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November 14, 2012 Minutes

**Advisory Committee to Study Laws Concerning
Sex Offender Registration**

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**A MULTI-STATE RECIDIVISM STUDY USING
STATIC-99R AND STATIC-2002 RISK SCORES
AND TIER GUIDELINES FROM THE
ADAM WALSH ACT**

RESEARCH REPORT SUBMITTED TO THE
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ABSTRACT

THIS STUDY seeks to examine important components of our nation's sex offender tracking and monitoring systems, with a focus on risk assessment and sexual recidivism (measured by re-arrest). The principal aims of this study were fourfold: (1) to compare the nationally recommended Adam Walsh Act (AWA) classification tiers with actuarial risk assessment instruments in their respective abilities to identify high risk individuals and recidivists; (2) to evaluate the predictive accuracy of existing state risk assessment classification schemes; (3) to examine the distribution of risk assessment scores within and across tier categories as defined by the AWA; and (4) to examine the role of offender age in recidivism risk across the adult lifespan.

Data were collected from 1,789 adult sex offenders in four states (Minnesota, New Jersey, Florida and South Carolina) to inform these analyses. Variables including offender demographics and criminal history information, coded from state criminal justice records, were used

to score actuarial risk assessment instruments and sex offender registry information. On average, we found that the recidivism rate was approximately 5% at five years and 10% at 10 years. AWA tier was unrelated to sexual recidivism, except in Florida, where it was inversely associated with recidivism. Actuarial measures and existing state tiering systems both showed better predictive validity than AWA tiers. Finally, offender age was found to have a significant protective effect for sexual reoffending, with older offenders showing a decreased risk for sexual recidivism.

The findings indicate that the current AWA classification scheme is likely to result in a system that is less effective in protecting the public than the classification systems currently implemented in the states studied. Policy makers should strongly consider substantial revisions of the AWA classification system to better incorporate evidence-based models of sex offender risk assessment and management.

EXECUTIVE SUMMARY

Although managing sex offender risk has been a law enforcement initiative since the 1930s, exceptionally heinous sex crimes perpetrated by offenders during the 1990s brought forth intense public scrutiny and demands for more rigorous monitoring of sex offenders. Legislators responded by enacting national standards and procedures for sex offender registration and community notification, passing the Jacob Wetterling Act in 1994 and Megan's Law in 1996. Stricter registration requirements and public access to offenders' residence information initially assuaged some of the public's fear, as parents felt empowered to minimize the risk posed to their children. As media reports surfaced concerning sex offender registration violations, however, fear was reignited. Consequently, sex offender management and policy measures remained a priority for lawmakers.

Legislators responded on July 27, 2006 with passage of The Adam Walsh Child Protection and Safety Act, which resulted in more stringent registration requirements and established a standardized, offense-based classification system. Enforcement of this legislation has undoubtedly shaped states' criminal justice responses to sexual

crimes and sexual offenders. The proposed offense-based classification system was fashioned, however, without reliance on or guidance by empirical validation. The essential question, therefore, is whether this classification system accurately represents the risk of re-offense and leads to more effective sex offender management. Critics have argued that the AWA classification system relies too heavily on circumstances of the offense, not overall recidivism risk posed by the offender. Some states have used this reasoning to resist AWA adoption, contending that existing classification methods based on actuarial risk assessment would provide a better means of ensuring public safety.

In an effort to identify best practices and to inform public policy, this study sought to assess the relative effectiveness of various classification schemes used in sex offender management. Although this research attempts to address several research questions, the overarching goal is to compare the nationally recommended Adam Walsh Act (AWA) classification tiers to actuarial risk assessment instruments in their respective abilities to identify high risk individuals and recidivists.

METHODS

- ◆ To answer the research questions we randomly selected 500 formerly incarcerated sex offenders from four states: New Jersey, Minnesota, Florida, and South Carolina. Eligible cases were convicted sex offenders who had been released from prison into the community between January 1, 1990 and December 31, 2004. Sexual offenses were defined as any index crime requiring registration and/or end of confinement review. Additionally, offenders must have been released after confinement to the community and not to a civil commitment program.
- ◆ Data were collected using available automated databases, supplemented by a review of prison and probation records. The study proceeded in two phases. Phase 1 included coding data from each offender's available archival records in order to calculate recidivism risk scores for two commonly used actuarial risk assessment instruments--the Static- 99R and Static- 2002R--and extracting relevant demographic and criminal (including juvenile justice) history data at time of release

THIS STUDY SOUGHT TO ASSESS THE RELATIVE EFFECTIVENESS OF COMPETING CLASSIFICATION SCHEMES USED IN SEX OFFENDER MANAGEMENT.

into the community. Each criminal contact was categorized by the most serious charge. Phase 2 involved the coding of recidivism data for each offender. Variables collected and coded during Phase 2 were based on charge information. Where available, sex offender registry information was also collected, including the registry status at the time of the charge (registered vs. not registered), registration requirement (number of times per year required to register), and registry start date of initial registration.

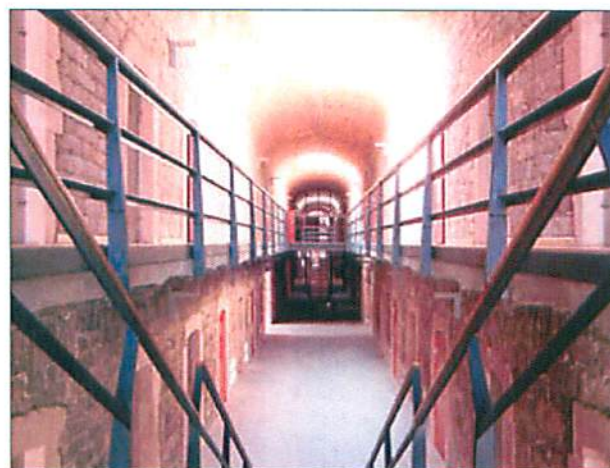
- ◆ This project used several analytic strategies aimed at addressing primary questions. These strategies included: (1) detailed review of statutory codes for

each state; (2) assignment of baseline tiers for each type of offense across three age groups – 12 and under, 13-17, and 18+; (3) review of both instant offense and most serious offense fields and assignment of initial tiers based on this information; (4) review of supplemental fields in the dataset to identify other cases in which the offender has a history of two or more sexual offenses, history of victimizing children under 12, and/or history of use of force in commission of offenses; and (5) as applicable, adjustment of initial tiers based on this review.

- ◆ To evaluate the degree to which classification systems correctly classified or accurately predicted offender risk, measures were assessed using the Receiver Operating Curve (ROC) analyses. At different risk times, the significance of Area Under the Curve (AUC) was calculated for the three different criteria: actuarial risk scores, Adam Walsh Level, and state determined tier level. Because key data required to accurately calculate actuarial risk scores was sometimes missing in the available archival files, a reduced actuarial predictor was created based on the items that were most commonly available. This modified measure is referred to as the Available Predictor (AP). This simplified actuarial scale was used in cases where missing data for standard actuarial risk assessment instruments would have greatly reduced the sample size available for analysis.
- ◆ There were differences across states in the information that was available in the prison records and in other criminal justice records accessed for this study. Minnesota and New Jersey had less systematically missing information than either Florida or South Carolina.
- ◆ Static-99R scores were not computed for South Carolina due to missing data. Static-99R scores were calculated for the other three states and differences were evaluated by one-way ANOVA.
- ◆ The predictive accuracy of state-specific risk assessment classification schemes was also evaluated. Florida and South Carolina both distinguish between sex offenders and those designated as predators. In states that go beyond distinguishing offenders and predators, such as New Jersey and Minnesota, there are substantial differences in the methodology used for determining an individual's tier status.

