arising from such laws are rippling collateral consequences—losses and harms of such sanctions that contribute to other problems, including driving sex offenders into socially disorganized (e.g., less controlled and monitored) settings and in the end, perhaps, contribute to recidivism. Socia addresses the utility and persistence of such laws head on, pointing out that residence restrictions “are not working and have negative consequences.” He then asks why such policies would be maintained. He concludes that such is the case because of poor communications between researchers and policy makers and because the making of such laws benefits legislators and imposes no implementation/enforcement costs on them. So, why would we not expect continued proliferation? But Socia, who takes a stronger stance, calls for (and justifies) the repeal of blanket residence restrictions laws; suggests how targeted, potentially useful versions could be implemented; and rallies the age-old cry for more communication between those who make and those who evaluate policy.

Huebner and colleagues (2014) have provided us with one more very solid piece of evidence showing the futility of current sex offender policies. Will it make a difference? Will those who make public policy learn from the research? Will anything researchers do make a difference? Only time will tell, but so far, on this issue, the prospects are not very promising.

References

- Duwe, Grant, William Donnay, and Richard Tewksbury. 2008. Does residential proximity matter? A geographic analysis of sex offense recidivism. *Criminal Justice and Behavior*, 35: 484–504.
- Huebner, Beth M., Kimberly R. Kras, Jason Rydberg, Timothy S. Bynum, Eric Grommon, and Breanne Pleggenkuhle. 2014. The effect and implications of sex offender residence restrictions: Evidence from a two-state evaluation. *Criminology & Public Policy*, 13: 139–168.
- Jennings, Wesley G., Kristen M. Zgoba, and Richard Tewksbury. 2012. A comparative longitudinal analysis of recidivism trajectories and collateral consequences for sex and non-sex offenders released since the implementation of sex offender registration and community notification. *Journal of Crime and Justice*, 35: 356–364.
- Kang, Songman. 2012. The consequences of sex offender residency restriction: Evidence from North Carolina. Unpublished manuscript, Duke University Department of Economics, Durham, NC.
- Kernsmith, Poco D., Sarah W. Craun, and Jonathan Foster. 2009. Public attitudes toward sexual offenders and sex offender registration. *Journal of Child Sexual Abuse*, 18: 290–301.
- Mancini, Christina, Ryan T. Shields, Daniel P. Mears, and Kevin M. Beaver. 2010. Sex offender residence restriction laws: Parental perceptions and public policy. *Journal of Criminal Justice*, 38: 1022–1030.
- Mustaine, Elizabeth Ehrhardt. 2014. Sex offender residency restrictions: Successful integration or exclusion? *Criminology & Public Policy*, 13: 169–177.
- Nobles, Matt R., Jill S. Levenson, and Tasha J. Youstin. 2012. Effectiveness of residence restrictions in preventing sex offense recidivism. *Crime and Delinquency*, 58: 491–513.
- Sandler, Jeffrey C., Naomi J. Freeman, and Kelly M. Socia. 2008. Does a watched pot boil? A time series analysis of New York State's sex offender registration and notification law. *Psychology, Public Policy and Law*, 14: 284–302.
- Schiavone, Stacey K. and Elizabeth L. Jeglic. 2009. Public perception of sex offender social policies and the impact on sex offenders. *International Journal of Offender Therapy and Comparative Criminology*, 53: 679–695.
- Socia, Kelly M. 2012. The efficacy of county-level sex offender residence restrictions in New York. *Crime and Delinquency*, 58: 612–642.
- Socia, Kelly M. 2014. Residence restrictions are ineffective, inefficient, and inadequate: So now what? *Criminology & Public Policy*, 13: 179–188.
- Tewksbury, Richard, Wesley G. Jennings, and Kristen M. Zgoba. 2012. A longitudinal examination of sex offender recidivism prior to and following the implementation of SORN. *Behavioral Sciences and the Law*, 30: 308–328.
- Tewksbury, Richard and Elizabeth E. Mustaine. 2012. Parole board members' views of sex offender registration and community notification. *American Journal of Criminal Justice*, 37: 413–431.

Tewksbury, Richard, Elizabeth. E. Mustaine, and Brian K. Payne. 2012. Community corrections professionals' attitudes about sex offenders: Is the CATSO applicable? *Criminal Justice Studies: A Critical Journal of Crime, Law, and Society*, 25: 145–157.

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The Effect and Implications of Sex Offender Residence Restrictions

Evidence from a Two-State Evaluation

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Research Summary

We evaluated the efficacy of sex offender residence restrictions in Michigan and Missouri using a quasi-experimental design with propensity score matching. First, we examined the implementation of the laws and found that sex offenders in both states were less likely to live in restricted areas after the implementation of the laws than the prerestriction sample, but the differences were not statistically significant. In our outcome analysis, we find little evidence that residence restrictions changed the prevalence of recidivism substantially for sex offenders in the postrelease period. In Michigan, trends indicate that the implementation of the laws led to a slight increase in recidivism among the sex offender groups, whereas in Missouri, this effect resulted in a slight decrease in recidivism. Technical violations also declined for both groups in Missouri. The small effect sizes, inconsistent results across states, and the null results between sex offender and non-sex offender models cast doubt on the potential usefulness of the laws to influence individual patterns of recidivism broadly.

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Policy Implications

The results caution against the widespread, homogenous implementation of residence restrictions. Instead, we advocate individualization in sex offender programming and call for the development of risk-centered models of residence restrictions that draw on the established literature. In addition, the research highlights the practical challenges in defining restricted areas, enforcing restrictions, and promoting successful returns to the community. Furthermore, a call for reframing the focus of sex offender reentry to include collaborative treatment groups and enhanced communication and services between key stakeholders is made. Finally, we close with a discussion of several best practice models that provide alternative housing sources for individuals sentenced under residence restrictions without a suitable home plan.

Keywords

residence restrictions, recidivism, parole, sex offenders, geographic information systems, collateral consequences of incarceration.

Of the specialized forms of sex offender management, which have proliferated in the past 20 years, sex offender residence restrictions are among the most controversial. Residence restrictions are a specific form of specialized legislation that prohibits sex offenders from residing within a certain distance from places where children congregate, such as schools or day care centers. Residence restrictions were designed to enhance public safety by neutralizing the risk of recidivism posed by registered sex offenders released into the community (Levenson and Cotter, 2005; Sample, Evans, and Anderson, 2011; Simon, 1998; Socia, 2011). The rationale behind this goal is that sex offenders choose their victims from the available population of the area in which they reside. Thus, attempts by the criminal justice system to increase the distance between registered sex offenders and potential targets should correspond to a decrease in recidivism among this group (Kang, 2012). Statewide residence restrictions have been adopted in some form by 33 states and at the municipal level in several others (Mancini, Barnes, and Mears, 2013). With heightened public concern regarding sex offenders, such laws are considered to have widespread public support (Kernsmith, Craun, and Foster, 2009; Mancini, Shields, Mears, and Beaver, 2010; Schiavone and Jeglic, 2009). Support from parole boards is generally more muted (Tewksbury and Mustaine, 2012), despite community corrections' officials assessments of sex offenders as dangerous (Tewksbury, Mustaine, and Payne, 2012).

To date, there has been little research on the efficacy of residence restrictions in reducing recidivism among registered sex offenders. Scholars have focused primarily on the projected impact of residence restrictions on available housing, qualitative descriptions of the unintended consequences of legislation, and the aggregate effect of residence restrictions on sex crime trends (see Pacheco and Barnes [2013] for a review). Overall, scholars have

not substantiated a link between residence restrictions and reduced recidivism specific to sex offender populations.

The goal of the current study is to build on extant research and consider the efficacy of residence restrictions enacted in Missouri and Michigan. The analysis proceeds in two phases. The first phase of the analysis documents change in the residential locations of sex offenders and non-sex offenders before and after the implementation of the residency restriction laws. The second phase of the analysis was designed to examine change in recidivism patterns before and after the implementation of residence restrictions. The research questions are addressed using a quasi-experimental design to compare the outcomes of the postrestrictions sex offender sample with a prerestrictions sample and a contemporary control sample of non-sexual offenders selected using propensity score matching. The analyses are designed to inform current policy on residence restrictions and enhance our empirical understanding of sex offending and offenders more generally.

Relevant Literature

Goals and Assumptions of Residence Restrictions

States and municipalities adopt residence restrictions and other forms of sex offender legislation for practical and symbolic reasons (Levenson and Cotter, 2005; Sample et al., 2011; Simon, 1998; Socia, 2011). In the practical sense, the purpose of residence restrictions is to protect vulnerable populations (i.e., children) from sexual victimization by reducing the recidivism risk of sex offenders known to law enforcement. This task is accomplished by restricting potential opportunities to recidivate sexually. To be effective, residence restrictions operate under the assumption that recidivist sex offenders choose to reside close to clusters of victims (i.e., schools) and that the potential for recidivism will decrease if their residential proximity to these possible victims could be increased (Mancini et al., 2013). This reasoning is consistent with the “distance decay” hypothesis, which suggests that most crimes are likely to occur in proximity to the offender’s home and the risk of offending declines as they move away from their residence (Brantingham and Brantingham, 1984; Van Koppen and De Keijser, 1997). Routine activities theory (RAT) (Cohen and Felson, 1979) also provides a theoretical rationale for residence restrictions. At the aggregate level, RAT predicts that the rate of recidivist sex crimes will decrease if known sex offenders’ access to potential child targets is physically restricted to the extent that there are fewer opportunities for sex offenders to encounter potential victims in the absence of capable guardians.

To date, few scholars have tested the assumptions of residence restrictions using empirical data. In their study, Walker, Golden, and VanHouten (2001) found that among sex offenders living in an Arkansas county, those with child victims lived closer to schools, parks, and day care centers than those with adult victims. Another study observed that registered sex offenders living in Newark, New Jersey, resided closer on average to restricted locations than a random sample of community members (Chajewski and Mercado, 2008). The authors add, however, that no differences were found between child and adult sex

offenders in proximity to schools, suggesting that they offer only partial support for the assumptions of residence restrictions.

In contrast, research generally has cast doubt on the potential efficacy of residence restrictions to decrease sex offender recidivism. Several studies have noted that sex offenders were unlikely to live in census tracts with larger potential victim clusters (Red-Bird, 2009; Tewksbury and Mustaine, 2008), contradicting claims that they select residences based on victim availability. Residential proximity to schools has not been found to differentiate sex offender recidivists from nonrecidivists. In one study based in Florida, Zandbergen, Levenson, and Hart (2010) compared the residential proximity to schools and day cares of matched samples of sex offender recidivists and nonrecidivists. Controlling for recidivism risk indicators, they observed that “residential proximity to schools and daycares explains virtually none of the variation in sexual recidivism” (Zandbergen et al., 2010: 498; see also Colorado Department of Public Safety, 2004; Minnesota Department of Corrections, 2003). This research indicated that proximity to victim clusters was not found to be the risk factor it is posited to be under a residence restrictions framework.

Furthermore, of the 224 sex offenders recommitted for a new sex offense in Minnesota between 1990 and 2005, none had committed their crime by establishing direct contact with a victim younger than 18 years of age at a school, park, or day care center within 1,000 feet of the offender’s residence (Duwe, Donnay, and Tewksbury, 2008). Research has suggested also that sex offenders, particularly those with child victims, are more likely to gain access to potential targets through friends and family and that initially they meet their victims in public or semipublic locations that are not specified as restricted locations under current legislation (Colombino, Mercado, and Jeglic, 2009). In combination, these findings have suggested that the implementation of residence restrictions might contribute only to small reductions in recidivism, especially among sex offenders convicted of offenses against children.

The Effect of Residence Restrictions on Recidivism

If the assumptions behind residence restrictions were to hold, then their implementation would be expected to decrease sexual recidivism, at either the individual or the aggregate level. To date, research examining the direct effect of these policies on recidivism has been relatively rare. Much of the existing research has considered aggregate rates of sex crime, as opposed to evaluating the effect of residence restrictions on the recidivism of individuals.

Of the few studies that have been conducted, results have been mixed. Blood, Watson, and Stageberg (2008) observed a positive effect of residence restrictions on minor-involved sex offense charges and convictions in Iowa, indicating that there was an increase in such incidents in the postrelease period. As Socia (2012b) noted, Blood and colleagues did not differentiate the sex offense convictions of registered sex offenders (i.e., those under the jurisdiction of the residence restrictions) from first-time (i.e., nonregistered) sex offenders. The possibility is that Iowa’s residency restriction law did affect registered sex offenders, but this effect was obscured by increased offending by first-time sex offenders. Also, it is

possible that the passage of residence restrictions increased criminal justice system attention on child sex crimes, resulting in additional charges.

Nobles, Levenson, and Youstin (2012) examined the effect of increasing the boundary of Jacksonville, Florida's residency restriction law from 1,000 feet to 2,500 feet on the aggregate number of sex crime arrests. Comparing arrests for all sex crimes and recidivist sex crimes for roughly 2 1/2 years prior to and after the policy change, they found no significant effect for the expanded residency restriction law on either sex crime variable after controlling for the race, sex, age, and felony status of arrestees. A quasi-experimental interrupted time-series analysis also revealed no change in sex crime trends after the expansion of the policy.

Furthermore, Socia (2012a) observed mixed effects of residence restrictions on sexual recidivism. More specifically, his analyses compared monthly rates of arrests for recidivist and nonrecidivist sex crimes against both children and adults, comparing New York counties with and without residence restrictions, and comparing the same counties before and after their residency restriction law was implemented. Across a 12-year period, Socia (2012a) noted that county-level residence restrictions were statistically unrelated to recidivist sex crimes against children or adults and to nonrecidivist sex crimes against children. In contrast, the residence restrictions were associated with a decrease in nonrecidivist sex crimes against adults. Although Socia (2012a) interpreted this effect as possible general deterrence, it also indicates that residence restrictions might not have targeted effects on sex crimes.

Finally, Kang (2012) examined the effectiveness of North Carolina's 1,000-foot boundary zone policy using a large sample of sex offenders and non-sex offenders. Difference-in-difference tests suggested that sex offenders released postrestrictions were significantly more likely to recidivate with violent and property offenses, relative to non-sex offenders. No analogous effect on sexual recidivism was observed. Although important, this research was not conducted with equitable comparison groups, did not control for differences in residential locations among the sample, and estimated outcome models using addresses at time of conviction. The current study was designed to address design gaps in previous studies by including multiple states, and more important, it identifies specifically both sex offenders and non-sex offenders in both preimplementation and postimplementation time frames, offering a more comprehensive portrait of effectiveness. The dearth of policy research on residency restriction laws despite initial implementation in the mid-1990s suggests additional research is necessary (Meloy, Miller, and Curtis, 2008).

Current Study

The states of Michigan and Missouri are the focus of the current study. The states were chosen for the analysis because they were among the first to implement statewide residence restrictions, maintain comprehensive sex offender registries, and use community notification programs.¹ Missouri has passed civil commitment legislation, and Michigan uses driver's

1. Michigan passed the first of a series of sex offender registration acts on October 1, 1995, and registry information became publicly available on the Internet in 1999. The registration act requires a minimum

license notation. Michigan and Missouri are 2 of 13 states that maintain residence restriction zones of 1,000 to 1,999 feet. In comparison, 7 states have set residency boundaries at 500 to 999 feet, 6 states have 2,000-foot boundaries, and 7 states maintain ad hoc boundaries based on offender and victim characteristics that are determined by judicial and correctional officials (Mancini et al., 2013).