RESULTS

- ◆ The racial background of the sample was 51% White, 31% Black, 7% Latino, and 2% Native American. The mean age of the sample was 33 years at sentencing, and the age of the sample at release was 37 years.
- ◆ The majority of offenders had no prior conviction for a sexual crime, but two-thirds had prior involvement in the criminal justice system for a criminal offense. For the cases in which victim characteristics were available, three-quarters of these offenders had unrelated victims, and about one-fifth had stranger victims. Nearly half of all victims were age 12 or under.
- ◆ The overall recidivism rate for the sample was 5.1% over five years and 10.3% over ten years. The doubling between 5 and 10 years indicates some suppression occurring during the first five years, possibly due to effects of formal supervision (e.g., parole). There was an apparent trend for sexual recidivism rates to differ among states after five years, but this trend failed to reach significance. The trend reached significance after 10 years follow-up, with the highest rate occurring in Florida and the lowest rate in South Carolina.
- ◆ Sex offenders were assigned to an AWA tier according to the procedures outlined in the Methods section. A frequency distribution of AWA tier levels revealed that the majority of offenders met the criteria for AWA Tier 3, the highest risk level. Specifically, 69% of the sample was classified as AWA Tier 3, whereas 29% was classified as Tier 2. Less than one percent of offenders met the criteria for the Tier 1 category. This lowest tier includes offenses that are eligible for a sentence of less than one year in prison, and qualify as misdemeanor offenses rather than felony offenses. Consequently, most Tier 1 offenders would not have been sentenced to a state prison from which samples were pulled.
- ◆ The mean Static-99R score was computed for the full sample (2.58, $sd = 2.29$) and for each state (i.e. Florida, Minnesota, and New Jersey). ANOVA testing (one-way analysis of variance) revealed significant differences in Static-99R risk scores across the states. On average, higher scores were



identified in the Minnesota sample (3.12, $sd = 2.11$), followed by New Jersey (2.37, $sd = 2.49$), and Florida (1.97, $sd = 1.96$). Consistent with the Static-99R results, mean Static 2002 risk scores were significantly higher for the Minnesota sample than the New Jersey sample.

- ◆ We examined whether risk levels varied by AWA tier designation. If tier designations identify higher risk offenders, cases with Tier 3 designations should also, on average, have higher risk scores. Concordance between risk scores and tier designation was not, however, consistently identified. Specifically, Tier 2 offenders were associated with higher actuarial risk scores, on average, and accounted for a greater proportion of cases falling into the upper end of the risk distribution.
- ◆ The association between state and AWA tier designations and the 10-year recidivism rate was examined. Results indicated that a higher state assigned tier was significantly associated with sexual recidivism in the expected, positive direction, but a higher AWA tier was significantly associated with sexual recidivism in the unexpected negative direction. In other words, AWA tier 3 was associated with lower odds of sexual recidivism. The comparable analysis for 5-year sexual recidivism yielded similar results but was statistically significant only for AWA tier.
- ◆ Our results indicated that the distribution of AWA tiers differed across states, with two states, Minnesota and New Jersey, having very few Tier 2 offenders and no Tier 1 offenders. Moreover, higher

AWA tier was not significantly associated with recidivism in New Jersey, Minnesota, and South Carolina, and was significantly inversely associated with recidivism in Florida. It is noteworthy that this unexpected inverse finding was in Florida, which is the only state in our sample that has been certified as substantially compliant with the AWA by the federal government.

- ◆ Sexual recidivism declined with age. This was true for both five- and ten-year sexual recidivism predictions, though the effect was greater and significant only for the longer follow-up period. The effect of aging appeared to be approximately linear with departures from linearity not being statistically significant. Similarly, the interaction

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FIRST FIVE YEARS, POSSIBLY
DUE TO EFFECTS OF FORMAL
SUPERVISION
(E.G., PAROLE).**

between age and whether the offender had perpetrated against a child under age 13 was not statistically significant.

- ◆ The results indicated that increased age is protective of future reoffending, regardless of whether it is the age at which the offense occurred, age at sentencing, or age at release from incarceration. In other words, as sex offenders get older, they are less likely to be arrested for a new sexual crime.

POLICY IMPLICATIONS

- ◆ This study is one of the first of its kind to investigate procedures commonly used to classify risk in contemporary American sex offenders. The study is potentially useful for facilitating the interface between science and practice and for informing the development and implementation of sex offender policies in the United States.
- ◆ Actuarial risk assessment scores consistently outperformed AWA tiers. More important from a policy standpoint is that the tiering systems already in use by the states outperformed AWA tiers in predicting sexual reoffending.
- ◆ The data indicate that sex offenders reoffend less frequently as they get older. This finding has implications for policy related to lifetime registration and raises questions concerning the necessity and cost-efficiency of lifetime registration policies.
- ◆ The identification of substantial variation in the offense and crime data routinely gathered across states indicates that improvements in the standardization of data collection will be required if consistent risk assessment procedures are to be achieved across states.
- ◆ The findings call into question the accuracy and utility of the AWA classification system in detecting high-risk sex offenders and applying concordant risk management strategies. If decision-making is to be driven by assigning offenders into defined risk classes, those categories must be determined by empirically derived procedures that are most likely to correctly identify higher risk offenders in a meaningful, systematic, and hierarchical manner.
- ◆ The results of this study can inform public discourse on social controls for convicted sexual offenders through communication with policy makers, by informing the efforts of professional organizations, and through presentations to government policy makers and constituent groups.

A MULTI-STATE RECIDIVISM STUDY USING STATIC-99R AND STATIC-2002 RISK SCORES AND TIER GUIDELINES FROM THE ADAM WALSH ACT

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I. INTRODUCTION

SEXUAL VIOLENCE is a serious social problem with far-reaching consequences for victims, their families, and society. In response to concern about sex crimes, the U.S. Congress has enacted a series of laws designed to identify, track, monitor, and manage convicted sex offenders living in the community. In 1994 the Jacob Wetterling Act mandated that all 50 states, territories, and other Federal jurisdictions develop a registry of convicted sex offenders for law enforcement tracking and monitoring purposes. In 1996 the Wetterling Act was amended to allow for registry information to be disseminated to the public. This amendment is known as Megan's Law, and sets guidelines for each state to implement community notification procedures. All 50 states, Territories, and District of Columbia are required to post their registries online. The Adam Walsh Act of 2006 is now attempting to standardize procedures across all US jurisdictions, including states, federally recognized tribes, and territories and to enhance registration and notification requirements. The Adam Walsh Act created federal guidelines for the classification of sexual offenders and delineated corresponding registration, notification, and management requirements.

THE ADAM WALSH ACT OF 2006 IS NOW ATTEMPTING TO STANDARDIZE PROCEDURES ACROSS ALL US JURISDICTIONS, INCLUDING STATES, FEDERALLY RECOGNIZED TRIBES, AND TERRITORIES

Registration and notification requirements are not intended or designed to serve as criminal punishment. Rather, these were written as public safety policies. As such, the specification of registration or community notification requirements and the subsequent allocation of resources for community supervision of offenders require critical choices based on an offender's likelihood of negatively affecting community safety (reoffending) as opposed to simple retribution for harm caused. The serious implications for potential victims, offenders, and fiscal resources all demand the guidance of the most accurate evaluations available. Public safety decisions and funding allocations can be effective only if informed by the use of accurate decision making procedures. Importantly, whereas it might be argued that the procedures for "tiering" sex offenders required by the AWA

are for registration and notification but not for supervision or treatment purposes, the practical effect of basing registration and notification requirements on the AWA tiers is to imply—strongly, we would argue—that Tier 1 offenders are lower risk and have fewer supervision and treatment needs whereas Tier 3 offenders are highest risk and require substantially greater investments in supervision and treatment.

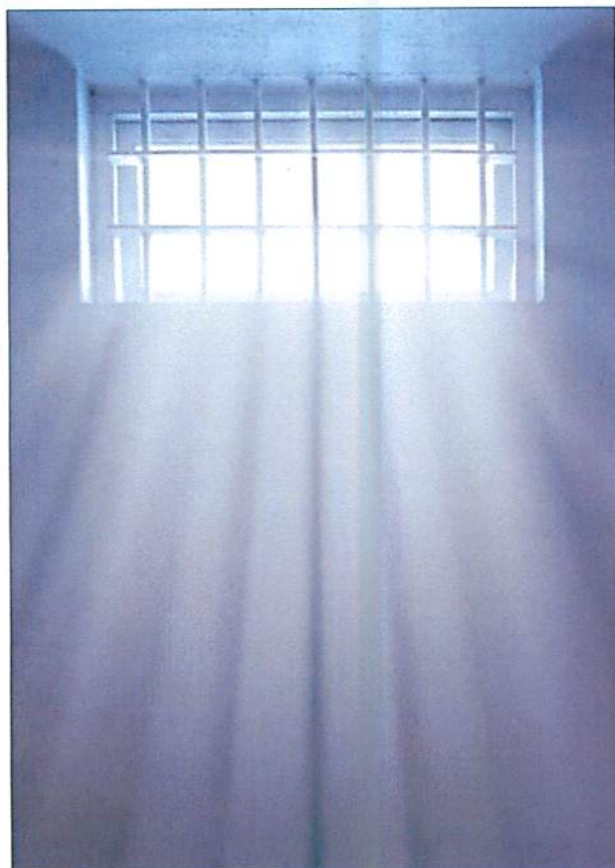
Accordingly, because tier assignment is such an important link in the chain from offender apprehension to successful community reintegration, this study compared the accuracy of a variety of risk classification schemes for predicting sex offense recidivism in an attempt to provide empirical guidance for implementing registration and notification policies. More specifically, this research project sought to compare the predictive accuracy of the Static-99R and Static-2002R, the most commonly used actuarial risk assessment instruments to those of federal and state classification schemes. This study also included an evaluation of the independent effect of advancing age on risk and recidivism. If increasing age reduces sexual recidivism risk, as has been suggested in some but not all research (see Thornton, 2006), risk calculations should include this variable, and age should factor as a parameter in public policy decisions.

SPECIFIC GOALS AND OBJECTIVES

The principal aims of this study were (1) to compare the nationally recommended Adam Walsh Act (AWA) classification tiers with actuarial risk assessment instruments in their respective abilities to identify high risk individuals and recidivists; (2) to evaluate the accuracy of risk assessment in existing state classification schemes; (3) to examine the distribution of risk assessment scores within and across tier categories defined by the AWA; and (4) to examine the role of offender age in risk and recidivism across the adult lifespan.

REVIEW OF RELEVANT LITERATURE

APPROXIMATELY 1-2% of adult males will eventually be convicted of a sexual assault, but this does not mean that they are all equally likely to repeat their crimes (Hanson & Bussière, 1998; Hanson & Morton-Bourgon, 2005). In fact, most sexual offenders do not re-offend sexually over time (Harris & Hanson, 2004). Recidivism rates vary based on the type of offense and other risk factors such as offender age, degree of sexual deviance, criminal history, and victim preferences (Hanson & Bussière, 1998;



Hanson & Thornton, 1999a). Nonetheless, sex offenders are reputed to be highly persistent offenders, and expectations that the majority of sexual offenders will go on to re-offend sexually have shaped recent laws.

It is well established that sex offenders present a wide range of risk for recidivism. Because they do not adequately incorporate the consequences of this diversity, the current offender management procedures commonly used in the United States are suboptimal and require modification (A. J. R. Harris & Hanson, 2004). For instance, Harris and Hanson noted that allocating the majority of resources to offenders at highest risk for reoffending better serves the public interest. Conversely, imposing higher levels of treatment and supervision than what is needed based on offender risk level is not cost-effective and can create collateral consequences to offenders and communities that potentially compromise public safety benefits. Thus, clarifying the predictive validity of various risk assessment procedures and building empirically derived classification models into policy development can facilitate improved community safety and a more efficient distribution of fiscal resources.

The impact of risk classification procedures on sex crime prevention in the United States is largely unknown because empirical investigations of this topic using American samples

have been limited. Although there is wide consensus on the need for improved strategies to protect communities from sexual offenders, there is also considerable debate on whether current criminal justice responses actually reduce sexual reoffending (Edwards & Hensley, 2001; Levenson, 2003; Levenson & D'Amora, 2007; Petersilia, 2003; Prentky, 1996; Welchans, 2005; Zgoba, 2004; Zgoba, Witt, Dalessandro & Veysey, 2008). Hindering the ability of legislators to make informed decisions is the dearth of empirical analyses directed at U.S. risk classification procedures and their effectiveness in protecting the public from repeated sexual crimes. This study investigates the utility of a variety of procedures extensively used in the United States to manage convicted sexual offenders living in communities.

LEGACY OF MEGAN'S LAW & STATE CLASSIFICATION SCHEMES

The passage of Megan's Law in 1996 led to a variety of classification systems across the states, created to facilitate implementation of sex offender registration and notification requirements. Although registration and community notification were federally mandated, states were given latitude to develop classification methods. Consequently, different criteria emerged for: (1) registration duration and frequency; (2) scope, form, and content of public disclosure; and (3) designation of an agency to perform notifications (A. J. Harris & Lobanov-Rostovsky, 2010; Matson & Lieb, 1996).

For instance, some states currently classify sex offenders into relative risk categories and assign different registration and notification requirements depending on the assessed threat posed to public safety, whereas other states use broad notification strategies to distribute information about all sex offenders regardless of risk (A. J. Harris & Lobanov-Rostovsky, 2010; Matson & Lieb, 1996). A recent study documented that 14% of states operate single tier systems that subject all registered sex offenders to similar requirements, 18% operate modified single tier systems with a special category for sexual predators, and 68% set forth requirements using two or more categories of sex offenders (A. J. Harris, Levenson, & Ackerman, under review). For those making distinctions among registered sex offenders, 70% of jurisdictions reported using the type of offense as a criterion, 45% reported using the number of convictions, and 32% reported using some form of risk assessment.

The methods of community notification have also varied by state, neighborhood, or police district. Media releases, door-to-door warnings, mailed or posted flyers, and community meetings have been commonly used in the past (Levenson & Cotter, 2005; Matson & Lieb, 1996; Zevitz & Farkas, 2000a). As of 2003, however, all states were required to post information about registered sex offenders on publicly accessible registry websites.