The state of Michigan passed a residence restriction law in October 2005, and it was implemented on January 1, 2006 (Michigan Sex Offender Registration Act, 2005). The law prohibits sex offenders from residing, working, or loitering within 1,000 feet of school property, which also is deemed the school safety zone. Residence restrictions in Missouri became law on June 5, 2006. Sex offenders in Missouri are prohibited from living within 1,000 feet of a “public or private school up to the 12th grade or state-licensed childcare facility which is in existence at the time of the offender establishing his or her residency” (Revised Statutes of Missouri, 2006). Sex offenders also are barred from working or loitering within 500 feet of a school, childcare facility, or public parks with playground equipment or a swimming pool.

In both states, the laws are broad in scope and apply to offenders who committed crimes against children and adults. In Michigan, registerable offenses are those that fall under the criminal sexual conduct statute (Michigan Sex Offender Registration Act, 2005) and a variety of “other assaultive” person offenses that include a sexual component (e.g., accosting, enticing, or soliciting a child for immoral purpose and indecent exposure). Similarly, in Missouri, the restrictions apply to felony offenses in Chapter 566, RSMo, including rape, sodomy, sexual misconduct, sex trafficking, and several other offenses, such as child pornography, not captured under the sexual assault category. For the purposes of the study, a “sex offender” was categorized as anyone who was paroled after serving a sentence for a registerable sex offense, which largely consisted of criminal sexual conduct and assault with intent to commit criminal sexual conduct. Although some states have local towns that enact stricter boundary zones than the statewide law (Meloy et al., 2008), there are no local enhancements in Michigan or Missouri.

The goal of the current study is twofold. The first phase considers the implementation of residence restrictions. We use geographic information systems to document the magnitude of the change in residential patterns of sex offenders after the enactment of residence restrictions. The second phase includes an outcome evaluation. The central concern with

registration of 25 years and lifetime registration for second and subsequent offenses; individuals convicted of a felony sex offense must verify their address four times per year and misdemeanants once per year. Although not specifically part of the student safety zone language, the Michigan Department of Corrections gives all sex offenders a parole condition requiring them to remain 500 feet from any licensed day care center and precludes housing placements within that boundary as well. Failure to register is punishable with a felony, and residency or loitering mandates a 1-year misdemeanor. Missouri passed its first registration legislation in January 1995. The law requires all offenders convicted of criminal sexual conduct to register with the state police; offenders who victimized adults must register and verify their address every 6 months, and offenders who assaulted juveniles or have been deemed persistent sexual offenders must register every 90 days. Missouri requires lifetime registration for all sex offenders.

this aspect of the study is how patterns of recidivism compare with what would have taken place in the absence of the legislation. We use a quasi-experimental design with propensity score matching to estimate the efficacy of residence restriction legislation. This research design allows for a multistate evaluation of policy further increasing the internal and external validity of the research observations (Shadish, Cook, and Campbell, 2002).

Data, Sample Selection, and Measures

Data for the current study were obtained from two sources. Recidivism and parolee movement information were culled from official records maintained by the Michigan and Missouri Department of Corrections. Address data for schools and childcare facilities were obtained from the Missouri State Police, the Missouri Statistical Analysis Center, and the Michigan Department of Information Technology and Michigan Center for Educational Performance and Information.

The study sample includes parolees who were released from prison before and after residency legislation was enacted. We use a quasi-experimental design with propensity score matching to estimate the efficacy of the restriction policy. As such, we selected four comparison groups for the study, including a postrestriction intervention sex offender sample, a prerestriction control group of sex offenders, and prerestriction and postrestriction control samples of nonsexual offenders. The prerestriction and postrestriction date ranges varied across the two sites. The Michigan preintervention sample includes individuals released between January 1, 2003 and December 31, 2005, and the postrelease data represent January 1, 2006 through December 31, 2007. The preintervention sample in Missouri includes parolees released between July 1, 2004 and June 5, 2006, and the postintervention sample was selected from parolees released from June 6, 2006 through June 5, 2008.

The non-sexual offender comparison samples were generated using propensity score matching. Propensity scores are used to balance treatment and control groups by modeling the conditional probability of receiving treatment given a set of observed covariates and then comparing individuals with similar balancing scores (Rosenbaum and Rubin, 1983). We used a two-step modeling technique commonly used in developing propensity scores. In the first phase of the matching process, we selected a group of variables theoretically and empirically associated with recidivism (Gendreau, Little, and Goggin, 1996; Langan, Schmitt, and Durose, 2003; Quinsey, Rice, and Harris, 1995).

Next, to winnow the large non-sex offender samples, two non-sex offenders were matched to each sex offender using a caliper threshold of 0.001.^{2,3} Matching was stratified

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2. Consistent with approaches suggested in the literature, we only included covariates that were antecedent to the current conviction offense. This approach avoids using a procedure that would attempt to predict group membership (i.e., whether a subject is a sex offender or non-sex offender) based on covariates that were direct outcomes of that group membership (see DeLisi, Barnes, Beaver, and Gibson [2009] and Rengifo and Stemen [2013] for similar approaches).
 3. Initially, extremely large samples of non-sex offenders were received from the Michigan and Missouri Departments of Corrections. Propensity scores were estimated for 2,793 sex offenders and 50,522

by county type as delineated by the U.S. Census Bureau (i.e., metro area, urban, or rural), so that sex offenders paroled to a particular type of environment were matched to non-sex offenders paroled to the similar community structures. The matching procedure was performed a second time using only those sample members with complete demographic and recidivism data. The results presented in Appendices A and B indicate that after the second round of matching, the sex offender and non-sex offender samples were statistically similar on all observed covariates as indicated by the standardized bias statistic (Rosenbaum and Rubin, 1983). The resulting Michigan sample consisted of 1,703 sex offenders matched with 1,703 non-sex offenders ($N = 3,406$). The final Missouri sample includes 2,224 non-sex offenders and 2,224 sex offenders ($N = 4,448$).

Dependent Measures

Recidivism is the primary focus of the study and is measured in several ways, including technical violation, reconviction, and rearrest. Recidivism is broadly conceptualized to include sexual and non-sexual offenses. Each dependent measure is dichotomous and captures a different aspect of postrelease criminality during a 2-year parole term. We also obtained data on the date of the recidivism event to facilitate hazard models. *Technical violations* represent failure of the parolee to comply with the conditions of release (drug tests, peer association, employment, etc.). We include a measure of technical violations for several reasons. First, sex offenders have a low base rate of reoffending, particularly reconvictions for sexual recidivism (Friendship and Thornton, 2001; Langan et al., 2003). It is important to identify low-level behaviors that might signal challenges on parole (English, Pullen, and Jones, 1997). Second, criminal justice actors have discretionary power in the parole revocation process, and recent research has suggested that revocation decisions might be based on offense type (e.g., sex offender) and extralegal factors (e.g., gender and race) (Lin, Grattet, and Petersilia, 2010). As such, changes in legislation might have influenced the manner and extent to which technical violations are enforced within and between offender populations. We observed variation in the technical violation rate across time and study state (see Table 1). In Michigan, 20.7% of sex offenders (denoted as "SO" in tables) and 13.5% of non-sex offenders (denoted as "NSO" in tables) incurred a technical violation in the preintervention period; the rates were 22.5% for sex offenders and 9.8% for non-sex offenders after the residency laws were passed. In Missouri, the prelegislation (27.8%, SO; 37.4%, NSO) rates of technical violation were much higher than the postrestriction period (16.5%, SO; 18.6%, NSO).

In addition, we include a measure of *new reconviction* that represents a new crime substantiated in court. Overall, reconviction rates were higher in both states in the postresidency restriction periods. Reconviction rates in Michigan increased from prelegislation

non-sex offenders in Michigan and for 5,997 sex offenders and 85,785 non-sex offenders in Missouri. Address and recidivism information were then collected for the resulting matched subsamples.

TABLE 1

Descriptive Statistics for Michigan and Missouri Samples

Variables	Michigan				Missouri			
	Prerestriction		Postrestriction		Prerestriction		Postrestriction	
	NSO	SO	NSO	SO	NSO	SO	NSO	SO
Dependent Measures								
Technical violation	13.5%	20.7%	9.8%	22.5%	37.4%	27.8%	18.6%	16.5%
Days to violation	366.3 (198.5)	319.6 (194.7)	315.0 (155.5)	276.3 (200.8)	371.18 (191.8)	338.4 (208.6)	254.5 (167.5)	221.8 (169.8)
New conviction	2.4%	2.3%	4.4%	5.3%	8.2%	8.0%	7.7%	7.1%
Days to conviction	391.4 (228.1)	280.0 (209.5)	369.7 (181.8)	256.0 (176.0)	297.2 (217.2)	318.1 (209.9)	300.7 (202.3)	314.6 (200.4)
New arrest	20.3%	14.0%	26.9%	17.8%	—	—	—	—
Days to new arrest	314.3 (197.2)	331.0 (196.1)	332.8 (192.0)	375.0 (221.2)	—	—	—	—
Independent Measures								
Age	35.9 (10.3)	35.9 (10.1)	35.8 (11.3)	34.3 (10.7)	40.3 (11.1)	40.4 (9.7)	40.2 (10.7)	39.8 (9.6)
Female	3.4%	2.6%	3.6%	5.7%	13.7%	13.5%	13.0%	11.1%
Non-White	30.0%	29.8%	33.1%	28.4%	22.5%	23.1%	24.9%	24.6%
Married	45.1%	47.7%	44.7%	39.7%	23.2%	24.1%	26.2%	25.5%
HS/GED	60.6%	60.7%	53.1%	49.1%	64%	64.9%	68.7%	63.1%
Months incarcerated	45.1 (45.5)	70.9 (48.4)	46.8 (55.5)	65.6 (50.0)	7.7 (7.1)	8.2 (8.0)	11.1 (10.6)	17.0 (14.4)
General misconduct	63.4%	64.3%	60.4%	69.1%	11.0%	33.8%	18.5%	35.0%
Sexual misconduct	5.0%	5.6%	5.1%	7.4%	1.0%	2.5%	1.9%	3.9%
Prior convictions	1.5 (4.3)	1.2 (3.0)	3.1 (5.1)	1.8 (3.7)	1.9 (0.9)	1.8 (0.9)	1.9 (0.9)	1.9 (0.9)
Child victim	—	22.3%	—	21.5%	—	14.1%	—	16.3%

Notes. Standard deviations in parentheses; days to recidivism for recidivists only.

(2.3%, SO; 2.4%, NSO) to postrestriction periods (5.3%, SO; 4.4%, NSO). Less change was observed in Missouri with a small decline from prerestriction (8.0%, SO; 8.2%, NSO) to postrestriction periods (7.1%, SO; 7.7%, NSO). *Rearrests* correspond to events where the parolee was taken into custody by the police pursuant to an alleged crime. Rather than being a measure of whether a crime has actually taken place, rearrests are better viewed as an indicator of contacts with law enforcement.⁴ Arrest data were only available for the Michigan sample. In total, 14.0% of sex offenders were arrested in the prerestriction period

4. Soothill (2010) recently cautioned against the use of arrest data as measures of sex offense recidivism because an arrest for a sex offense might reflect simple suspicion on behalf of law enforcement, whereas registered sex offenders routinely are suspected when a new sex offense has occurred in the community.

compared with 17.8% postimplementation. The arrest rates for non–sex offenders were 20.3% preimplementation and 26.9% postrestrictions.

Independent Measures

The primary independent measure of interest is whether the parolee was released during the *residence restrictions* (0 = prerestriction release; 1 = postrestriction release). As noted, we use a propensity score matching procedure to balance the sex offender sample and the non–sex offender comparison group on observed covariates. After performing this procedure, several variables were unbalanced between the prerestriction and postrestriction sex offenders and non–sex offenders, introducing a selection bias threat to internal validity. As such, we control for these unbalanced measures in our multivariate analyses.⁵ These measures are detailed in the subsequent discussion. Our goal was to create two equivalent groups of parolees who would differ only on the nature of their offending behavior.

Consistent with research of this type, we control for several factors that could influence selection into the sample and postrelease behaviors. Criminal history is measured using a continuous measure of *prior convictions*, and sample members, in both states and all groups, averaged less than two convictions. We include three measures of prison context and behavior including *incarceration length* (log transformed months), *general misconduct* (1 = one or more general misconduct citations; 0 = zero misconducts sustained during instant incarceration term), and *sexual misconduct* (1 = one or more sexual misconduct citations; 0 = no reported sexual misconduct citations).⁶ For the sex offender models, an additional criminal history indicator of victim age, *child victim* (1 = victim younger than 13 years of age; 0 = victim 13 years or older), was used.⁷ In total, 21% of offenders in Michigan had a child victim, and 14% of individuals in Missouri were serving time for a crime against a child. Finally, we include several demographic controls including *age* (in years), gender (1 = *female*), and race (1 = *non-White* including Black, Asian, and other; 0 = White).⁸ Measures of marital status (1 = *married*; 0 = single, divorced, or widowed) and education (1 = greater than high-school education HS/GED) also are entered into the models. More information on the samples used is presented in Table 1.

5. The propensity models varied by state as did access to data. We elected to use the same independent measures in the final models to enhance consistency in our analyses.

6. The sexual misconduct and general misconduct measures are mutually exclusive.

7. Michigan uses age 13 as a statutory classification for seriousness of sexual offense. This measure was designed as a proxy as this subgroup of sex offenders are (a) the primary targets of residence restriction legislation given the language used in the laws, (b) more likely to commit a sex crime against a child given their prior conviction for a child sex offense (indicative of some unobservable/latent propensity), and (c) likely to be subject to surveillance from the community, including community correctional and law enforcement personnel.

8. Data on ethnicity were not made available in either state.

Analyses

Geographic Residential Patterns

As noted, residence restriction legislation is based on the assumption that sex offenders could gain access to victims by selecting to reside close to schools/day care centers. This phase of the analysis was designed as a partial test of implementation fidelity. If the residence laws are enacted and carried out as planned, then we would expect to find very few, if any, parolees living in restricted areas after the implementation of the law.

To examine residential patterns, we used geographic information system (GIS) software (ArcGIS; Esri, Redlands, CA) to document the residential locations of the samples before and after the enactment of residence restrictions and the address of schools and licensed day cares. In the current analysis, our focus was on the offender's first residential address after release from prison. The first residential address has practical importance as it is the culmination of prerelease planning and decision making, and it has the ability to influence future movements (Massoglia, Firebaugh, and Warner, 2013).

For these particular analyses, we used a street network data model, or "street geocoding," which is the most used address geocoding procedure in GIS services and research (Zandbergen, 2008, 2009).⁹ Addresses are identified by locating the street referenced in the address (e.g., Main Street), locating the segment of that street identified by the address number (e.g., 300–400), and then placing a point along the street segment based on the street number within the segment (e.g., 350, or halfway through the 300–400 segment). Additional indicators point to which side of the street the address is on and adjust the point accordingly (Zandbergen, 2008).¹⁰

Next, we drew 1,000-foot perimeters around public and private K–12 schools and licensed day cares, and we denoted the members of the sample who inhabited these areas.¹¹ As with any analyses of this type, there is potential measurement error concerning the extent of restricted property and the placement of sex offender addresses either inside or outside

9. For instance, Google Maps (Google, Inc., Mountain View, CA) uses street network data geocoding.

10. Alternatives to our measurement scheme include the use of parcel data, in which the boundaries of geographic units (e.g., property lines and residential units) are mapped, and address point data, which places a single point at the centroid of a given parcel (Zandbergen, 2008), but we were not given access to these data. This procedure has clear implications for the validity of the analyses. In a comparison of the procedures, Zandbergen (2008) observed that street network data and address points tended to have higher geocoding match rates than parcel geocoding, but parcel geocoding was considered to be the most spatially accurate (Rushton et al., 2006). An exception to this was for addresses falling within multiunit residential complexes, in which street geocoding is considered to be more accurate than parcel data. Many sex offenders in our analyses resided in multiunit apartments. Our residency measurements were made as 1,000 feet from the center of the street in front of the school or day care center. We used a side offset of 20 feet to increase geocoding accuracy (Zandbergen et al., 2010).