THE ADAM WALSH ACT

In response to a perceived need for standardization across the states, Title 1 (the Sex Offender Registration and Notification Act, referred to as SORNA) of the Adam Walsh Act ("Adam Walsh Child Protection and Safety Act of 2006," 2006) created guidelines that each state must now begin to implement. Employing the classification designations already used in a number of states, SORNA/AWA created a "tier" classification system based on offender convictions for the purpose of determining the duration of registration, frequency of address verifications, and extent of website disclosure. The tiers are described as follows by the statute and federal guidelines:

TIER 1: Predicate offenses include whatever offenses do not support a higher classification, such as misdemeanor registration offenses and child pornography possession.

TIER 2: Predicate offenses include most felonious sexual abuse or sexual exploitation crimes involving victims who are minors.

TIER 3: Predicate offenses generally encompass sexual assaults involving sexual acts regardless of victim age, sexual contact offenses against children below the age of 13, non-parental kidnapping of minors, and attempts or conspiracies to commit such offenses.

**THERE IS NO DOUBT THAT
THESE LAWS HAVE HELPED
TO RAISE AWARENESS ABOUT
SEXUAL ASSAULT IN GENERAL
AND CHILD SEXUAL ABUSE
MORE SPECIFICALLY.**

The classification tiers further define Tier 2 offenders as those whose offense is punishable by imprisonment for more than 1 year, those who have already been convicted or adjudicated of a Tier 1 offense, and those who have committed certain offenses against minors (e.g., sex trafficking, coercion and enticement, use of a minor in a sexual performance). Tier 3 sex offenders comprise those whose offenses are punishable by imprisonment for more than 1 year and involve aggravated sexual abuse or sexual contact against a minor under the age of 13 years, kidnapping of a minor (unless committed by a parent or guardian), or offenses that occur after the offender has become a Tier 2 sex offender (repeat offender). States are not required to employ this tier system, provided that their requirements result in the same or more stringent registration and noti-

fication requirements for offenders who would be classified at the various tiers based on their conviction offense(s).

SEX OFFENDER REGISTRATION, COMMUNITY NOTIFICATION, AND RECIDIVISM

Sex offender registration and community notification (SORN) laws can serve a number of important public safety objectives. There is no doubt that these laws have helped to raise awareness about sexual assault in general and child sexual abuse more specifically. Public dissemination of information about convicted sexual offenders living in communities can potentially assist parents and other concerned citizens to take precautions to protect themselves. As well, registration databases can provide a helpful tool for law enforcement agents to track the whereabouts of convicted sex offenders and identify potential suspects in new sexual crimes. An important question related to public awareness and law enforcement efforts follows: can these tools ultimately help to prevent or reduce recidivistic sexual crimes?

EFFECTS OF REGISTRATION AND NOTIFICATION ON RECIDIVISM. A number of studies published in recent years have evaluated the effects of registration and notification on recidivism. In the earliest days of registration and notification, Schram and Milloy (1995) compared the recidivism rates of 90 Washington sex offenders designated as high risk and subject to aggressive notification with a sample of 90 similar offenders released prior to the enactment of notification policies. No statistically significant differences between the two groups were found. Over a four-and-a-half year follow-up period, 19% of the community notification group and 22% of the comparison group were arrested for new sexual offenses. A more recent examination of the recidivism rates of offenders subjected to registration and notification in Washington found some support for the effectiveness of these policies (Washington State Institute for Public Policy, 2005). After controlling for decreasing crime trends, felony sex offense recidivism rates were lower following implementation of risk-based notification policies when compared with the pre-notification rate. This rate reduction from 5% to less than 1% was equivalent to a 70% drop in recidivism (Washington State Institute for Public Policy, 2005).

In Wisconsin, 47 high-risk sex offenders exposed to aggressive community notification had higher (though not statistically significant) rates of recidivism (19%) than 166 high-risk sex offenders who were not subject to notification (12% recidivism) (Zevitz, 2006b). Zevitz concluded that "extensive amounts of public exposure for sex offenders... had little effect on their recidivism" (p. 204). An Iowa study tracked 223 sex offenders listed on the sex offender registry

for a follow up period of approximately 4 years. It was found that 3% of the registered sex offenders were rearrested for a new sex crime, compared with 3.5% of sex offenders who were not required to register because they were convicted before the law went into effect. This difference was not statistically significant (Adkins, Huff, & Stageberg, 2000). In a more recent study of formerly incarcerated sex offenders in Iowa, Tewksbury and Jennings (2010) used group-based trajectory modeling to discern the impact of SORN on recidivism levels. Again, results suggested no effect, with pre-SORN and post-SORN cohorts displaying similar trajectory groupings. Specifically, both cohorts were shown to consist of the same three groups of offenders: (1) non-recidivists, (2) low-rate recidivists, and (3) high-rate recidivists.

An interrupted time-series investigated the impact of registration and notification laws on sexual assault rates in ten states (Vasquez, Maddan, & Walker, 2008). In six states sexual assault rates showed no significant differences over the three-year post-policy time frame, and only three states (Hawaii, Idaho, and Ohio) demonstrated a significant decline. One state, California, experienced a statistically significant increase in rapes. The authors concluded that registration and notification policies did not appear to systematically influence a reduction in sex crime rates. A national analysis examining over 300,000 sex offenses in 15 states found that although registration with law enforcement appeared to reduce recidivistic sex offenses, public notification did not (Prescott & Rockoff, 2011).

In Minnesota offenders released subsequent to Minnesota's risk-based Community Notification Act, implemented in January 1, 1997, were found to have a significantly lower sexual offense recidivism rate than those released before the enactment (Duwe & Donnay, 2008). Using a quasi-experimental design and multivariate regression techniques, Duwe and Donnay (2008) measured recidivism rates of three groups of sex offenders released into the community following a sexual offense incarceration: (1) offenders released between 1990 and 1996, prior to the implementation of Minnesota's Community Notification Act (the "pre-notification group"), (2) Level III offenders released between 1997 and 2002 who were subject to broad community notification (the "notification group"), and (3) Level I and Level II offenders released during the same period (1997 to 2002) who were subject to some, but not broad community notification measures (the "non-notification group"). A rigorous sampling design was used to increase sample equivalencies (i.e., matching comparison groups based on sexual recidivism risk levels), and the authors employed robust analytical methods. The notification sample showed lower recidivism rates than pre-notification and non-notification samples.



Research emerging from New Jersey measured group differences in recidivism before and after implementation of Megan's Law and indicated limited utility and effectiveness of community notification and registration laws (Veysey, Zgoba, & Dalessandro, 2008; Zgoba, Veysey, & Dalessandro, 2010; Zgoba, et al. 2008). The pre-post study consisted of a total of 550 male sex offenders released during the years 1990 and 2000, 250 of whom were released during 1990 and 1994 (i.e., the pre-Megan's Law group) and 300 of whom were released between 1995 and 2000 (i.e., the post-Megan's Law group). The results showed a significant decrease in nonsexual recidivism after Megan's Law implementation. No significant differences were, however, identified for measures of sex offense recidivism, the time it took for sex offenders to reoffend, or the number of victims. The authors concluded that the implementation of Megan's Law yielded no demonstrable reduction in sexual offenses.

In South Carolina, data were analyzed for a sample of 6,064 male offenders convicted of at least one sex crime between 1990 and 2004 (Letourneau, Levenson, Bandyopadhyay, Sinha, & Armstrong, 2010). Across a mean follow-up of 8.4 years, 490 offenders (8%) had new sex crime charges and 299 offenders (4%) had new sex crime convictions. Cox's relative risks and competing risks models estimated the influence of registration status on the risk of sexual recidivism while controlling for time at risk. Registration status did not predict recidivism in any model.

Likewise, in New York, researchers examined the effects of New York's SORN policy on sex offender recidivism (Sandler, Freeman, & Socia, 2008). Monthly sex crime arrest counts for previously convicted sex offenders were examined across a 21-year time period using autoregressive integrated moving average analyses. Sex crime recidivism rates did not significantly decrease in the years following the implementation of the policy. The authors further

noted that more than 95% of all sex offenses identified across the 21-year study period were committed by first-time offenders who would not have been found on registries (Sandler et al., 2008).

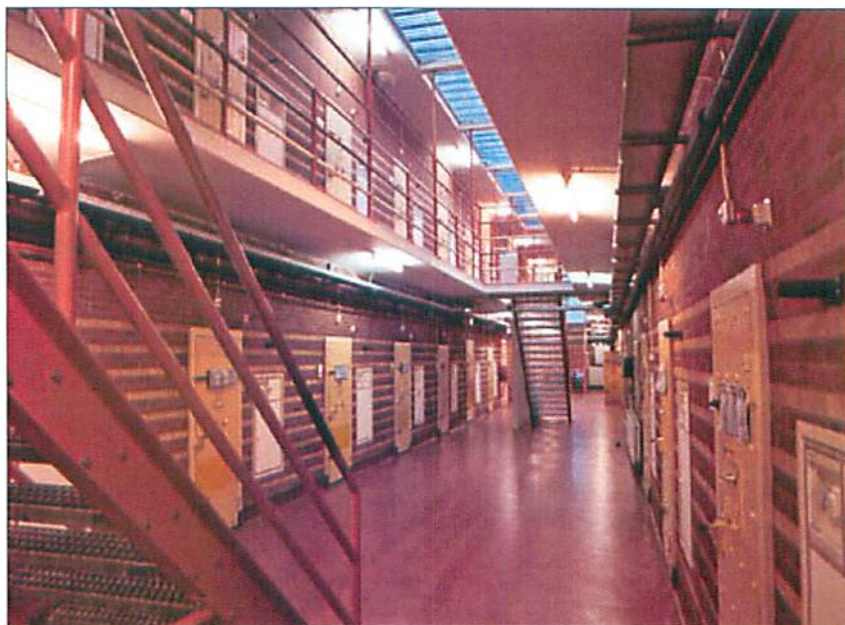
EFFECTS OF REGISTRATION AND NOTIFICATION ON OFFENDER ADAPTATION. A growing body of research evaluating the collateral consequences of registration and notification indicates that such laws can interfere with community re-entry and adjustment (Levenson & Cotter, 2005; Levenson, D'Amora, & Hern, 2007; Sample & Streveler, 2003; Tewksbury, 2004, 2005; Tewksbury & Lees, 2006; Zevitz, 2006b; Zevitz & Farkas, 2000a). Sex offenders surveyed in Florida, Indiana, Connecticut, Wisconsin, and Kentucky reported adverse consequences such as unemployment, relationship loss, denial of housing, threats, harassment, physical assault, or property damage as a result of public disclosure (Levenson & Cotter, 2005; Levenson, et al., 2007; Tewksbury, 2004, 2005; Tewksbury & Lees, 2006; Zevitz & Farkas, 2000b). The majority of sex offenders also reported emotional distress such as shame, embarrassment, depression, or hopelessness. Though vigilantism is rare, extreme cases such as arson, vandalism, and even murder of sex offenders have been documented (Sample & Streveler, 2003). Because public identification can lead to social exclusion and underemployment for sex offenders, many end up living in socially disorganized, economically depressed neighborhoods that have fewer resources for mobilizing community strategies to deter crime and protect residents (Mustaine, Tewksbury, & Stengel, 2006; Tewksbury & Mustaine, 2006; Zevitz, 2004, 2006a).

Research evaluating SORN policies is still in its infancy. Evidence of reduced recidivism attributable to SORN laws has emerged from two states (Washington and Minnesota) that use risk assessment procedures to judiciously apply enhanced monitoring and public disclosure to higher risk offenders. Because the best possible outcomes of SORN laws will involve successful identification and management of high-risk individuals while simultaneously minimizing barriers to reintegration for lower risk offenders, continued research into these important questions is essential.

RISK ASSESSMENT

More than any other group of criminals, sexual offenders are subjected to discretionary decisions by the criminal justice system. The efficacy of such decisions is directly related to knowledge about an individual's dangerousness or likelihood of reoffense. Thus, questions about how long a sex offender should remain registered or whether to notify the community of his or her whereabouts are driven by underlying assumptions about reoffense risk. In their meta-analysis involving 61 studies and over 29,000 sex offenders, Hanson and Bussière (1998) calculated an aggregated sexual recidivism rate of 13.4% within four to five years. An update of this meta-analysis (Hanson & Morton-Bourgon, 2005) found a similar re-arrest rate. Recidivism estimates are generated exclusively from data on detected sexual offenses and, though lower than often assumed, under-represent actual occurrences because many sex offenses are not reported to authorities.

There are some sex offenders who are more likely to reoffend, and research has identified risk factors for recidivism, these include sex offenders with an exclusive or predominant sexual interest in children, and those who molest boys (Hanson & Bussière, 1998; A. J. R. Harris & Hanson, 2004; Prentky, Lee, Knight, & Cerce, 1997). Sex offenders with past arrests are more likely to reoffend than first-time offenders (Hanson & Bussière, 1998; Hanson & Morton-Bourgon, 2005; A. J. R. Harris & Hanson, 2004; Prentky, et al., 1997; Quinsey, Lalumière, Rice, & Harris, 1995). Those who comply with supervision and treatment have lower reoffense rates than those who violate the conditions of their release. Sex offenders



who target strangers are more dangerous than those with victims inside their own family (Doren, 1998; A. J. R. Harris & Hanson, 2004). Some sex offenders have victimized many more individuals than those for whom they have been arrested (Abel, et al., 1987; Ahlmeyer, Heil, McKee, & English, 2000; English, Jones, Parrick, & Pasini-Hill, 2003; Heil, Ahlmeyer, & Simons, 2003; Hindman, 1988). On the other hand, most child molesters are not diagnosed as pedophiles with an exclusive attraction to children (Kingston, Firestone, Moulden, & Bradford, 2007; Malerzky & Steinhauer, 2002; Seto & Lalumière, 2001), and a small number of offenders appear to account for the majority of sexually abusive acts committed by previously identified sex offenders. Sex offense recidivism appears to decline with age (Barbaree & Blanchard, 2008; Barbaree, Langton, Blanchard, & Cantor, 2009; Hanson, 2002), and the longer that offenders remain offense-free in the community, the less likely they are to re-offend sexually (A. J. R. Harris & Hanson, 2004).

Based on these findings, significant progress has been made in the science of risk assessment, which estimates the likelihood that a sex offender will commit a new sex crime in the future. Actuarial risk assessment instruments estimate the probability of sexual reoffense based on the actual recidivism rates of convicted sex offenders with similar characteristics (Epperson, et al., 1999b; Hanson, 1997; Hanson & Thornton, 1999b; Quinsey, Harris, Rice, & Cormier, 1998). The most commonly used instrument in North America is the Static-99R (Jackson & Hess, 2007; McGrath, Cumming, Burchard, Zeoli, & Ellerby, 2010). Though instruments cannot predict that an individual offender will act in a specific way, risk assessment allow offenders to be placed into categories that differ in their relative risk for sexual recidivism (Barbaree, Seto, Langton, & Peacock, 2001; Epperson, et al., 1999a; Hanson, 1997; Hanson & Thornton, 1999b, 2000; G. T. Harris, et al., 2003; Quinsey, et al., 1998). Validated risk assessment instruments are useful for identifying the potentially most dangerous sex offenders and applying the most intensive interventions to those who need the greatest level of supervision, treatment, and restriction.