11. Our residency measurements were made as 1,000 feet from the center of the street in front of the school or day care center. In the study states, residency restrictions are enforced as the distance in feet from the property line of the restricted addresses, meaning that our analysis might vary slightly from the boundaries used by state officials.

of those boundaries. The analyses might be an underestimation of violations as we use only one point of measurement for each school and day care, instead of the property lines of each parcel, which are broader in scope. We could have potentially overestimated residency violations. Day care licenses in each study state are issued by the government and are valid for a set period of time. We extracted day care addresses during the postrestriction period and updated these data annually to account for changes. There is concern that some small private day care facilities change on a daily basis—particularly in urban areas.¹² Similarly, some of the sex offender addresses that fell within 500 or 1,000 feet of a restricted address might have been a special case, such as a nonresidential address (e.g., transitional housing, treatment center, etc.). We conducted sensitivity analyses (not shown) that excluded these addresses from the analysis. When these nonresidential addresses are removed, the violation rates decreased slightly but not in a statistically significant manner. In essence, a conservative interpretation of our results is warranted.

In Michigan, the sample includes 3,247 individuals: 1,596 sex offenders and 1,651 non-sex offenders. In Missouri, the geographic sample includes 3,608 individuals: 1,879 non-sex offenders and 1,729 sex offenders.¹³ Table 2 provides an overview of residential locations of the study sample.

Overall, sex offenders in Michigan and Missouri were less likely than non-sex offenders to live in restricted areas before and after the implementation of the residence restrictions. However, many sex offenders retained residence in restricted zones postrestriction. Among the postrestriction sex offender sample, 22% of the first addresses in Michigan and 21% of addresses in Missouri were within the restricted zones. In both states, sex offenders in the postrestriction period were no more or less likely to be living in a restricted zone when compared with prerestriction sex offender addresses.

12. The extent of childcare closures during the study period is not known. Whitebook and Sakai (2003), in a study of the National Child Care Staffing Study, found that 30% of 266 centers studied closed in a 9-year period. We anticipate that the closing rate is much smaller in an annual period.

13. In Michigan, we geocoded addresses prior to propensity score matching. The following metrics refer to the original Michigan sample and not just the propensity-score-matched subjects. The sex offender sample included a total of 7,917 addresses. Of these, 7,699 (97.2%) were successfully geocoded. Any addresses that were not automatically matched were manually geocoded. Of the 218 addresses that could not be geocoded either manually or automatically, 171 were mapped to zip code centroids. For Michigan, the final sex offender geographic sample included 7,870 data points. In addition 7,112 addresses were obtained for the non-sex offender sample. Of these, 6,809 (95.7%) were successfully geocoded. Of the 303 addresses that could not be matched successfully, 133 were mapped to a zip code centroid. The final non-sex offender dataset included 6,942 data points. In Missouri, the original sample included 4,448 individuals. In total, 10.5% of the original sample was dropped from the geographical analyses because the Department of Corrections did not provide a viable address (5.8%), the offender was paroled out of state (2.7%), or the offender was paroled to jail confinement (2.0%). Of the remaining addresses ($n = 4020$), 86.8% were matched and used for geographic analyses. The remaining 13.2% were matched via postal codes or by street names. Although this matching approximation gives some contextual confidence, it is not appropriate for specific geographical analyses that examine violation rates. The final sample of 3,609 represents individuals with complete street address and city data and/or zip code information.

TABLE 2

**Sex Offenders and Non-Sex Offenders in Violation of Residence Restrictions,
First Address**

Group and Period	Prerestrictions	Postrestrictions	Prerestrictions	Postrestrictions
Sex Offenders	<i>n</i> = 1,244	<i>n</i> = 352	<i>n</i> = 881	<i>n</i> = 848
Schools	12%	13%	10%	11%
Day care centers	13%	12%	22%	19%
Overall	23%	22%	26%	21%
Child Molesters	<i>n</i> = 280	<i>n</i> = 79	<i>n</i> = 116	<i>n</i> = 127
Schools	13%	14%	11%	9%
Day care centers	15%	8%	22%	17%
Overall	25%	19%	26%	21%
Non-Sex Offenders	<i>n</i> = 1,331	<i>n</i> = 320	<i>n</i> = 1,063	<i>n</i> = 816
Schools	16%	15%	14%	12%
Day care centers	13%	13%	25%	23%
Overall	26%	24%	31%	30%

Notes. Michigan: *n* = 3,247; Missouri *n* = 3,608.

We also considered whether the residence restriction laws were applied differently to individuals with child victims. Our results indicate that although the overall proportion of offenders with child victims living in restricted areas declined in the postrestriction period, the differences were not statistically significant. Additionally, in both the prerestriction and postrestriction periods, individuals with child victims were not more or less likely to have a first address within 1,000 feet of a school or day care center when compared with offenders with adolescent or adult victims.

Recidivism

The analyses of recidivism proceed in two parts. The first phase is designed to estimate the change in the prevalence of recidivism after the implementation of residence restrictions. A 2-year postrelease follow-up period was used to equate the period of observation for all groups. We use logistic regression to estimate these models (Long, 1997). Next, we use proportional hazard models to consider the time of failure. These models are ideal for the current analysis as they account for censoring, which is common in recidivism studies (Cox, 1972; Singer and Willett, 2003). Proportional hazards models account for the variation in release dates by modeling the time interval between release from prison and recidivism.

Tables 3 and 4 include results of the outcome analysis. In Michigan, residence restriction legislation was associated with a statistically significant increase in reconvictions for the sex offender cohort, net of controls (see Table 3). A similar result was not observed for the non-sex offender sample, and no significant changes in arrests and technical violations were observed in the postrestriction period. However, there was a significant decrease in the

T A B L E 3

Logistic Regression and Survival Analysis Recidivism Models for Michigan Non-Sex Offenders and Sex Offenders

Variables	Logistic Regression						Survival Analysis								
	Technical Violation			Rearrest			Technical Violation			Reconviction			Rearrest		
	1	2	3	4	5	6	7	8	9	10	11	12			
Model number	NSO	SO	NSO	SO	NSO	SO	NSO	SO	NSO	SO	NSO	SO			
Postrestrictions	-0.42* (0.18)	-0.04 (0.14)	0.53 (0.32)	0.64* (0.30)	0.18 (0.14)	0.12 (0.16)	-0.27 (0.17)	0.06 (0.11)	0.68* (0.30)	0.68* (0.28)	0.13 (0.11)	0.08 (0.14)			
Age	-0.02 (0.01)	-0.04*** (0.01)	-0.08*** (0.02)	-0.09** (0.03)	-0.03*** (0.01)	-0.06*** (0.01)	-0.01 (0.01)	-0.04 (0.01)	-0.08** (0.02)	-0.09** (0.03)	-0.03*** (0.01)	-0.06*** (0.01)			
Female	-0.07 (0.46)	-1.50** (0.54)	0.63 (0.83)	-0.11 (0.78)	-0.12 (0.38)	-0.44 (0.46)	-0.07 (0.42)	-1.35** (0.51)	0.52 (0.75)	-0.13 (0.75)	-0.16 (0.32)	-0.39 (0.42)			
Non-White	0.07 (0.16)	0.43** (0.13)	0.51 (0.32)	0.32 (0.31)	-0.07 (0.14)	0.25 (0.15)	0.08 (0.15)	0.37** (0.11)	0.53 (0.30)	0.30 (0.29)	-0.04 (0.12)	0.21 (0.13)			
Ever married	0.28 (0.18)	0.39* (0.15)	0.45 (0.37)	-0.14 (0.39)	-0.36* (0.16)	0.23 (0.17)	0.23 (0.17)	0.33** (0.13)	0.29 (0.35)	-0.19 (0.36)	-0.30* (0.13)	0.21 (0.15)			
HS/GED	-0.20 (0.16)	-0.56*** (0.13)	0.37 (0.33)	0.26 (0.31)	-0.03 (0.13)	-0.12 (0.15)	-0.17 (0.14)	-0.51*** (0.14)	0.60 (0.30)	0.18 (0.28)	0.01 (0.11)	-0.14 (0.13)			
Months incarcerated (in)	-0.20* (0.10)	-0.29** (0.11)	-0.00 (0.20)	-0.23 (0.27)	-0.30*** (0.08)	0.09 (0.16)	-0.20* (0.09)	-0.23* (0.10)	-0.03 (0.19)	-0.19 (0.26)	-0.25*** (0.07)	0.09 (0.12)			

Continued

T A B L E 3

Continued

Variables	Logistic Regression			Survival Analysis		
	Technical Violation	Reconviction	Rearrest	Technical Violation	Reconviction	Rearrest
General misconduct	1.59*** (0.23)	1.47** (0.48)	0.78*** (0.16)	1.46*** (0.22)	1.39** (0.47)	0.64*** (0.13)
Sexual misconduct	0.36 (0.30)	0.17 (0.61)	0.54 (0.28)	0.31 (0.27)	0.28 (0.56)	0.45* (0.22)
Prior convictions	0.28 (0.02)	0.16*** (0.02)	0.13*** (0.01)	0.23 (0.01)	0.12*** (0.01)	0.09*** (0.01)
Child victim	—	—	—	—	—	—
Intercept	—1.87 (0.38)	—3.33 (0.84)	0.05 (0.30)	— (0.14)	— (0.38)	— (0.17)
Cox and Snell R ²	0.052	0.053	0.119	—	—	—
–2 Log Likelihood	1,193.3	358.4	1,579.0	3,005.9	649.2	5,265.0
				5,093.5	705.4	3,639.2

Notes. Unstandardized coefficients presented with standard errors are in parentheses.

* $p < .05$. ** $p < .01$. *** $p < .001$.

T A B L E 4

Missouri: Logistic Regression and Survival Analysis Recidivism Models for Non-Sex Offenders and Sex Offenders

Variables	Logistic Regression				Survival Analysis			
	Technical Violation		Reconviction		Technical Violation		Reconviction	
	1 NSO	2 SO	3 NSO	4 SO	5 NSO	6 SO	7 NSO	8 SO
Postrestriction	-0.89*** (0.11)	-0.66*** (0.11)	-0.07 (0.16)	-0.14 (0.17)	-0.68*** (0.09)	-0.52*** (0.10)	-0.09 (0.12)	-0.24** (0.09)
Age	-0.03*** (0.01)	-0.02*** (0.01)	-0.03*** (0.01)	-0.02* (0.01)	-0.02*** (0.00)	-0.02*** (0.01)	-0.02*** (0.01)	-0.03*** (0.01)
Female	-0.21 (0.15)	0.01 (0.16)	-0.49 (0.27)	-0.38 (0.29)	-0.18 (0.12)	-0.03 (0.13)	-0.25 (0.18)	-0.25 (0.14)
Non-White	0.01 (0.12)	0.17 (0.12)	-0.24 (0.20)	0.11 (0.18)	-0.03 (0.09)	0.15 (0.11)	-0.09 (0.14)	0.01 (0.10)
Married	-0.43*** (0.12)	-0.04 (0.13)	-0.30 (0.20)	-0.11 (0.20)	-0.36** (0.10)	-0.02 (0.11)	-0.21 (0.14)	-0.18 (0.10)
HS/GED	-0.39*** (0.10)	-0.23* (0.11)	-0.15 (0.17)	-0.23 (0.16)	-0.30 (0.08)	-0.20* (0.09)	-0.08 (0.12)	-0.09 (0.09)
Months incarcerated	-0.21* (0.08)	-0.11 (0.07)	0.04 (0.13)	-0.15 (0.11)	-0.15* (0.06)	-0.09 (0.06)	-0.01 (0.09)	-0.09 (0.06)
General misconduct	-0.82*** (0.18)	-0.70*** (0.13)	0.16 (0.23)	0.25 (0.18)	-0.65*** (0.16)	-0.59*** (0.12)	0.35* (0.15)	0.26 (0.10)
Sexual misconduct	-0.09 (0.57)	-0.24 (0.38)	0.18*** (0.04)	0.30 (0.38)	-0.10 (0.52)	-0.20 (0.35)	-10.16 (0.72)	-0.41 (0.30)
Prior convictions	0.12* (0.06)	0.09 (0.06)	0.20* (0.10)	0.18 (0.10)	0.08 (0.05)	0.08 (0.06)	0.14* (0.07)	0.19*** (0.05)
Child victim	-	-0.37* (0.16)	-	-0.11 (0.24)	-	-0.31* (0.14)	-	-0.53** (0.19)
Intercept	.128*** (0.28)	0.38 (0.30)	-1.50*** (0.45)	-1.63*** (0.46)				
Cox and Snell R ²	0.09	0.05	0.02	0.01				
-2 Log Likelihood	2,480.59	2,281.58	1,207.43	1,189.58	9,895.97	7,544.96	4,610.09	9,599.21

Notes. Unstandardized coefficients presented with standard errors are in parenthesis.

p* < .05. *p* < .01. ****p* < .001.

likelihood of technical violations for the non-sex offender sample in the postintervention time period. In Missouri, sex offenders and non-sex offenders in the postrestriction sample were less likely to sustain a technical violation in the 2 years after release when compared with the prerestriction sample, and the differences were statistically significant (see Table 4). In supplementary models (not shown), *z* scores were calculated to evaluate the differences in coefficients by offense group (see Paternoster, Brame, Mazerolle, and Piquero, 1998). The differences between pre-restriction and post-restriction technical violations approached

statistical significance ($z = -1.41$).¹⁴ This finding suggests that, in Missouri, there might have been less of a decline in the likelihood of technical violations in the postlegislative period for sex offenders than for non-sex offenders. No differences emerged in the models estimating reconviction. Finally, sex offenders with child victims were less likely to sustain a technical violation when compared with parolees with young adult or adult victims. Victim age was not statistically significant in the reconviction model.

Turning to the proportional hazard models, we explore how legislative changes influenced the time to failure among sexual and non-sexual offenders. In Michigan, sex offenders and non-sex offenders released in the postresidency restriction period were reconvicted more quickly than preintervention cohorts. Subsequent z -score analyses indicate that the effect of the intervention was not significantly different for sex and non-sex offenders. In addition, no significant differences emerged for the arrest or technical violation analyses among sex offenders and non-sex offenders. In Missouri, the time to technical violation increased in the postrestriction period for both sample groups, but the difference between groups was not statistically different. In addition, sex offenders were reconvicted less quickly in the postintervention period. Victim age was not statistically significant in any of the models estimated for Michigan. In Missouri, sex offenders with child victims failed less quickly, for a new conviction or technical violation, when compared with parolees with adolescent or adult victims.

Conclusion

Although all offenders have been affected by recent punitive policy mandates, changes in the philosophies of the criminal justice system have virtually separated the sexual offender from every other type of criminal (Edwards and Hensley, 2001). Despite sex offender residence restriction laws generating substantial attention in the media and public policy arenas, few empirical studies have evaluated the implementation of these laws or the efficacy of this legislation for public safety. This lack of research creates an important challenge for public policy. Tremendous monetary and resource costs are being allocated to the development and implementation of sex offender residency legislation. Yet, the effects are not understood, making the return on investment unclear.

The goal of the study is twofold. First, we documented the residency locations of sex offenders and non-sex offenders before and after the implementation of the residency restriction laws. The findings challenge the fundamental assumptions of the residency restriction laws. In the current study, residence restrictions did not significantly reduce the number of sex offenders who reside near schools or day care centers. Although there was a decline in the number of individuals living in restricted areas after the implementation of

14. The models do not include the child victim measure. We did not observe significant variation across groups in the Michigan models.

the laws, less than one third of prerestriction sex offender and non–sex offenders lived in restricted areas before implementation of the laws.