RISK ASSESSMENT VALIDITY AND RELIABILITY

Researchers have developed and tested risk assessment instruments aimed at enhancing the accuracy of predicting recidivism and thereby improving criminal justice decisions. Such validated sex offender risk assessment instruments outperform clinical judgment (Hanson & Morton-Bourgon, 2005). Recent cross validation studies, however, have suggested that their predictive power is not optimal (Barbaree, et al., 2001; Langton, 2003; Parent, Guay, & Knight, 2011). Langton (2003) compared nine actuarial

risk assessment indicators (eight pure or modified actuarial scales and the Psychopathy Check List-R; Hare, 1991) on 468 sexual offenders in a 5.9 year follow-up study. For each actuarial, Langton measured the Area Under the Curve (AUC), which in Receiver Operating Characteristics curve analyses assesses the likelihood that a randomly selected recidivist will get a higher actuarial score than a randomly selected non-recidivist. The average AUC across actuarials was .64, with AUC values ranging from .57 to .70. These values indicate poor (not significant above chance) to modest predictive accuracy. When these actuarial instruments were compared at a constant 36-month follow-up with complete data for all instruments, their AUCs did not differ significantly from each other.

The most widely accepted actuarial instrument used to assess sex offender risk is the Static-99R (Jackson & Hess, 2009; McGrath, et al., 2010), an instrument that rates 10 factors empirically related to recidivism. The Static-99R was originally tested and cross-validated using four diverse samples from Canada and the United Kingdom. In a validation study, the Static-99R demonstrated moderate predictive accuracy, yielding an AUC of .71 and a correlation with recidivism outcome of .33 (Hanson & Thornton, 2000). The results from a Canadian study involving 215 released sex offenders also found moderate predictive ability for the Static-99R (AUC = .70; Barbaree, et al., 2001). Using a sample of 186 released sex offenders in Arizona, the instrument achieved an AUC of .71 (Bartosh, Garby, & Gray, 2002).

Studies have reported consistently favorable results when investigating the reliability of commonly used risk assessment instruments. Several different researchers have found the Static-99R to have high inter-rater reliability, with a 90% correlation in scoring between raters (Barbaree, et al., 2001; Bartosh, Garby, Lewis, & Gray, 2003). In a study where reliability was assessed by comparing Static-99R scores generated by two independent codings on ten subjects, the intra-class correlation coefficient was .87 (G. T. Harris, et al., 2003). In a Florida study measuring the consistency of two psychological evaluators scoring the Static-99R on 281 cases, the intra-class correlation coefficient was .85 (Levenson, 2004).

Knight and Thornton (2007) compared the predictive accuracy of the Static-99R to other statistic prediction rules in a 2 to 28 year follow-up of 599 Massachusetts Treatment Center (MTC) offenders who had been assessed for sexual dangerousness between 1959 and 1984. The post-release period constituted the longest outcome time available of extant follow-up studies, and the sample size was reasonably large. Offenders civilly committed as sexually dangerous and those evaluated but not committed constituted the sample, making it a diverse sample and allowing determination of

differential prediction for offenders at varying risk (Knight & Thornton, 2007). The Static-99R achieved an acceptably high level of reliability, $r(230) = .87$, $p < .001$. At the three-year follow-up for the entire sample, it yielded the highest predictive accuracy for predicting serious sexual recidivism of all measures assessed (AUC = .71, CI = .64-.76), although it did not differ significantly from many other measures. Its predictive accuracy declined over time, so that after 15 years its AUC dropped to .64 (CI = .56-.74) and other measures surpassed its accuracy. The Static-99R significantly predicted sexual recidivism for both rapists and child molesters at the 3-year time gate, AUCs = .68, CI = .64-.82 and .65, CI = .55-.75, respectively for rapists and child molesters. At the 10-year gate it stopped predicting for rapists, AUC = .54, CI = .37-.71, but continued to predict for the child molesters even at 15 years, AUC = .67, CI = .54-.80 (Knight & Thornton, 2007). It is not known how meaningful these apparent variations in predictive accuracy is, however, since Helmus et al (2011), using very much larger samples, found similar accuracy levels for both offender groups.

AGE AND RECIDIVISM

Male criminal behavior in general, and violent offending in particular, is known to decline in frequency with age (Laub & Sampson, 2003). It has also been known for some time that among adult sexual offenders, older age is associated with lower rates of sexual recidivism (Hanson & Bussière, 1998) though the exact form of the relation is a matter of some controversy.

Some researchers have proposed that there is a linear inverse relation between age and sexual recidivism (Barbaree, Blanchard, & Langton, 2003). This relation is claimed to be approximately the same for all kinds of sexual offenders with the possible exception that recidivism is alleged to decline more steeply with age for those who initially present a higher risk. This claim is of particular relevance in the US, because sexual offenders typically receive much longer sentences than they do in other countries (or did in the past in the US). As a consequence, sexual offenders released from prison in the US are now likely to be substantially older.

Others have drawn attention to the great variation in findings between studies that investigate the relation between age and recidivism. A striking example of this variation is to be found in a study that examined sexual recidivism in the US among 9,691 sex offenders released from 15 states (two-thirds of sex offenders released from state prisons in 1994). The authors found no reduction in sexual recidivism with age prior to the age of 45 (Bureau of Justice Statistics, 2003). This finding suggests that the inverse relationship between age and sexual recidivism may be non-linear.

Probably the most definitive study of the matter to date is Helmus, Thornton, Hanson, & Babchishin (2011). Using data from 24 samples (combined size of 8,390 sexual offenders), Helmus et al determined that age at release did predict sexual recidivism within the risk categories defined by the Static-99 (Helmus et al, 2011). This supported the contention of Barbaree's group that age was insufficiently considered in the Static-99, though the effect prior to age 60 did not appear to be large.

A second issue that complicates our understanding of the significance of age for risk of sexual recidivism is that age at release reflects both age at sentencing and number of years served in prison. There is a real question as to whether aging in prison has the same effect as aging in the community. Prior studies have generally not been able to investigate this because they have been carried out in eras or jurisdictions where sentences have been relatively short, so that age at sentence and age at release have been very highly correlated. Typical sample sizes of around five or six hundred have been insufficient to sort out of the effect of highly correlated age variables, and short sentences have meant that little aging actually took place in prison. The one study that has been able to investigate the matter with longer sentences (Knight & Thornton, 2007) found results suggesting that, prior to age 60, risk of sexual recidivism does not decline as a result of aging in prison. Indeed for younger offenders, aging in prison seemed to be associated with an increase in sexual recidivism. Age at release also partially reflects the age at which an individual's official criminal career began. Consequently, younger age at release tends to be associated both with being more generally criminal and with having fewer prior convictions for sexual offenses (Thornton, 2006). Some variation in results may reflect failing to control for these confounding variables.

Given evidence from Helmus et al. (2011) that supports an independent effect of age on recidivism, a revised scoring system for two risk assessment tools (Static-99 and Static-2002) has been developed that would more accurately describe older offenders' risk of recidivism. After creating new age weights, the resulting instruments (Static-99R and Static-2002R) had only slightly higher overall predictive accuracy (reflecting the small number of older offenders in the samples). The absolute recidivism estimates, however, provided a substantially better fit for older offenders than the recidivism estimates from the original scales. The authors encouraged evaluators to adopt the revised scales with the new age weights (Helmus, et al., 2011).

The current study allowed us to investigate the effects of age at instant offense, age at sentence, and years served in prison (aging in prison).

II. RESEARCH DESIGN AND METHODS

THE RESEARCH objectives of the present study were: (1) to compare the nationally recommended AWA classification tiers with actuarial risk assessment instruments in their respective abilities to identify high risk individuals and recidivists; (2) to evaluate the predictive accuracy of existing state risk assessment classification schemes; (3) to examine the distribution of risk assessment scores within and across AWA tier categories; and (4) to examine the role of offender age in risk and recidivism across the adult lifespan.

OVERALL DESIGN

THIS STUDY INVOLVED the analysis of de-identified criminal justice records from four states including Florida, New Jersey, Minnesota, and South Carolina. Although not a representative sample of states, the selection, which was determined by the connections and access capabilities of the investigators, nonetheless captured three regions of the US: the Northeast, South, and Midwest. Records of sex offenders were randomly selected from each state's population of formerly incarcerated sexual offenders, resulting in a total sample size of 1,789 offenders. Eligible cases involved those of convicted sex offenders released into the community (and not to a civil commitment facility). Year of incarceration, release, and final recidivism follow-up varied by state, as described subsequently. The sample originally included data previously collected on sex offenders released from the Massachusetts Treatment Center (MTC). However, because of the nature of the Massachusetts dataset (i.e., civilly committed offenders) and the timeframe from which participants were identified (1959-1984), these data were not included in any of the analyses presented in this report and thus the sample will not be described in any detail. Across all participating states, the data were "archival" (i.e., extracted from existing databases and/or institutional files) and did not involve live participants. Research procedures were approved by institutional review boards of investigators' employing institutions.

The specifics of sample selection in each state are described below. Given an expected sex offense rearrest rate of about 15% based on three comprehensive meta-analyses of sex offender reoffending and treatment effectiveness (Hanson & Bussière, 1998; Hanson & Morton-Bourgon, 2005; Hanson, et al., 2002), the



analyses were determined to have sufficient statistical power to detect meaningful differences in the predictive accuracy of state classification systems, as well as sufficient power to detect moderate to large effects for age.

When applicable, the tier level or designation assigned to each offender by the state was recorded. For instance, in Florida and South Carolina released sex offenders are assigned to one of two designations (sex offender or sexual predator). In Minnesota and New Jersey released sex offenders are assigned to one of three tier levels based on risk assessments. Sex offenders in each state were also classified according to the AWA criteria and were scored on the Static-99R and Static-2002.

SAMPLE SELECTION IN EACH PARTICIPATING STATE

MINNESOTA

The Minnesota sample consisted of a random sample of 500 sex offenders drawn from a pool of 3,694 sex offenders released from a Minnesota Correctional Facility between 1990 and 2004. The original offender pool consisted of 3,166 sex offenders, released from 1990 to 2002, who had been included in a previous Minnesota Department of Corrections (MnDOC)

study of sex offender recidivism. This original pool was supplemented to include all sex offenders released from January 1, 2003 to December 31, 2004 (an additional 528 individuals) in order to draw from a more inclusive cohort pool. Sex offenders were defined by a conviction for a 1st to 5th degree Criminal Sexual Conduct in the Minnesota Criminal Statutes. Because offenders who were incapacitated in a mental health institution would have no opportunity to reoffend, we excluded from the sample those who were civilly committed after imprisonment under Minnesota's Sexually Dangerous Persons or Sexual Psychopathic Personality Commitments.

NEW JERSEY

The New Jersey sample originally consisted of 300 convicted adult sexual offenders released from both a general prison setting and a specialized sex offender prison. This random sample was later reduced to 291 offenders due to offenders who were deceased, deported, or had mismatched identities. Additionally, sex offenders who were civilly committed upon release were excluded. Offenders were released from a correctional setting between 1995 and 1999, and data coding occurred during the year of 2010.

FLORIDA

A sample of 500 convicted sexual offenders was randomly selected from the database of the Florida Department of Corrections. Specifically, the sample came from a pool of adult (over age 18) convicted sex offenders who were released from a Florida prison in fiscal years 1999-2000 ($n = 250$) and 2004-2005 ($n = 250$). These two cohorts were chosen for two reasons: to allow for a 5-10 year follow-up period, and because data availability and accessibility improved in 2004.

SOUTH CAROLINA

The South Carolina sample originally consisted of 500 convicted adult sexual offenders released from a general prison setting. This sample was randomly selected by a research staff member at the South Carolina Department of Corrections (SCDC) and was later reduced to 498 when it was determined that two of the entries were duplicates. Offenders were released from a correctional setting between the years of 1995 and 1999 with follow-up data collected through December 31, 2004. The release time frame (1995 to 1999) ensured (1) that all offenders would be subjected to registration and notification and (2) a minimum recidivism follow-up period of at least 5 years.

DATA COLLECTION

DATA WERE COLLECTED using available automated databases and in some cases supplemented by review of prison and probation records. The project proceeded in two phases. Phase 1 included coding recidivism risk scores for the Static- 99R and Static 2002, using available archival records, as well as extracting relevant demographic and criminal (including juvenile justice) history data at time of release into the community for each offender. Phase 2 included coding recidivism data for each offender. Variables and procedures will be described in more detail below.

Independent raters, trained to abstract files, coded relevant variables in each state. Each file was coded by a single rater supervised by the site investigator, including Drs. Levenson (Florida), Zgoba (New Jersey), Miner (Minnesota), and Letourneau (South Carolina). To maintain comparable ratings across states, video conferencing in May 2008 was used to train all coders simultaneously, and a reliability coder rated a 10% random sample of charts.

PHASE 1 INCLUDED CODING RECIDIVISM RISK SCORES FOR THE STATIC- 99R AND STATIC 2002, USING AVAILABLE ARCHIVAL RECORDS, AS WELL AS EXTRACTING RELEVANT DEMOGRAPHIC AND CRIMINAL (INCLUDING JUVENILE JUSTICE) HISTORY DATA AT TIME OF RELEASE INTO THE COMMUNITY FOR EACH OFFENDER.

PHASE 1: Phase 1 data were extracted from databases and files provided by each state's Department of Corrections between 2008 and 2010. Variables that were collected during this phase included demographic characteristics (date of birth, race, marital status), criminal history information (charges, arrests, convictions, sentencing dates, lengths of sentences and supervision history), empirically derived risk factors and offense characteristics (location of crimes, victim characteristics where available, force or weapons used, substance abuse history, treatment history, and juvenile criminal and psychosocial history where available), and registration variables (AWA tier where applicable, state risk tier assignment, state risk designation assignment). Each criminal contact was categorized by the most serious charge. For example, if an individual was arrested on two counts, one for suspected rape and one for assault, this was coded as a serious sex offense, even if the disposition indicated that the rape charge was dropped.