Researchers have continued to document the difficulties in monitoring and enforcement of residence restrictions using samples of sex offenders within one or more counties. In Ohio, 31% to 45% of sex offenders were in violation of residence restrictions (Grubestic, Mack, and Murray, 2007). Roughly half of sex offenders maintained a residence within a restricted zone in Florida (Tewksbury and Mustaine, 2006) and Texas (Maghelal and Olivares, 2005), and noncompliance rates were even higher in New York (Berenson and Appelbaum, 2011). The enforcement of these laws becomes particularly difficult with the enactment of community-level restrictions, and several states have passed legislation that allows judges and local authorities to determine the size and nature of residence restrictions (Mancini et al., 2013).

Discretion to monitor and enforce residence restrictions varies by state, community, and community supervision officer. Individual agents will differ in their perspectives and approaches (Berenson and Appelbaum, 2011; Gies et al., 2012; Shaffer and Miethe, 2011). For instance, agents who support residence restriction legislation are more likely to enforce restrictions (Payne, Tewksbury, and Mustaine, 2013). The extent to which agents align with the culture and goals of their agency can certainly influence discretionary strategies of monitoring and enforcement (see Rudes, 2012; Rudes, Lerch, and Taxman, 2011). Partnerships and working relationships between law enforcement and community corrections agencies also can guide how residence placements and violations are determined. In all, it remains important to consider why restrictions are strongly or loosely enforced through the lens of those tasked with the responsibility of approving placements and enforcing the law.

Second, we examined the occurrence and timing of recidivism. Overall, the findings suggest that if residence restrictions have an effect on recidivism, then the relationship is small. In Michigan, sex offenders in the postrestriction group failed more often and did so more quickly than in the preintervention sex offender group. Sex offenders in the postrestriction group in Missouri were less likely to sustain a technical violation or a subsequent reconviction. Non–sex offenders had a similar decline in technical violations. The lack of strong effects, and variation across groups and sites, further suggests that the residence restriction legislation had an inconsistent impact on individual patterns of recidivism.

Unfortunately, we could not examine differences in rates of sexual recidivism events—the explicit target behaviors of residence restrictions—because of a small rate of occurrence. The small number of sexual recidivism events was insufficient to detect statistical significance. The low observed sexual recidivism rate could be a result of a combination of factors. First, although we used a large sample of sex offenders, the distribution of sex offenders with child victims (i.e., victim younger than 13 years of age) was relatively low compared with other analyses of sex offense recidivism. For instance, nearly 80% of the sample used by Veysey and Zgoba (2010) was composed of such offenders. Because sex offenders with

a history of sexual offending against children have relatively higher sex offense recidivism rates (Serin, Mailloux, and Malcolm, 2001), this aspect of our sample means that we have a depressed, but perhaps more representative, rate of overall sex offense recidivism.

The results also indicate that a longer period of follow-up is needed. Offenders were released at different times; therefore, there is a variable time at risk. We used Cox proportional hazard modeling to enhance the equivalence of follow-up period used for recidivism rates. The 2-year follow-up allowed sufficient time for technical violations, but other risks of recidivism manifest with longer periods of observation. Researchers have noted consistently that longer follow-up periods are necessary to provide valid indicators of the prevalence of sex offense recidivism (Soothill, 2010). Indeed, Prentky, Lee, Knight, and Cerce (1997) observed that 30% of their sex offense recidivism events occurred after 5 years at risk. In this sense, our follow-up period might not provide the best indicator of the long-term effectiveness of sex offender residence restrictions in reducing sex offense recidivism.

In addition to the general concerns raised with the recidivism analysis, two policy changes could have influenced the study results. As with any study of this type, there is the potential for history to threaten internal validity (Shadish et al., 2002). During the study period, both states implemented comprehensive programming that begins while in prison and continues throughout parole. Michigan implemented the Michigan Prisoner Reentry Initiative (MPRI) statewide in 2008 (Pew Center on the States, 2011), and an executive order was signed in Missouri establishing a statewide reentry process in September 2005. The states provide funding to collaborative partnerships that enhance ex-offender self-sufficiency, reduce recidivism, and improve public safety and community health. Similarly, Michigan and Missouri made efforts to reduce technical violation rates during this period under the guidance of the Pew Foundation (Pew Center on the States, 2011). Beginning in 2004, the number of overall technical violations in the state of Michigan increased and then declined substantially beginning in 2007. The Missouri prison population has remained relatively stable since 2005, but the number of individuals returned to prison for a technical violation has been reduced by approximately 12% between 2005 and 2009 (Pew Center on the States, 2011). In both states, the overall statewide decrease in technical violations was observed around the time of the implementation of sex offender residence restrictions. These changes in policies governing technical violations have likely influenced the evaluation outcomes.

Policy Implications

It is important to consider refinements to existing proposals to enact residence restrictions and modify current policies. First, it would be appropriate to reexamine the universal application of residence restrictions. Although the containment approach to sex offender management (English et al., 1997) and the risk–need–responsivity model (Andrews and Bonta, 1994) advocate individualization, in practice, sex offenders often are treated as a homogeneous, high-risk group (Lynch, 1998). It is not appropriate to expect residence

restrictions to have a general effect on all sex offenders. By casting a wide net, anticipated effects of such policies are weakened partly by the mixture of sex offender subpopulations and risk levels. As this research has indicated, less than one third of sex offenders in the study states committed an offense against a child victim. A targeted residence restriction policy that narrows the scope to offenders with child victims has more potential, but it has not been substantiated empirically. In one assessment, Rydberg, Grommon, Huebner, and Bynum (2014) found that sex offenders with an offense conviction against a child victim experienced more residence mobility than other contact sex offenders in preresidency and postresidency restriction time periods. The challenge to the development of a targeted policy arises in how to identify a small group of offenders who specialize in child molestation and differentiate this population from the versatility observed among those convicted of sexual offenses (Harris, Knight, Smallbone, and Dennison, 2011; Harris, Mazerolle, and Knight, 2009). Even with knowledge of offense specialization, little research has examined systematically whether repeat child molesters use consistent strategies to gain access to victims (Leclerc, Proulx, and Bearegard, 2009). Finally, it is not clear whether child predators change their modus operandi after detection by law enforcement, given that residence restrictions can only be applied to known sex offenders.

Risk assessment and classification protocols can assist in the identification process. Several instruments are available for use among correctional populations, many of which can be completed in a short period of time using only information from file reviews (Struder, Aylwin, Sribney, and Reddon, 2012). Recent evidence from meta-analyses suggests that the Static-99, the Static-2002, and the MnSOST-R are among the best supported actuarial instruments for predicting sexual recidivism (Hanson and Morton-Bougon, 2009). The Static-99 seems to be particularly accurate when applied to the long-term sexual recidivism of child molesters, as opposed to sex offenders with exclusively adult victims (Parent, Guay, and Knight, 2011). Indeed, most sex offender recidivism risk assessments are more accurate when used with those offenders with exclusively child victims and are less useful for the prediction of behavior among individuals with adult victims (Parent et al., 2011). STABLE-2007 and ACUTE-2007 can be integrated to measure dynamic risk factors (i.e., access to victims, sexual preoccupations, and collapse of social supports) and to monitor changes in risk over time (Hanson, Harris, Scott, and Helmus, 2007; McGrath, Cumming, Burchard, Zeoli, and Ellerby, 2010).

Actuarial instruments are not without problems. Any risk score generated compares specific cases with members of the development sample, and these comparisons can be imperfect and ignore facts that might be unique to that particular offender (Struder et al., 2012). For instance, the Sex Offender Registration and Notification Act (SORNA, 2006) mandates a tiered structure for the classification of sex offenders. Zgoba et al. (2012) observed that for a multistate sample of sex offenders, Tier 2 SORNA offenders tended to have higher average Static-99R scores than Tier 3 offenders (i.e., the highest SORNA Tier). Because such instruments are applicable to child molesters and feasibly exclude a

subpopulation of low-risk sex offenders, a triangulated use of instruments can provide a starting point in the identification and differentiation of sex offenders to be subjected to residence restrictions.

Prerelease planning committees could be formed to determine whether residence restrictions should be applied to specific cases or a particular offender; this type of model has been used with sex offender community notification programs (see Duwe, 2013; Duwe et al., 2008). Residence placement review and residence restriction decision committees can consist of treatment providers within a correctional facility and those used in the local community, law enforcement officials, sex offender case workers, victim services professionals, and members of the community. With the use of these partnerships, individualized risk and need determinations can be made and residence restrictions can be applied as an additional layer of risk mitigation rather than as a uniform policy.

Also, we need to determine how restrictions should be used. It might be useful to evaluate the length of residence restrictions. In the states studied, residence restrictions are enforced for the entire term of community supervision, a minimum of 2 years, and legislation mandates lifetime supervision for certain classes of sex offenders. An alternative approach would be to use time-ordered residence restrictions. This strategy can allow for enforcement of restrictions after release and the reduction in the size of boundary restrictions with continued compliance with supervision terms. Informed by signaling perspective (Bushway and Apel, 2012), this approach can help to reallocate operational resources to those offenders who display the need for more intensive supervision.

Second, it would be advantageous to practitioners, offenders, and communities to reframe the focus of sex offender management to sex offender reentry. As noted, researchers have argued that residence restrictions can undermine the reentry process. As a result, innovation is needed to develop, expand, or reallocate resources to assist with the unique transitional experience of sex offenders. Tewksbury and Copes (2012) suggested that sex offenders are poorly informed about residence restrictions prior to release, which leaves many to manage reentry with little planning or few viable solutions. In a survey of supervision agents who manage high-risk sex offender caseloads with global positioning system (GPS), Gies et al. (2012) observed that only 40% of agents mention inclusionary and exclusionary zones during their first meeting. The challenge with interventions of this type is that resources are rarely allocated to cover the costs of the intervention. Zevitz and Farkas (2000), in their study of sex offender community notification in Wisconsin, found that the new policy increased the workload of caseworkers. The need for training and support was particularly acute for agents in rural areas where it was difficult to employ a sex offender-specific intensive supervision agent. Increasing training and support for local parole officers could decrease the numbers of individuals residing in restricted areas. Additional staffing could be used to help demystify the reentry process and educate sex offenders of what they will face in the community postrelease.

Finally, housing can be a risk and protective factor for sex offender recidivism (Willis and Grace, 2008). Residence restrictions limit the available housing stock of a community. Yet, offenders supervised under the restrictions must maintain a residence. Shared living arrangements, which blend halfway housing and therapeutic community services, have been one approach to assist with housing (Colorado Department of Public Safety, 2004). In this model, offenders live together, receive direct treatment services, are monitored informally by their fellow roommates, and are monitored formally by periodic visits from a supervision agent. Unfortunately, little research has been done to evaluate the efficacy of these programs. As concerning is the inability of this approach to meet demand; only a small population of offenders can be placed in such programs. This result might partially explain why sex offenders perceive halfway houses as being inaccessible (Tewksbury and Copes, 2012). Housing services specifically for sex offenders need to be expanded and evaluated for their effectiveness.

In conclusion, this research adds to a growing body of knowledge that cautions the expansion of residence restriction legislation (Levenson and Hern, 2007; Nobles et al., 2012). Rigorous and mixed methodological research across multiple levels of analysis is needed to understand the various processes that influence the application and outcomes of residency restriction legislation in states and municipalities. This is particularly important given an evaluation of laws in one state might not generalize to another state given the breadth and diversity of the laws (Mancini et al., 2013). Considering the heightened public concern regarding sex offenders, complete removal of legislation regarding residence restrictions would be not only difficult but also unwise. Rather, like other correctional interventions of this type, efforts should be focused on high-risk and high-need sex offenders. Without attention to strategic development of legislation, policy makers should not expect much short-term positive benefit from residence restrictions. Even with a narrowed focus to sex offenders with child victims, this research suggests that residence restrictions might not accomplish the aims it hopes to achieve. Ideally, policy makers should continue to explore improvements to sex offender management that control recidivism risk while promoting successful reentry. Such alternatives must be pursued because evidence for the effectiveness of these approaches is building slowly, whereas the same cannot be said for residence restrictions. Investment in evidence-based approaches is critical.

References

- Andrews, Donald A. and James Bonta. 1994. *The Psychology of Criminal Conduct*. Cincinnati, OH: Anderson.
- Berenson, Jacqueline A. and Paul S. Appelbaum. 2011. A geospatial analysis of the impact of sex offender residency restrictions in two New York counties. *Law and Human Behavior*, 35: 235–246.
- Blood, Phyllis, Lynnette Watson, and Paul Stageberg. 2008. *State Legislation Monitoring Report*. Des Moines, IA: Criminal and Juvenile Justice Planning.

- Brantingham, Paul J. and Patricia L. Brantingham. 1984. *Environmental Criminology*. Prospect Heights, IL: Waveland Press.
- Bushway, Sean D. and Robert Apel. 2012. A signaling perspective on employment-based reentry programming: Training as a desistance signal. *Criminology & Public Policy*, 11: 21–50.
- Chajewski, Michael and Cynthia C. Mercado. 2009. An evaluation of sex offender residency restriction functioning in town, county, and city-wide jurisdictions. *Criminal Justice Policy Review*, 20: 44–61.
- Cohen, Lawrence E. and Marcus Felson. 1979. Social change and crime rate trends: A routine activities approach. *American Sociological Review*, 44: 588–608.
- Colombino, Nicole, Cynthia C. Mercado, and Elizabeth L. Jeglic. 2009. Situational aspects of sexual offending: Implications for residence restriction laws. *Justice Research and Policy*, 11: 27–44.
- Colorado Department of Public Safety. 2004. *Report on Safety Issues Raised by Living Arrangements for and Location of Sex Offenders in the Community*. Denver, CO: Sex Offender Management Board.
- Cox, D. R. 1972. Regression models and life-tables. *Journal of the Royal Statistical Society*, 34: 187–220.
- DeLisi, Matt, J. C. Barnes, Kevin M. Beaver, and C. L. Gibson. 2009. Delinquent gangs and adolescent victimization revisited: A propensity score matching approach. *Criminal Justice and Behavior*, 36: 808–823.
- Duwe, Grant. 2013. Can circles of support and accountability COSA work in the United States? Preliminary results from a randomized experiment in Minnesota. *Sexual Abuse: A Journal of Research and Treatment*, 25: 143–165.
- Duwe, Grant, William Donnay, and Richard Tewksbury. 2008. Does residential proximity matter? A geographic analysis of sex offense recidivism. *Criminal Justice and Behavior*, 35: 484–504.
- Edwards, William and Christopher Hensley. 2001. Restructuring sex offender sentencing: A therapeutic jurisprudence approach to the criminal justice process. *International Journal of Offender Therapy and Comparative Criminology*, 45: 646–662.
- English, Kim, Suzanne Pullen, and Linda Jones. 1997. *Managing Adult Sex Offenders in the Community—A Containment Approach*. Washington, DC: National Institute of Justice.
- Friendship, Caroline and David Thornton. 2001. Sexual reconviction for sex offenders discharged from prison in England and Wales—Implications for evaluating treatment. *British Journal of Criminology*, 41: 285–292.
- Gendreau, Paul, Tracy Little, and Claire Goggin. 1996. A meta-analysis of the predictors of adult offender recidivism: What works! *Criminology*, 34: 575–607.
- Gies, Stephen V., Randy Gainey, Marcia I. Cohen, Eoin Healy, Daniel Duplantier, Martha Yeide, et al. 2012. *Monitoring High-Risk Sex Offenders with GPS Technology: An Evaluation of the California Supervision Program Final Report*. Washington, DC: U.S. Department of Justice, Office of Justice Programs, National Institute of Justice.

- Grubestic, Tony H., Elizabeth Mack, and Alan T. Murray. 2007. Geographic exclusion: Spatial analysis for evaluating the implications of Megan's law. *Social Science Computer Review*, 25: 143–162.
- Hanson, R. Karl, Andrew J. R. Harris, Terrie-Lynn Scott, and Leslie Helmus. 2007. *Assessing the Risk of Sexual Offenders on Community Supervision: The Dynamic Supervision Project*. Ottawa, ON: Public Safety Canada.
- Hanson, R. Karl and Kelly E. Morton-Bougon. 2009. The accuracy of recidivism risk assessments for sexual offenders: A meta-analysis of 118 prediction studies. *Psychological Assessment*, 21: 1–21.
- Harris, Danielle A., Raymond A. Knight, Stephen Smallbone, and Susan Dennison. 2011. Postrelease specialization and versatility in sexual offenders referred for civil commitment. *Sexual Abuse: A Journal of Research and Treatment*, 23: 243–259.
- Harris, Danielle A., Paul Mazerolle, and Raymond A. Knight. 2009. Understanding male sexual offending: A comparison of general and specialist theories. *Criminal Justice and Behavior*, 36: 1051–1069.
- Kang, Songman. 2012. The consequences of sex offender residency restriction: Evidence from North Carolina. Unpublished manuscript, Duke University Department of Economics, Durham, NC.
- Kernsmith, Poco D., Sarah W. Craun, and Jonathan Foster. 2009. Public attitudes toward sexual offenders and sex offender registration. *Journal of Child Sexual Abuse*, 18: 290–301.
- Langan, Patrick A., Erica L. Schmitt, and Matthew R. Durose. 2003. *Recidivism of Sex Offenders Released from Prison in 1994*. Washington, DC: U.S. Department of Justice, Office of Justice Programs, Bureau of Justice Statistics.
- Leclerc, Benoit, Jean Proulx, and Eric Beauregard. 2009. Examining the modus operandi of sexual offenders against children and its practical implications. *Aggression and Violent Behavior*, 14: 5–12.
- Levenson, Jill S. and Leo P. Cotter. 2005. The impact of sex offender residence restrictions: 1,000 feet from danger, or one step from absurd? *International Journal of Offender Therapy and Comparative Criminology*, 49: 168–178.
- Levenson, Jill S. and Andrea L. Hern. 2007. Sex offender residence restrictions: Unintended consequences and community reentry. *Justice Research and Policy*, 9: 59–73.
- Lin, Jeffrey, Ryken Grattet, and Joan Petersilia. 2010. “Back-end sentencing” and imprisonment: Individual, organizational, and community predictors of parole sanctioning decisions. *Criminology*, 48: 759–795.
- Long, J. Scott. 1997. *Regression Models of Categorical and Limited Dependent Variables*. Thousand Oaks, CA: Sage.
- Lynch, Mona. 1998. Waste managers? The new penology, crime fighting, and parole agent identity. *Law & Society Review*, 32: 839–869.
- Maghelal, Praveen and Miriam Olivares. 2005. *Critical Risk Zones: Violators of Megan Law*. College Station: Texas A&M University Press.

- Mancini, Christina, J. C. Barnes, and Daniel P. Mears. 2013. It varies from state to state: An examination of sex crime laws nationally. *Criminal Justice Policy Review*, 24: 166–198.
- Mancini, Christina, Ryan T. Shields, Daniel P. Mears, and Kevin M. Beaver. 2010. Sex offender residence restriction laws: Parental perceptions and public policy. *Journal of Criminal Justice*, 38: 1022–1030.
- Massoglia, Michael, Glenn Firebaugh, and Cody Warner. 2013. Racial variation in the effect of incarceration on neighborhood attainment. *American Sociological Review*, 78: 142–165.
- McGrath, Robert J., Georgia F. Cumming, Brenda L. Burchard, Stephen Zeoli, and Lawrence Ellerby. 2010. *Current Practices and Emerging Trends in Sexual Abuser Management. The Safer Society 2009 North American Survey*. Brandon, VT: The Safer Society Press.
- Meloy, Michelle L., Susan L. Miller, and Kristin M. Curtis. 2008. Making sense out of nonsense: The deconstruction of state-level sex offender residence restrictions. *American Journal of Criminal Justice*, 33: 209–222.
- Minnesota Department of Corrections. 2003. *Level Three Sex Offenders' Residential Placement Issues*. St Paul: Author.
- Nobles, Matt R., Jill S. Levenson, and Tasha J. Youstin. 2012. Effectiveness of residence restrictions in preventing sex offense recidivism. *Crime and Delinquency*, 58: 491–513.
- Pacheco, Daniel and J. C. Barnes. 2013. Sex offender residence restrictions. In (Karen Harrison and Bernadette Rainey, eds.), *The Wiley-Blackwell Handbook of Legal and Ethical Aspects of Sex Offender Treatment and Management*. Chichester, U.K.: Wiley.
- Parent, Geneviève, Jean-Pierre Guay, and Raymond A. Knight. 2011. An assessment of the long-term risk of recidivism by adult sex offenders: One size doesn't fit all. *Criminal Justice and Behavior*, 38: 188–209.
- Paternoster, Raymond, Robert Brame, Paul Mazerolle, and Alex Piquero. 1998. Using the correct statistical test for the equality of regression coefficients. *Criminology*, 36: 859–866.
- Payne, Brian K., Richard Tewksbury, and Elizabeth E. Mustaine. 2013. Identifying the sources of community corrections professionals' attitudes about sex offender residence restrictions: The impact of demographics and perceptions. *Crime & Delinquency*, e-pub ahead of print.
- Pew Center on the States. 2011. *State of Recidivism: The Revolving Door of America's Prisons*. Washington, DC: Pew Charitable Trusts.
- Prentky, Robert A., Austin F. S. Lee, Raymond A. Knight, and David Cerce. 1997. Recidivism rates among child molesters and rapists: A methodological analysis. *Law and Human Behavior*, 21: 635–659.
- Quinsey, Vernon L., Marnie E. Rice, and Grant T. Harris. 1995. Actuarial prediction of sexual recidivism. *Journal of Interpersonal Violence*, 10: 85–105.
- Red-Bird, Beth. 2009. *Assessing Housing Availability Under Ohio's Sex Offender Residency Restrictions*. Columbus: Ohio State University Press.

- Rengifo, Andres F. and Don Stemen. 2013. The impact of drug treatment on recidivism: Do mandatory programs make a difference? Evidence from Kansas's Senate Bill 123. *Crime & Delinquency*, 59: 930–950.
- Rosenbaum, Paul R. and Donald B. Rubin. 1983. The central role of the propensity score in observational studies for causal effects. *Biometrika*, 70: 41–55.
- Rudes, Danielle S. 2012. Getting technical: Parole officers' continued use of technical violations under California's parole reform agenda. *Journal of Crime and Justice*, 35: 249–268.
- Rudes, Danielle S., Jennifer Lerch, and Faye S. Taxman. 2011. Implementing a reentry framework at a correctional facility: Challenges to the culture. *Journal of Offender Rehabilitation*, 50: 467–491.
- Rushton, Gerard, Marc P. Armstrong, Josephine Gittler, Barry R. Greene, Claire E. Pavlik, Michele M. West, and Dale L. Zimmerman. 2006. Geocoding in cancer research: A review. *American Journal of Preventative Medicine*, 30: S16–S24.
- Rydberg, Jason, Eric Grommon, Beth M. Huebner, and Timothy S. Bynum. 2014. The effect of statewide residency restrictions on sex offender post-release housing mobility. *Justice Quarterly*, 31: 421–444.
- Sample, Lisa L., Mary K. Evans, and Amy L. Anderson. 2011. Sex offender community notification laws: Are their effects symbolic or instrumental in nature? *Criminal Justice Policy Review*, 22: 27–49.
- Schiavone, Stacey K. and Elizabeth L. Jeglic. 2009. Public perception of sex offender social policies and the impact on sex offenders. *International Journal of Offender Therapy and Comparative Criminology*, 53: 679–695.
- Serin, Ralph C., Donna L. Mailloux, and P. Bruce Malcolm. 2001. Psychopathy, deviant sexual arousal, and recidivism among sexual offenders. *Journal of Interpersonal Violence*, 16: 234–246.
- Shadish, William, Thomas D. Cook, and Donald T. Campbell. 2002. *Experimental and Quasi-Experimental Designs for Generalized Casual Inference*. Boston, MA: Houghton Mifflin.
- Shaffer, Deborah K. and Terance D. Miethe. 2011. Are sex offenders treated similarly? A conjunctive analysis of disparities in community notification decisions. *Journal of Research in Crime and Delinquency*, 48: 448–471.
- Simon, Jonathan. 1998. Managing the monstrous: Sex offenders and the new penology. *Psychology, Public Policy, and Law*, 4: 452–457.
- Singer, Judith D. and John B. Willett. 2003. *Applied Longitudinal Data Analysis: Modeling Change and Event Occurrence*. New York: Oxford University Press.
- Socia, Kelly M. 2011. The policy implications of residence restrictions on sex offender housing in upstate, NY. *Criminology & Public Policy*, 10: 351–389.
- Socia, Kelly M. 2012a. The efficacy of county-level sex offender residence restrictions in New York. *Crime and Delinquency*, 58: 612–642.
- Socia, Kelly M. 2012b. Residence restrictions and the association with registered sex offender clustering. *Criminal Justice Policy Review*, 24: 441–472.

- Soothill, Keith. 2010. Sex offender recidivism. *Crime and Justice*, 39: 145–211.
- Struder, Lea. H., A. Scott Aylwin, Christine Sribney, and John R. Reddon. 2012. Uses, misuses, and abuses of risk assessment with sexual offenders. In (Douglas P. Boer, Reinhard Eher, Leam A. Craig, Michael H. Miner, and Friedemann Pfafflin, eds.), *International Perspectives on the Assessment and Treatment of Sexual Offenders: Theory, Practice, and Research*. Chichester, U.K.: Wiley-Blackwell.
- Tewksbury, Richard and Heath Copes. 2012. Incarcerated sex offenders' expectations for reentry. *The Prison Journal*, 93: 102–122.
- Tewksbury, Richard and Elizabeth E. Mustaine. 2006. Where to find sex offenders: An examination of residential locations and neighborhood conditions. *Criminal Justice Studies*, 19: 61–75.
- Tewksbury, Richard and Elizabeth E. Mustaine. 2008. Where registered sex offenders live: Community characteristics and proximity to possible victims. *Victims & Offenders*, 3: 86–98.
- Tewksbury, Richard and Elizabeth E. Mustaine. 2012. Parole board members' views of sex offender registration and community notification. *American Journal of Criminal Justice*, 37: 413–431.
- Tewksbury, Richard, Elizabeth E. Mustaine, and Brian K. Payne. 2012. Community corrections professionals' attitudes about sex offenders: Is the CATSO applicable? *Criminal Justice Studies: A Critical Journal of Crime, Law, and Society*, 25: 145–157.
- Van Koppen, Peter J. and Jan W. De Keijser. 1997. Desisting distance decay: On the aggregation of individual crime trips. *Criminology*, 35: 505–515.
- Veysey, Bonita M. and Kristin M. Zgoba. 2010. Sex offenses and offenders reconsidered: An investigation of characteristics and correlates over time. *Criminal Justice and Behavior*, 37: 583–595.
- Walker, Jeffery T., James W. Golden, and Amy C. VanHouten. 2001. The geographic link between sex offenders and potential victims: A routine activities approach. *Justice Research and Policy*, 3: 15–33.
- Whitebook, Marcy and Laura Sakai. 2003. Turnover begets turnover: An examination of job and occupational instability among child care center staff. *Early Childhood Research Quarterly*, 18: 273–293.
- Willis, Gwenda M. and Randolph C. Grace. 2008. The quality of community reintegration planning for child molesters: Effects on sexual recidivism. *Sexual Abuse: A Journal of Research and Treatment*, 20: 218–240.
- Zandbergen, Paul A. 2008. A comparison of address point, parcel and street geocoding techniques. *Computers, Environment and Urban Systems*, 32: 214–232.
- Zandbergen, Paul A. 2009. Geocoding quality and implications for spatial analysis. *Geography Compass*, 3: 647–680.
- Zandbergen, Paul A., Jill S. Levenson, and Timothy C. Hart. 2010. Residential proximity to schools and daycares: An empirical analysis of sex offense recidivism. *Criminal Justice and Behavior*, 37: 482–502.

- Zevitz, Richard G. and Mary Ann Farkas. 2000. The impact of sex-offender community notification on probation/parole in Wisconsin. *International Journal of Offender Therapy and Comparative Criminology*, 44: 8–21.
- Zgoba, Kristin M., Michael Miner, Raymond Knight, Elizabeth Letourneau, Jill S. Levenson, and David Thornton. 2012. *A Multi-State Recidivism Study Using Static-99R and Static-2002 Risk Scores and Tier Guidelines from the Adam Walsh Act*. Washington, DC: U.S. Department of Justice, Office of Justice Programs, National Institute of Justice.

Statutes Cited

- Michigan Sex Offenders Registration Act, Public Act 121 of 2005 (2005).
Michigan Sex Offender Registration Act, Public Act 295 of 1994 (2005).
Revised Statutes of Missouri, Chapter 589 Sections 400 to 425 and 43.650, RSMo (2006).
Sex Offender Registration and Notification Act, P.L. 109–248, Title I (2006).

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APPENDIX

T A B L E A

Michigan: Mean Balance Across Sex Offenders and Non-Sex Offenders

Variables	Prematched			Matched			Unmatched		
	NSO	SO	Bias	NSO	SO	Bias	NSO	SO	Bias
Number of Cases	1,953	1,981		1,703	1,703		250	278	
Propensity Score	0.49	0.52	30.04	0.50	0.50	5.58	0.40	0.60	257.56
Observed Covariates									
Age	35.32	36.80	13.51	35.89	35.43	4.39	31.42	45.15	117.71
Female	0.04	0.03	5.35	0.03	0.03	0.32	0.06	0.04	9.34
Non-White	0.30	0.31	2.17	0.31	0.29	3.07	0.23	0.41	38.76
Marital status—single	0.55	0.54	2.01	0.55	0.55	0.83	0.57	0.50	13.64
Marital status—married	0.18	0.21	7.61	0.19	0.19	0.89	0.08	0.31	62.15
Marital status—divorced/widowed	0.27	0.25	4.55	0.26	0.26	1.74	0.36	0.20	35.36
HS/GED	0.58	0.57	0.63	0.59	0.57	1.75	0.52	0.57	7.19
Prior juvenile commitment	0.06	0.05	4.45	0.05	0.05	2.45	0.14	0.03	41.38
Prior juvenile probation	0.10	0.08	7.01	0.08	0.08	0.43	0.23	0.06	49.04
Prior juvenile escapes	0.01	0.01	0.00	0.01	0.01	0.69	0.01	0.01	1.76
Prior adult jail term	0.24	0.19	12.18	0.21	0.20	0.73	0.46	0.12	81.34
Prior adult probation	0.27	0.21	14.12	0.22	0.22	0.42	0.57	0.13	103.92
Prior adult escapes	0.02	0.01	8.77	0.01	0.01	4.47	0.05	0.04	5.84
Prior misdemeanors	0.26	0.20	14.28	0.22	0.22	0.14	0.57	0.08	123.23
Prior felonies	0.23	0.20	7.31	0.21	0.20	2.04	0.40	0.17	51.77
Prior prison term	0.16	0.18	5.34	0.17	0.16	2.88	0.14	0.29	36.93

T A B L E B

Missouri: Mean Balance Across Sex Offenders and Non-Sex Offenders

Variables	Prematched			Matched		
	NSO	SO	Bias	NSO	SO	Bias
Number of Cases	15,846	5,997	—	2,224	2,224	—
Propensity Score	0.08	0.10	12.65	0.07	0.07	0.00
Observed Covariates						
Age	45.16	46.72	14.27	40.27	40.16	1.07
Female	0.13	0.07	20.58	0.13	0.12	2.95
Non-White	0.31	0.25	13.25	0.24	0.24	0.00
Marital status—single	0.43	0.42	2.02	0.47	0.47	0.00
Marital status—married	0.26	0.24	4.65	0.24	0.25	2.32
Marital status—divorced/widowed	0.31	0.34	6.47	0.29	0.28	2.21
HS/GED	0.64	0.71	14.86	0.67	0.64	6.26
Prior convictions	1.20	1.06	28.11	1.93	1.89	4.56
Prior felony conviction	0.85	0.81	10.69	0.94	0.92	7.84
Prior prison term	0.37	0.50	29.59	0.43	0.50	9.63

POLICY ESSAY

SEX OFFENDER RESIDENCE RESTRICTIONS

Sex Offender Residency Restrictions

Successful Integration or Exclusion?

Elizabeth Ehrhardt Mustaine

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Few criminal offenders garner more fear and loathing than sex offenders. Images in the media of children killed at the hands of repeat and violent sexual predators fuels the efforts of lawmakers to create new restrictions and strengthen already existing constraints to keep our children safe and prevent these offenders from roaming freely (Leon, 2011). As a result, policy intended to manage this population is riddled with emotion and politics as lawmakers quickly develop law after law (usually named after tragic victims) often to the point of ignoring relevant empirical evidence or consideration of any collateral consequences.

Although sex offender policy is not new (Tewksbury, 2002), in the last 20 years, sex offenders have seen their lives become significantly more transparent and controlled. This recent explosion of federal legislation began in 1994 with the passage of the Jacob Wetterling Crimes Against Children and Sexually Violent Offender Registration Act, which required states to track sex offenders' places of residence annually for 10 years after their release into the community (and quarterly for the rest of their lives if they were violent). It continued in 1996 with the passage of Megan's Law, which provided for the public dissemination of information from states' sex offender registries, and The Pam Lychner Sex Offender Tracking and Identification Act, which requires the Attorney General to establish a national database so that the FBI can track certain sex offenders, among other provisions. In 1997, the federal government improved the Jacob Wetterling Act by tightening the guidelines and circumstances for sex offender registration, directing states to participate in the national sex offender registry, and to ensure offenders who moved, worked, or were educated in different states register in all of them. In 2000, sex offenders who were attending colleges/universities were required to make their presence and residence known, and these institutions of higher

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learning were required to maintain this information on sexual offenders and make it available to those who were interested. In 2003, states were required to put their publically available sex offender registries online, and in 2006, Congress passed the Adam Walsh Child Protection and Safety Act, which expanded the number of sex offenses that needed to be included in sex offender registration and notification, expanded the jurisdiction of locations required to participate in the sex offender registry to Indian tribes, and created the Office of Sex Offender Sentencing, Monitoring, Apprehending, Registering, and Tracking to oversee the implementation and maintenance of federal sex offender policy. In the time in which these federal laws have been developed, individual states were passing their own versions of these laws, and currently all 50 states have sex offender registration and notification (Lees, 2005).

Furthermore, during the time of expanding federal legislation, individual states were passing additional policy of their own. Longer sentencing, civil commitment, employment restrictions, and residential restrictions are among the most common. One type of state-level legislation that has become nearly universal, yet remains controversial, involves residential restrictions. These types of restrictions typically include prohibitions from living and loitering closer to various child congregation locations (e.g., schools, parks, daycare centers, etc.) than a legally specified distance (e.g., 500–1000 feet).

The basis for legislation creating residential restrictions comes from routine activity theory (Cohen and Felson, 1979) and posits that if potential sex offenders are not in close proximity to suitable targets (i.e., children), they will not have opportunities to commit these crimes, even in the absence of capable guardians (e.g., teachers, parents, coaches, neighbors, etc.). Therefore, policies on residential restrictions assume that these restrictions stop sex offenders from living in restricted areas, and that post release community correctional officers can regularly check on and ensure that sex offenders comply with their restrictions. These assumptions are faulty (Birchfield, 2011). Additionally, these policies suppose that most sex offenders meet their victims by going to nearby child congregation locations, loitering around, and gaining access to these young strangers by manipulation and coercion. However, as Huebner et al. (2014, this issue) have noted, research has shown that sex offenders often gain access to their child victims through introductions by friends and family (Colombino, Mercado, and Jeglic, 2009) rather than skulking around, waiting for an unknown child to get separated from the crowd, and then making direct contact (Duwe, Donnay, and Tewksbury, 2008). So, the relevant literature has shown that residence restriction policies are built on shaky ground. Although routine activity theory is an empirically valid theory for many crimes, it is apparently not useful for sex offenses and offenders.

It is evident that the emotional and political components involved in sex offender policy development do not produce legislation that is solidly based on the empirical evidence emerging from the relevant scientific community. For this reason, it is imperative to conduct serious discussions on policy directed at controlling sex offenders. If we are to manage

these individuals effectively, we must consider our policy intentions versus eventual policy consequences in our assessments.

These increasingly restrictive policies do have several important consequences. On the one hand, they may create feelings of safety and justice-having-been-served among various community populations such as college students (Church, Wakeman, Miller, Clements, and Sun, 2008), law enforcement officials (Tewksbury and Mustaine, in press), community corrections professionals (Payne, Tewksbury, and Mustaine, 2013; Tewksbury, Mustaine, and Payne, 2011), and parole board members (Tewksbury and Mustaine, 2012). On the other hand, many of these same professionals doubt their efficacy (Payne et al., 2013; Tewksbury and Mustaine, 2012). So, although these policies may help us to feel safe, in reality, we may not actually be any safer.

Residential Restrictions and Recidivism

Accordingly, what does happen when sex offenders are released and are expected to find affordable housing within limited acceptable zones? This question can be answered utilizing both individual and community frameworks.

Comparing sex and non-sex offenders, Huebner et al. (2014) found that residential restrictions did not reduce the number of sex offenders who lived near child congregation locations, although not many of these individuals lived in these restricted areas to start. Additionally, residence restrictions influenced offender recidivism only minimally if at all. The findings suggested that sex offenders in Michigan were slightly more likely to recidivate (and do so more quickly) than non-sex offenders, but in Missouri, sex offenders were less likely to recidivate than non-sex offenders. So, at best, residential restrictions have a small influence over sex offender recidivism. At worst, the effects of residential restrictions are weak and inconsistent. Additionally, the rate of sex offender sexual recidivism was so low that it could not be calculated and analyzed (Huebner et al.). This tentatively implies that recidivism may not be the serious problem policy makers infer it is.

Looking at this issue from a different direction, other researchers found that recidivists were not significantly more likely to live near child congregation locations than nonrecidivists (Zandbergen, Levenson, and Hart, 2010). And increasing the boundary of a residential restriction law (or implementing a new residential restriction) had no effect on sex offender recidivism in Florida (Nobles, Levenson, and Youstin, 2012) or in New York (Socia, 2012). Clearly residential restrictions do not significantly influence sex offenders' likelihood of recidivism.

Research at the macro level also has indicated that residential restrictions will not influence rates of sexual assault, including when children are the victims. To elaborate, previous researchers found that rates of registered sex offenders in residence did not significantly influence the amount of sexual assault of children across census tracts (Mustaine, Tewksbury, Huff-Corzine, Corzine, and Marshall, in press; Tewksbury, Mustaine, and

Covington, 2010) or preteens (Mustaine et al., in press), but it was significantly related to sexual assault in general (Tewksbury et al., 2010). Additionally, the rate of registered sex offenders in residence was not significantly associated with single- or multiple-victim child sexual assault (Mustaine, Tewksbury, Corzine, and Huff-Corzine, 2014). Examining communities, then, also unmistakably shows that rates of child sexual assault are not determined by the proportion of neighborhood residents that are sex offenders.

Residential Restrictions and Collateral Consequences

What also is relevant, however, is if sex offenders are released into the community and are given restrictions for where they can live, then there are likely to be collateral consequences as they experience having trouble finding a place to live. Research backs this up; again at both the individual and community levels.

Surveys and in-depth interviews with sex offenders reveal that these individuals experience high levels of stress and everyday frustrations as a result of being registered sex offenders. Regarding housing issues, research has found that nearly one third of surveyed sex offenders had been forced to move because of legal restrictions, and one fifth had been forced to move because of social and community pressure or financial issues/cost (Tewksbury and Mustaine, 2009).

Furthermore, because many sex offenders cannot find adequate housing, they end up relegated to the more socially downtrodden and disorganized neighborhoods (Mustaine and Tewksbury, 2011a, 2011b; Suresh, Mustaine, Tewksbury, and Higgins, 2010; Tewksbury and Mustaine, 2006, 2007, 2009). To specify, many sex offenders experience downward mobility after release from prison and must move to a more socially disorganized neighborhood than the one in which they were living before incarceration (Mustaine, Tewksbury, and Stengel, 2006).

Moreover, observations of the neighborhoods in which sex offenders live revealed 25% to 33% lived in locations that had abandoned cars, abandoned/boarded-up buildings, litter in public, nonlawn items on the lawn, and vacant lots (Tewksbury and Mustaine, 2006). Furthermore, a plethora of research has found that sex offenders are likely to be found in the types of neighborhoods that lack the collective efficacy to either manage their behavior informally or get rid of them altogether. These neighborhoods are the same ones that lack economic and educational resources, have high levels of residential mobility (both in and out of the neighborhood), high crime rates, and high rates of other incivilities (e.g., apathy, rudeness, and lack of quality neighborly relationships) (Mustaine et al., 2006; Socia, 2012; Tewksbury et al., 2011). Finally, previous analyses have shown that neighborhoods that were open to sex offenders (that is, they fall outside the legal residential restrictions) had fewer available rentals, rentals were less affordable, and were likely located in more rural locations (Zgoba, Levenson, and McKee, 2009). Here, then, sex offenders, if they can find legal

housing are likely to end up in the types of neighborhoods that severely lack in resources that can improve one's quality of life and are far less socially integrated.

Equally unfortunate, if sex offenders cannot find adequate and affordable housing because of residential restrictions and social loathing, they may be forced to stay in prison (or get sent back to prison for failing to adhere to their parole conditions), go underground, report false addresses, or end up homeless (Birchfield, 2011; National Institute of Justice [NIJ], 2008). It is these sorts of situations that may, at best, make it more difficult to track these offenders and, at worst, actually *increase* the likelihood of sex offender recidivism.

This situation evokes a bigger picture that is unfortunate and troubling. When sex offenders experience these difficult collateral consequences as a result of residential restrictions, they are not likely to reintegrate successfully back into the community. These policies, then, are not only unsuccessful but may be counterproductive.

Policy Implications

Interestingly, the conclusions posed from the extant literature and those of Huebner et al. (2014) are seemingly inconsistent. The first suggests that if sex offenders cannot reenter the community, find affordable housing, gainful employment, and reestablish social connections, then they will not be successful and will likely be reincarcerated. The latter advises, however, that even with residency restrictions, sex offenders are not significantly more likely to recidivate in general or by committing another sexual offense than non-sex offenders.

This seeming discrepancy is really not. For one, Huebner et al. (2014) recommend that a longer period of follow-up is needed. Using a longer follow-up period to observe any recidivism is important because the consequences that most sex offenders experience do not ease over time. In many states, sex offenders must register for 10–20 years or for their lifetimes. And the stresses they experience will not improve. Their struggles to find affordable and adequate housing will not end shortly. Their inability to find gainful employment will not get better after a while. The stress and discomfort they experience when they notice people staring and recognizing them as sex offenders will not lessen after a short time. Indeed, it is possible (if not probable) that these stressors and the accompanying anxiety will build up over time and get worse, thereby increasing anger and vulnerability to recidivism. A longer period of evaluation is appropriate because the punishment sex offenders receive is so lengthy and does not end with their release from incarceration. Additionally, a longer assessment would allow a determination of whether or not policies such as residential restrictions, while inconsequential in the short term, may actually be detrimental (or successful) for sex offenders in the long term.

Another advantage of a longer-term evaluation period is that researchers can begin to assess whether there are any desistance patterns among sex offenders. If, for example, those sex offenders who did end up recidivating did so within 5–7 years, then policy can be tailored with this time frame in mind. Or, what if researchers found that residential

restrictions had mild success during the first 5–7 years, but after year 7, they began to be detrimental? As residential restriction laws are costly to enforce, we could use this empirical evidence and apply them to sex offenders for only the first 7 years after release, gradually lessen other postrelease restrictions, and more effectively manage correctional budgets.

Huebner et al. (2014) provide policy suggestions that emphasize the one-size-fits-all approach that policy makers have taken with sex offenders is not appropriate, and that is, indeed, the direction future sex offender policy needs to take. As noted, sex offenders are not all the same. Some are older; others are younger. Some have child victims; others have adult victims (and still others have both). Some were involved in consensual relations with victims, but the victims were under age; others were coercive and forceful with victims. Some offenders are juveniles or had families with whom they lived and must return to these families when they are released; others are less attached adults and must find their own housing. Some sex offenders have more financial resources and can afford the scarce housing that does not fall into restricted zones; others are destitute and end up homeless. Thinking that any one policy could effectively service all of these offenders borders on ridiculous.

Huebner et al. (2014) discuss the idea that a more beneficial way to handle sex offenders is to conduct risk assessments. For example, offenders' postrelease restrictions would be based on their level of risk for recidivism, both in general and sexual. The state would give higher risk offenders more severe constraints, while lower risk offenders would have fewer or more flexible restrictions. Sex offenders at high risk for sexually recidivating with child victims may be managed effectively with residential boundary restrictions, while young adult offenders with slightly younger (but still under-age) consensual victims are likely to need other types of restrictions/treatment to keep them law abiding. In essence, it is unlikely that all sex offenders need residential restrictions to remain in the community.

Furthermore, another consideration with residential restrictions is whether we are setting sex offenders up to fail. When jurisdictions introduce lengthier residential boundaries (e.g., 1000–2500 feet), there may be entire cities, villages, and townships that are off limits to sex offenders (Chen, 2009; Mayo, 2011; Perlman, 2005). If we release a sex offender into this type of community, are we basically putting him or her into a position where he or she cannot meet the postrelease conditions? Here, again, it would be beneficial to work with sex offenders as heterogeneous individuals rather than as a homogenous group. Recently, the National Institute of Justice published an "In Short: Toward Criminal Justice Solutions" treatise discussing how GIS mapping can inform sex offender policy (NIJ, 2008). In it, the authors noted that when sex offenders are ready to be released into their communities, researchers can use GIS software to map out residential areas where legal restrictions bar sex offenders. This can be accomplished by creating the zone barriers around legally restricted child congregation locations, then looking at areas that fall outside of these prohibited zones, and finally making sure there is adequate and affordable housing for any sex offenders being released. If there was not available housing, community corrections officers could work

with that individual and find appropriate housing, rather than letting that individual leave prison and end up homeless and vulnerable.

In the end, when it comes to sex offenders, most researchers, policy advocates, and lawmakers are working toward the same goal: to ensure that sex offenders do not revictimize children or adults when their incarceration is over and they must return to the community. It behooves everyone to pay attention to the conclusions of empirical research, work with sex offenders as individuals, and implement policy that is likely to be successful, particularly if it is less fraught with emotions.

References

- Birchfield, Keri B. 2011. Residence restrictions. *Criminology & Public Policy*, 10: 411–419.
- Chen, Stephanie. 2009. After prison, few places for sex offenders to live. Georgia's rules that keep some convicted felons far from children create challenges for compliance, enforcement. *Wall Street Journal*. Retrieved February 14, 2014 from online.wsj.com/new/articles/SB123500941182818821/.
- Church, Wesley T., Emily E. Wakeman, Susan L. Miller, Carl B. Clements, and Fei Sun. 2008. The Community Attitudes Toward Sex Offenders Scale: The development of a psychometric assessment instrument. *Research on Social Work Practice*, 18: 251–259.
- Cohen, Lawrence E. and Marcus Felson. 1979. Social change and crime rate trends: A routine activities approach. *American Sociological Review*, 44: 588–608.
- Colombino, Nicole, Cynthia C. Mercado, and Elizabeth L. Jeglic. 2009. Situational aspects of sexual offending: Implications for residence restriction laws. *Justice Research and Policy*, 11: 27–44.
- Duwe, Grant, William Donnay, and Richard Tewksbury. 2008. Does residential proximity matter? A geographic analysis of sex offense recidivism. *Criminal Justice and Behavior*, 35: 484–504.
- Huebner, Beth M., Kimberly R. Kras, Jason Rydberg, Timothy S. Bynum, Eric Grommon, and Breanne Pleggenkuhle. 2014. The effect and implications of sex offender residence restrictions: Evidence from a two-state evaluation. *Criminology & Public Policy*, 13: 139–168.
- Lees, Matthew Brown. 2005. *College Students' Use and Perceptions of University Sex Offender Registries*. Louisville, KY: University of Louisville Press.
- Leon, Chrysanthi. 2011. The contexts and politics of evidence-based sex offender policy. *Criminology & Public Policy*, 10: 421–430.
- Mayo, Michael. 2011. Do we really want sex offenders to live like wild animals? *Sun Sentinel*. Retrieved February 14, 2014 from articles.sun-sentinel.com/2011-06-25/news/fl-sex-offenders-mayocol-b062611--20110625_1_residency-restrictions-jill-levenson-centers-and-school-bus/.
- Mustaine, Elizabeth Ehrhardt and Richard Tewksbury. 2011a. Assessing informal social control against the highly stigmatized: An exploratory study of differential experiences and resulting stress of registered sex offenders. *Deviant Behavior*, 32: 944–960.

- Mustaine, Elizabeth Ehrhardt and Richard Tewksbury. 2011b. Residential relegation of registered sex offenders. *American Journal of Criminal Justice*, 36: 44–57.
- Mustaine, Elizabeth Ehrhardt, Richard Tewksbury, Jay Corzine, and Lin Huff-Corzine. 2014. Differentiating single and multiple victim child sexual abuse cases: A research note considering social disorganization theory. *Journal of Child Sexual Abuse*, 23: 38–54.
- Mustaine, Elizabeth Ehrhardt, Richard Tewksbury, Lin Huff-Corzine, Jay Corzine, and Hollianne Marshall. In press. Community characteristics and child sexual abuse: Social disorganization and age. *Journal of Criminal Justice*.
- Mustaine, Elizabeth Ehrhardt, Richard Tewksbury, and Kenneth M. Stengel. 2006. Residential location and mobility of registered sex offenders. *American Journal of Criminal Justice*, 30: 177–192.
- National Institute of Justice. 2008. In short: Toward criminal justice solutions: Sex offender residency restrictions: How mapping can inform policy (NCJ222759). Office of Justice Programs, U.S. Department of Justice.
- Nobles, Matt R., Jill S. Levenson, and Tasha J. Youstin. 2012. Effectiveness of residence restrictions in preventing sex offense recidivism. *Crime and Delinquency*, 58: 491–513.
- Payne, Brian K., Richard Tewksbury, and Elizabeth E. Mustaine. 2013. Identifying the sources of community corrections professionals' attitudes about sex offender residence restrictions: The impact of demographics and perceptions. *Crime & Delinquency*, e-pub ahead of print.
- Perlman, Ellen. 2005. Where will sex offenders live? Creating buffer zones around schools and other public places can make entire cities off limits. *Governing: The States and Localities*. Retrieved February 14, 2014 from governing.com/topics/public-justice-safety/Sex-Offenders-Live.html/.
- Socia, Kelly M. 2012. The efficacy of county-level sex offender residence restrictions in New York. *Crime and Delinquency*, 58: 612–642.
- Suresh, Geetha, Elizabeth Ehrhardt Mustaine, Richard Tewksbury, and George E. Higgins. 2010. Social disorganization and registered sex offenders: An exploratory spatial analysis. *Southwest Journal of Criminal Justice*, 7: 180–213.
- Tewksbury, Richard. 2002. Validity and utility of the Kentucky Sex Offender Registry. *Federal Probation*, 66: 1–21.
- Tewksbury, Richard and Elizabeth E. Mustaine. 2006. Where to find sex offenders: An examination of residential locations and neighborhood conditions. *Criminal Justice Studies*, 19: 61–75.
- Tewksbury, Richard and Elizabeth Ehrhardt Mustaine. 2007. Collateral consequences and community re-entry for registered sex offenders with child victims: Are the challenges even greater? *Journal of Offender Rehabilitation*, 46: 113–132.
- Tewksbury, Richard and Elizabeth Ehrhardt Mustaine. 2009. Stress and collateral consequences for registered sex offenders. *Journal of Public Management and Social Policy*, 15: 215–239.

- Tewksbury, Richard and Elizabeth E. Mustaine. 2012. Parole board members' views of sex offender registration and community notification. *American Journal of Criminal Justice*, 37: 413–431.
- Tewksbury, Richard and Elizabeth Ehrhardt Mustaine. In press. Law enforcement views of sex offender registration and community notification. *International Journal of Police Science & Management*.
- Tewksbury, Richard, Elizabeth Ehrhardt Mustaine, and Michelle Covington. 2010. Offender presence, available victims, social disorganization and sex offense rates. *American Journal of Criminal Justice*, 35: 1–14.
- Tewksbury, Richard, Elizabeth Ehrhardt Mustaine, and Brian K. Payne. 2011. Community corrections professionals' views of sex offenders, sex offender registration and community notification and residency restrictions. *Federal Probation*, 75: 45–50.
- Zandbergen, Paul A., Jill S. Levenson, and Timothy C. Hart. 2010. Residential proximity to schools and daycares: An empirical analysis of sex offense recidivism. *Criminal Justice and Behavior*, 37: 482–502.
- Zgoba, Kristen M., Jill S. Levenson, and Tracy McKee. 2009. Examining the impact of sex offender residence restrictions on housing availability. *Criminal Justice Policy Review*, 20: 91–110.

Statutes Cited

- Adam Walsh Child Protection and Safety Act, Public Law 109–248 (2006).
- Jacob Wetterling Crimes Against Children and Sexually Violent Offender Registration Act, Subtitle A of Violent Crime Control and Law Enforcement Act, H.R. 3355 (1994).
- Pam Lychner Sex Offender Tracking and Identification Act, Public Law 104–236 (1996).

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Residence Restrictions Are Ineffective, Inefficient, and Inadequate: So Now What?

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Huebner et al.'s (2014, this issue) study of the effects of state-level residence restrictions in Michigan and Missouri finds little to suggest that these laws are having their intended effect of reducing the sexual victimization of children.¹ Indeed, Huebner et al (2014) note that their findings "caution against the widespread, homogenous implementation of residence restrictions," and instead they recommend individualized programming and risk-centered models when dealing with released sex offenders. This study is unique, and important, because of its focus on residence restriction laws' effects on individual-level criminological outcomes, its examination of two states, and the advanced methods used in the analysis.

However, although this study is an excellent contribution to the aggregate literature on residence restrictions and brings a new perspective to how these policies are being studied, the findings are not surprising. These policies have been studied for years as they spread across the country, first as state-level laws and then as local-level ordinances. As a result, criminal justice scholars have been skeptical of the utility of residence restrictions for some time because study after study has suggested that these policies are ineffective and may be resulting in collateral consequences for both registered sex offenders (RSOs) and community members.

This building tide of these research findings has led prior *Criminology & Public Policy* policy essays to have titles such as "Eliminate Residency Restrictions for Sex Offenders" (Walker, 2007) and "Place a Moratorium on the Passage of Sex Offender Residence

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1. I prefer the term "residence restrictions," and that is the phrase used by Huebner et al. (2014), but these policies have been referred to also as "residency restrictions," "buffer laws," and "child safety zones."

Restriction Laws” (Barnes, 2011). It seemed fitting to have a similarly straightforward title for this piece, which is at least the third iteration of such an essay.

This essay briefly reviews the existing literature on residence restrictions, both in terms of prior studies’ forms and findings. It examines why these findings have rarely been used in policy making and outlines ways that policy makers (and researchers) can better address the reentry needs of RSOs, as well as better address the public safety needs of communities. I hope policy makers, practitioners, and researchers consider this essay and its recommendations when deciding the future of these policies.²

Prior Research

With a few exceptions, most prior studies on the effects of residence restrictions have come in three distinct forms. The first kind of study has examined the spatial effects of actual or hypothetical residence restrictions on sex offender housing options and clustering (e.g., Berenson and Appelbaum, 2011; Chajewski and Mercado, 2009; Socia, 2011, 2013). Typically, such studies have examined a single or handful of counties and have been set in a range of locales covering the Midwest (e.g., Grubestic, Murray, and Mack, 2008; Hughes and Burchfield, 2008; Red-Bird, 2009), South (e.g., Barnes, Dukes, Tewksbury, and De Troye, 2009; Youstin and Nobles, 2009; Zandbergen and Hart, 2009a), West Coast (e.g., Morgan, 2008), and Northeast (e.g., Socia, in press-a; Zgoba, Levenson, and McKee, 2009). These studies have found that residence restrictions would disproportionately restrict housing in dense urban areas with affordable housing (Colorado Department of Public Safety, 2004; Zandbergen and Hart, 2006, 2009b). The amount of restricted housing also is directly related to the size and scope of the law (Socia, 2011; Zandbergen and Hart, 2006; Zgoba et al., 2009). A common theme of these studies is that RSOs would be pushed into more rural areas that may not have adequate housing options.

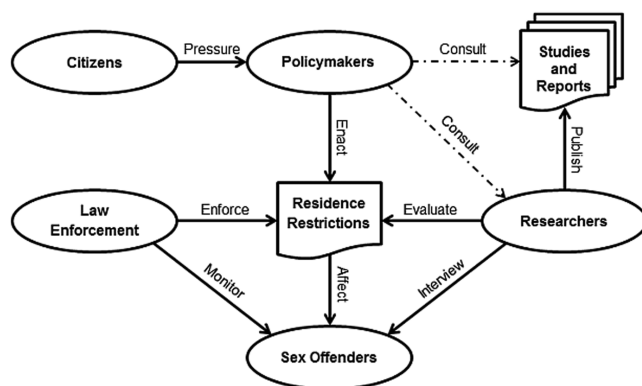
The second type of study has focused on an offender’s perceptions of the unintended consequences of these laws (e.g., Levenson and Tewksbury, 2009; Mercado, Alvarez, and Levenson, 2008). Interviews of RSOs (and their families) have found that the housing problems inherent in residence restrictions (as well as the stigma of their convictions) can take an economic and mental toll (Levenson, 2008; Levenson and Cotter, 2005). Although not directly testing this hypothesis, it seems reasonable that such problems can make it harder for RSOs to reintegrate into society (Socia and Stamatel, 2010), especially when RSOs are kept from living with supportive family members or near employment and treatment options (Burchfield, 2011; Levenson, 2008; Levenson and Hern, 2007).

The third type of study has focused on the expected or actual effects of residence restrictions on aggregate sex crime rates or individual recidivism rates. The study by Huebner et al. (2014) falls into this category. This study examines whether such policies would

2. Although if history is any indication, then it seems more likely that a fourth such policy essay will be published around 2017.

FIGURE 1

The Residence Restriction Process (and What Is Missing)



(or are) working as intended and thus far have generated consistent results: No study has found that residence restrictions resulted (or would result) in a significant decrease in child victims of sex crimes (e.g., Blood, Watson, and Stageberg, 2008; Levenson, Zgoba, and Tewksbury, 2007; Minnesota Department of Corrections, 2007; Socia, 2012a, in press-b; Youstin, Nobles, and Levenson, 2008; Zandbergen, Levenson, and Hart, 2010). In other words, these policies are simply not working.

To summarize, the three kinds of studies have found that residence restrictions can severely restrict housing in affordable urban areas, lead to emotional and economic hardships for RSOs and their families, and do not protect children from sex crimes. Regardless of the other unintended consequences from these policies, and there are certainly unintended consequences, the *sole* reason these policies should be in place is to protect children. Yet there is *zero* evidence that they actually do this!

So Why Do These Laws Persist?

So why, despite all of this evidence that these laws are not working and have negative consequences to boot, do they persist and continue to spread? One reason is because no significant, structured communication exists between the groups that are calling for and passing these laws (citizens and policy makers, respectively) and those that are enforcing, affected by, or researching them (law enforcement, sex offenders, and researchers, respectively). As a result, policy makers have no real incentive to either stop passing or repeal these laws. This should not come as a surprise, particularly if one examines the process of implementing, enforcing, and examining a residence restriction (Figure 1).

As shown in Figure 1, citizens first pressure policy makers to pass residence restrictions so they can feel safer and because it is “common sense” to keep sex offenders away from

schools and daycares (Casady, 2009; Zgoba, 2011).³ Policy makers respond by passing these policies, which represent political slam dunks *and* political landmines, because policy makers not supporting such policies can be labeled as “soft on crime” or “pro-sex offender” (Leon, Burton, and Alvare, 2011; Timmins, 2014). Thus, it is not surprising that the amount of political competition in a county has been linked to the likelihood of having a residence restriction (Socia, 2012b).

After a residence restriction is implemented, law enforcement must enforce it, which entails monitoring sex offender compliance. The effects (and consequences) of the policy then fall on sex offenders (and their families). This does not represent a problem for those passing such policies because, as noted by Police Chief Tom Casady (2009: 18), “nobody really cares if sex offenders are inconvenienced, relegated to under employment, or limited to fewer and poorer housing choices.” Finally, researchers evaluate these policies and their effects on sex offenders and then publish reports and journal articles on their findings.

Yet two key relationships are missing. First, policy makers typically do not consult with researchers *prior* to proposing and passing these policies. Second, policy makers do not seem to even consider the existing research when drafting and voting on these policies. As a result of these missing relationships, there are no structured feedback mechanisms with which either to stop these (ineffective) policies from being passed or to convince policy makers to repeal existing policies.⁴

Furthermore, when these policies *are* repealed, it has historically been a result of court rulings rather than a proactive decision by policy makers. If there *is* policy-maker action to repeal such laws, then it has been in response to these rulings. For example, after two local-level residence restrictions were ruled unconstitutional in two separate cases in New Hampshire, the New Hampshire House of Representatives passed a bill that would repeal all residence restrictions in the state. As noted by a member of the House Criminal Justice and Public Safety Committee, this bill would be less expensive than fighting to repeal the 11 remaining local residence restrictions in a piecemeal fashion (Timmins, 2014).⁵ Thus, the bill was not the result of a sudden realization that residence restrictions are not supported by existing research and cause more harm than good, but because of the prospects of costly legal battles.

3. These ideas are perhaps influenced by the stranger-danger scare tactics inherent in sensationalist “crime news” programs such as the one hosted by Nancy Grace. Furthermore, as noted by Sample and Kadleck (2008), many public officials use the media as their main source of information about sexual offending.

4. Note that other relationships exist that have not been presented in Figure 1 for readability purposes. For example, academics may interview citizens, law enforcement, and policy makers about these policies. Courts may occasionally overturn such laws on constitutional grounds (e.g., Timmins, 2014). Sex offenders may lobby (typically unsuccessfully) for policy makers to repeal such laws, and citizens may pressure law enforcement to be more diligent in enforcing these policies.

5. As of the writing of this essay, it is unclear whether the New Hampshire Senate will approve this bill.

So Now What?

Prior research has found that these laws do not reduce sexual offending and negatively impact the successful reentry of RSOs. Indeed, the study by Huebner et al. (2014) suggests this as well. However, no real feedback mechanism exists between researchers and policy makers that would control the continued passage of these laws. So what should be the next step? The answers are surprisingly simple, but sometimes difficult to implement:

Concerning Residence Restrictions

Specific to residence restrictions, two specific recommendations can be made, which have already been noted by Huebner et al. (2014), as well as by others (e.g., Barnes, 2011; Walker, 2007).

Repeal and prohibit residence restrictions. First, the blanket residence restriction policies should be repealed at both the state and the local level and subsequently prohibited by state governments. This has already been done by Kansas (Kansas Statutes Annotated, 2009), and recently New Hampshire's House of Representatives sent a similar bill to the Senate (Timmins, 2014). This statewide prohibition not only would provide equal footing for all of the cities and towns in the state but also would be more cost-effective than fighting multiple court battles over the future of each local ordinance (see Timmins, 2014).

Customize and target any remaining restrictions. Second, any restrictions on where RSOs can reside should be customized to individual RSOs and imposed only on those whose criminal history justifies such restrictions.⁶ For example, sex offenders whose crimes have no relation to their proximity to groups of stranger-child victims (i.e., the vast majority) should *not* be subject to restrictions involving schools, daycares, and similar locations. As noted by Huebner et al. (2014), a specific panel of experts should be responsible for making these decisions, such as a state Sex Offender Policy Board working in consultation with treatment providers and other criminal justice professionals. One aspect of this individual customization is the ability to place time limits on any such restrictions (Huebner et al., 2014), as well as to impose other requirements that are consistent with a containment approach (English, 1998) and risk–need–responsivity models (Andrews and Bonta, 2007).

Concerning Evidence-Based Policy Making in Criminal Justice

Several recommendations concern the broader topic of evidence-based policy making in criminal justice, much of which is relevant also for sex offender policy making.

Better disseminate research to policy makers. First, research findings need to be better disseminated directly to policy makers. Journals focused on the bridge between research and policy, such as *Criminology & Public Policy*, can help to build the researcher–policy maker

6. Ideally these policies should restrict *loitering* rather than residence, although this would be much more difficult to enforce.

feedback mechanism.⁷ However, this also requires a concerted, proactive effort on the part of researchers to disseminate their results.⁸ Groups advocating for evidence-based policies can play a role in contacting policy makers and in providing policy briefs on these issues, similar to those offered by the Association for the Treatment of Sexual Abusers (ATSA, 2014).⁹

Form advisory committees between policy makers and researchers. Second, legislative bodies should consider forming advisory committees that include both policy makers *and* researchers working together to inform on policy decisions. Tapping existing resources (e.g., Sex Offender Management Boards [SOMBs] and University Research Centers) can be a way to provide policy makers with timely, informed, evidence-based briefs and recommendations concerning proposed (and existing) policies. Some of this collaboration has already occurred between researchers and SOMBs (e.g., Colorado), but these have typically been focused on state-level policies rather than on local ordinances.

Continue outreach efforts to policy makers and the public. Third, organizations such as ATSA, the American Society of Criminology, or the Academy of Criminal Justice Sciences could sponsor public educational forums, webinars, and other outreach efforts to counteract the inaccurate stereotypes about crime and criminals (particularly sex offenders) that are held by both the public *and* policy makers (Casady, 2009; Katz-Schiavone, Levenson, and Ackerman, 2008; Levenson, Brannon, Fortney, and Baker, 2007; Meloy, Boatwright, and Curtis, 2013; Meloy, Curtis, and Boatwright, 2013; Tewksbury, 2011). Obviously, this option depends both on the ability of these organizations to devote sufficient resources to these efforts and on policy makers and the public to avail themselves of these resources.¹⁰

Policy makers: Listen to the evidence. The fourth and final recommendation is perhaps the most difficult: Policy makers must be willing to rely on research evidence, rather than on political polls and media hype, to drive their policy decisions.¹¹ In terms of sex offender laws, this may require support from researchers, SOMBs, and political strategists in figuring out how to “sell” the public on research-based policy decisions. Individuals who work with offenders and the researchers analyzing these policies are able and willing to partner with policy makers and practitioners to provide a more nuanced understanding of both the

7. Indeed, rather than waiting for policy makers to consult with researchers, this would be reversing the direction of the action.

8. On that note, feel free to forward a copy of this essay to your local neighborhood policy maker!

9. Care should be taken, however, to write such briefs in a neutral, nontechnical manner that does not come across as biased or frenzied.

10. This suggestion also depends on the willingness of policy makers to consider research evidence about inherently emotional issues like sex offenses and offenders. If they are unwilling, then the only real alternative is to attack these policies in court.

11. Unfortunately, this response is highly unlikely for those policy makers who would support RSO policies even without any scientific evidence that they would work (see Levenson et al., 2007; Payne, Tewksbury, and Mustaine, 2013).

evidence and the population.¹² For instance, ATSA recently created a Coordinator of Public Affairs position to help coordinate policy-focused advocacy, planning, and analysis efforts with policy makers and practitioners.

Overall, implementing these actions would help build the structured feedback mechanism linking researchers and policy makers, which is lacking in many instances of policy making. As a result, it also would provide the benefits of allowing policy makers to address citizens' calls for action with effective and efficient policies that promote successful reentry and public safety. In other words, the goal of all of this should be to enact policies that work—unlike residence restrictions, which are neither effective nor efficient; are harmful to successful reentry; and most importantly, do not keep people safe.

References

- Andrews, Don A. and James A. Bonta. 2007. *The Psychology of Criminal Conduct*, 4th Edition. Cincinnati, OH: Anderson.
- Association for the Treatment of Sexual Abusers. 2014. Homepage. Retrieved February 6, 2014 from atsa.com/.
- Barnes, J. C. 2011. Place a moratorium on the passage of sex offender residence restriction laws. *Criminology & Public Policy*, 10: 401–409.
- Barnes, J. C., Tony Dukes, Richard Tewksbury, and Timothy M. De Troye. 2009. Analyzing the impact of a statewide residence restriction law on South Carolina sex offenders. *Criminal Justice Policy Review*, 20: 21–43.
- Berenson, Jacqueline A. and Paul S. Appelbaum. 2011. A geospatial analysis of the impact of sex offender residency restrictions in two New York counties. *Law and Human Behavior*, 35: 235–246.
- Blood, Phyllis, Lanette Watson, and Paul Stageberg. 2008. *State Legislation Monitoring Report: FY2007* (Division of Criminal and Juvenile Justice Planning, Trans.). Des Moines: Iowa Department of Human Rights.
- Burchfield, Keri B. 2011. Residence restrictions. *Criminology & Public Policy*, 10: 411–419.
- Casady, Tom. 2009. A police chief's viewpoint: Geographic aspects of sex offender residency restrictions. *Criminal Justice Policy Review*, 20: 16–20.
- Chajewski, Michael and Cynthia Calkins Mercado. 2009. An evaluation of sex offender residency restriction functioning in town, county, and city-wide jurisdictions. *Criminal Justice Policy Review*, 20: 44–61.
- Colorado Department of Public Safety. 2004. *Report on Safety Issues Raised by Living Arrangements for and Location of Sex Offenders in the Community* (Sex Offender Management Board Division of Criminal Justice, Trans.). Denver: Author.
- English, Kim. 1998. The containment approach: An aggressive strategy for the community management of adult sex offenders. *Psychology, Public Policy and Law*, 4: 218–235.

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- Grubestic, Tony H., Alan T. Murray, and Elizabeth Mack. 2008. Sex offenders, housing and spatial restriction zones. *GeoJournal*, 73: 255–269.
- Huebner, Beth M., Kimberly R. Kras, Jason Rydberg, Timothy S. Bynum, Eric Grommon, and Breanne Pleggenkuhle. 2014. The effect and implications of sex offender residence restrictions: Evidence from a two-state evaluation. *Criminology & Public Policy*. 13: 139–168.
- Hughes, Lorine A. and Keri B. Burchfield. 2008. Sex offender residence restrictions in Chicago: An environmental injustice? *Justice Quarterly*, 25: 647–673.
- Katz-Schiavone, Stacey, Jill S. Levenson, and Alissa R. Ackerman. 2008. Myths and facts about sexual violence: Public perceptions and implications for prevention. *Journal of Criminal Justice and Popular Culture*, 15(3).
- Leon, Chrysanthi, David L. Burton, and Dana Alvare. 2011. Net-widening in Delaware: The overuse of registration and residential treatment for youth who commit sex offenses. *Widener Law Review*, 17: 127.
- Levenson, Jill S. 2008. Collateral consequences of sex offender residence restrictions. *Criminal Justice Studies*, 21: 153–166.
- Levenson, Jill S., Yolanda N. Brannon, Timothy Fortney, and Juanita Baker. 2007. Public perceptions about sex offenders and community protection policies. *Analysis of Social Issues and Public Policy*, 7: 1–25.
- Levenson, Jill S. and Leo P. Cotter. 2005. The impact of sex offender residence restrictions: 1,000 feet from danger, or one step from absurd? *International Journal of Offender Therapy and Comparative Criminology*, 49: 168–178.
- Levenson, Jill S. and Andrea L. Hern. 2007. Sex offender residence restrictions: Unintended consequences and community reentry. *Justice Research and Policy*, 9: 59–73.
- Levenson, Jill S. and Richard Tewksbury. 2009. Collateral damage: Family members of registered sex offenders. *American Journal of Criminal Justice*, 34: 54–68.
- Levenson, Jill S., Kristen M. Zgoba, and Richard Tewksbury. 2007. Sex offender residence restrictions: Sensible crime policy or flawed logic? *Federal Probation*, 71: 2–9.
- Meloy, Michelle, Jessica Boatwright, and Kristin Curtis. 2013. Views from the top and bottom: Lawmakers and practitioners discuss sex offender laws. *American Journal of Criminal Justice*, 38: 616–638.
- Meloy, Michelle, Kristin Curtis, and Jessica Boatwright. 2013. The sponsors of sex offender bills speak up: Policy makers' perceptions of sex offenders, sex crimes, and sex offender legislation. *Criminal Justice and Behavior*, 40: 438–452.
- Mercado, Cynthia Calkins, Shea Alvarez, and Jill S. Levenson. 2008. The impact of specialized sex offender legislation on community reentry. *Sexual Abuse: A Journal of Research and Treatment*, 20: 188–205.
- Minnesota Department of Corrections. 2007. *Residential Proximity & Sex Offender Recidivism in Minnesota*. St. Paul, MN: Author.
- Morgan, Jennifer K. 2008. *Spatial Implications of Municipal Sex Offender Residency Restrictions in Bay County, Florida, 2005–2007*. Unpublished Master's thesis, Northwest Missouri State University, Maryville, MO.

- Payne, Brian K., Richard Tewksbury, and Elizabeth Erhardt Mustaine. 2013. Identifying the sources of community corrections professionals' attitudes about sex offender residence restrictions: The impact of demographics and perceptions. *Crime & Delinquency*. E-pub ahead of print.
- Red-Bird, Beth. 2009. *Assessing Housing Availability Under Ohio's Sex Offender Residency Restrictions*. Columbus: The Ohio State University Press.
- Sample, Lisa L. and Colleen Kadleck. 2008. Sex offender laws: Legislators' accounts of the need for policy. *Criminal Justice Policy Review*, 19: 40–62.
- Socia, Kelly M. 2011. The policy implications of residence restrictions on sex offender housing in upstate NY. *Criminology & Public Policy*, 10: 351–389.
- Socia, Kelly M. 2012a. The efficacy of county-level sex offender residence restrictions in New York. *Crime & Delinquency*, 58: 612–642.
- Socia, Kelly M. 2012b. The implementation of county residence restrictions in New York. *Psychology, Public Policy, and Law*, 18: 206–230.
- Socia, Kelly M. 2013. Residence restrictions and the association with registered sex offender clustering. *Criminal Justice Policy Review*, 24: 441–472.
- Socia, Kelly M. In press-a. Examining the concentration of registered sex offenders in upstate New York census tracts. *Crime & Delinquency*.
- Socia, Kelly M. In press-b. State residence restrictions and forcible rape rates: A multi-state quasi-experimental analysis of UCR data. *Sexual Abuse: A Journal of Research & Treatment*.
- Socia, Kelly M. and Janet P. Stamatel. 2010. Assumptions and evidence behind sex offender laws: Registration, community notification, and residency restrictions. *Sociology Compass*, 4: 1–20.
- Tewksbury, Richard. 2011. Policy implications of sex offender residence restrictions laws. *Criminology & Public Policy*, 10: 345–348.
- Timmins, Annmarie. 2014. House committee passes bill prohibiting restrictions on where sex offenders can live. *Concord Monitor*. January 29. Retrieved February 1, 2014 from concordmonitor.com/home/10425897-95/house-committee-passes-bill-prohibiting-restrictions-on-where-sex-offenders-can-live.
- Walker, Jeffery T. 2007. Eliminate residency restrictions for sex offenders. *Criminology & Public Policy*, 6: 863–870.
- Youstin, Tasha J. and Matt R. Nobles. 2009. Residency restrictions: A geospatial analysis of sex offender movement over time. *Crime Mapping: A Journal of Research and Practice*, 1: 55–76.
- Youstin, Tasha J., Matt R. Nobles, and Jill S. Levenson. 2008. *The Impact of Residency Restrictions on Sex Offender Recidivism*. Paper presented at the American Society of Criminology 60th annual meeting, St. Louis, MO.
- Zandbergen, Paul A. and Timothy C. Hart. 2006. Reducing housing options for convicted sex offenders: Investigating the impact of residency restriction laws using GIS. *Justice Research and Policy*, 8: 1–24.

- Zandbergen, Paul A. and Timothy C. Hart. 2009a. *Availability and Spatial Distribution of Affordable Housing in Miami-Dade County and Implications of Residency Restriction Zones for Registered Sex Offenders*. Miami, FL: Miami Coalition for the Homeless, Inc.
- Zandbergen, Paul A. and Timothy C. Hart. 2009b. *Availability of Affordable Rental Housing in Miami-Dade County Under a 1,750 Feet Residency Restriction Zone* (Addendum to *Availability and Spatial Distribution of Affordable Housing in Miami-Dade County and Implications of Residency Restriction Zones for Registered Sex Offenders*). Miami, FL: Miami Coalition for the Homeless, Inc.
- Zandbergen, Paul A., Jill S. Levenson, and Timothy C. Hart. 2010. Residential proximity to schools and daycares: An empirical analysis of sex offense recidivism. *Criminal Justice and Behavior*, 37: 482–502.
- Zgoba, Kristen M. 2011. Residence restriction buffer zones and the banishment of sex offenders. *Criminology & Public Policy*, 10: 391–400.
- Zgoba, Kristen M., Jill S. Levenson, and Tracy McKee. 2009. Examining the impact of sex offender residence restrictions on housing availability. *Criminal Justice Policy Review*, 20: 91–110.

Statute Cited

Kansas Statutes Annotated, 22–4913 Stat. (2009).

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