PHASE 2: Recidivism data were generated from automated criminal records databases maintained in each of the target states and were provided by the Departments of Correction and Departments of Law Enforcement in each state. Variables collected and coded during Phase 2 included charge information (dates of each arrest following the index offense release, arrest charge description [name of each charge, statute title and number if available]), the number of counts charged, and court disposition for each re-arrest. Sex offender registry information was also collected, including the registry status at the time of the charge (registered vs. not registered), registration requirement (number of times per year required to register), and registry start date of initial registration.

The Minnesota Department of Corrections provided the results of a query of the Criminal History Database maintained by the Minnesota Bureau of Criminal Apprehension. This captured arrests, convictions, and dispositions for misdemeanor, gross misdemeanor, and felony offenses, as well as probation and parole violations. The recidivism timeframe would range from the release date of the index offense to the date of data retrieval (October 12, 2010). Data were stored securely and kept confidential. Procedures were reviewed and approved by officials at the MnDOC and the Committee for the Protection of Human Subjects of the University of Minnesota.

The New Jersey Department of Corrections provided criminal histories for each offender in the sample and the computer systems were queried to ensure that any parole and probation violations were captured, as well as the rearrest, reconviction, and reincarceration counts. All data were stored and maintained in compliance with both federal research protection guidelines, as well as institutional protection guidelines. These data were stored securely and kept confidential.

In Florida, the Florida Department of Law Enforcement provided data pertaining to sexual and nonsexual recidivism arrests and probation violations for each offender. The recidivism time frame would range from the release date of the index offense to the date of data retrieval (11/15/2010). The recidivism data included identifiers or other information used to link a reported event to a particular individual. These data were stored securely and kept confidential.

In South Carolina, the SCDOC provided data pertaining to sexual and nonsexual recidivism arrests and probation violations for each subject. The recidivism time frame would range from the release date of the index offense to the date of data retrieval (August 5, 2010). These data were stored securely and kept confidential. Study procedures were approved by the SCDC Director and the Medical University of South Carolina Institutional Review Board.

ANALYTIC METHODS

ANALYTIC METHODS SPECIFIC to the four aims of this project are presented in this section.

1. COMPARISON OF AWA TIERS WITH ACTUARIAL RISK ASSESSMENT INSTRUMENTS.

ASSIGNMENT OF AWA TIERS. Every offender in the data set was assigned an AWA tier designation intended to correspond with the requirements set forth in SORNA guidelines established by the Department of Justice. This section describes the process for assigning these tiers.

It should be noted at the outset that this process is inherently idiosyncratic from one state to the next, due to differences in each state's criminal code, as well as the range of available data concerning factors such as victim age and the presence of aggravating circumstances. Additionally, the imprecision in some state criminal codes complicates the tier assignment, particularly where factors such as the victim age or the degree of force used could not be ascertained from the offense statute and other available information. To account for this, tier assignments were made along a continuum of certainty, with "borderline" cases flagged as such. It should also be noted that although FL and SC are currently AWA compliant, AWA tiers did not exist at the time of release of the cohorts. Therefore, AWA tiers were assigned for each offender based on the tier that would have been appropriate at the time of release.

AWA Tier Assignment Process

- ◆ Detailed review of statutory codes for each state;
- ◆ Assignment of baseline tiers for each type of offense across three age groups – 12 and under, 13-17, and 18+;
- ◆ Review of both instant offense and most serious offense fields, and assignment of initial tiers based on this information;
- ◆ Review of supplemental fields in the dataset (e.g. MNSOST fields) to identify other cases in which the offender has a history of two or more sexual offenses, history of victimizing children under 12, and/or history of use of force in commission of offenses;
- ◆ As applicable, adjustment of initial tiers based on this review.

STEP #1: STATUTORY REVIEW AND BASELINE TIER ASSIGNMENT

As a first step in assigning AWA tiers to individual offenders, we assigned baseline tiers to specific offenses wherever possible. This began with an inventory of listed sexual offenses in both instant offense and past offense fields, after which time each offense was matched up with

the corresponding section of the state's criminal code. The language in each of these statutes was then cross-checked with the standards put forth in the AWA guidelines.

The tiering criteria in the AWA guidelines focus on two major variables – the nature of the offending behavior and the age of the victim. Assigning baseline tiers for each offense type required attention to both of these factors. Statutory codes that directly referenced victim age range generally allowed assignment of a single baseline tier designation for that particular offense. In cases where statutes were silent on the age of the victim, separate baseline tiers were established for different age groups (i.e., 12 and under, 13-17, 18+).

In some states certain statutory codes (particularly those involving second and third degree offenses) may encompass circumstances that straddle the AWA tier standards. Hence, although some cases were quite straightforward (e.g., a first degree sexual assault of a child under 12, a history of multiple aggravated assaults, etc.), other cases were less certain. To address this, we established a hierarchical schema that distinguished offenses that could be established as “Tier 3” offenses with a good degree of certainty, offenses that are probably Tier 3s but less absolute, offenses that could be a Tier 2 or a Tier 3 depending on offense circumstances, and offenses that are most likely Tier 2 offenses. Certain offenses, such as indecent exposure or voyeurism with no indications of minor victims, were not assigned an AWA tier.

Figure 1: AWA Tier Decision Tree



STEP #2: OFFENDER TIER ASSIGNMENT

After all offense types had been assigned baseline AWA tiers, individual offender records were analyzed in accordance with Figure 1. The tiering process used a “top down” approach, in which the most serious offenses were identified first. Those with indications of a clear-cut Tier 3 offense (i.e., aggravated sexual assault with penetration against any age; aggravated sexual assault against a minor; any sexual assault and/or use of force against a child under 13; and kidnapping) were assigned to a Tier 3 status. Additionally, Tier 3 status was automatically assigned to any individual with a record indicating two or more sexual assault contact offenses that would qualify for AWA Tier 2 or above.

A qualified Tier 3 status was assigned to any individual with an indication of a single sexual assault with penetration or those using force against a victim under the age of 13. Although these cases could be considered “high probability” Tier 3 offenders, it remains possible that individual mitigating circumstances might relegate these offenders to a Tier 2 status.

The “Tier 2/3” status was assigned to cases that could be considered truly borderline – i.e., cases in which the tier status is dependent on circumstances of the individual offense. In general, these offenders had been convicted under 2nd degree or 3rd degree offenses that could encompass a range of behaviors, most notably including those involving older minors (13 and above) that might be regarded as statutory rape.

Tier 2 status was assigned to all other non-repeat offenders whose index offense indicated any form of sexual contact and/or any type of sexual offense involving a minor victim, such as enticement via the internet.

The predictive accuracy of each measure was assessed using Receiver Operating Characteristic (ROC) analyses. In ROC analyses the true-positive probability (sensitivity) of a prediction is plotted against the false-positive probability (1 minus the specificity) (Swets, Dawes, & Monahan, 2000). The area under the ROC curve (AUC) measures the predictive accuracy of the particular risk assessment procedure. Because AUC values, unlike other indices, have the advantage of being relatively immune to selection ratios or base rates in the sample (Swets, 1986), they represent the best index of accuracy for relatively low base rate phenomena like sexual reoffending (Mossman, 1994; Rice & Harris, 1995). AUC values range from 0 (worse than chance prediction) to 1 (perfect prediction), with .5 representing chance level prediction. The AUC value represents the probability that a randomly selected individual in the sample who re-offends will have a higher score on a given risk assessment instrument than a randomly selected individual who does not re-offend. Direct comparisons between AUC values for various instruments will be assessed using ROCKIT Version 0.9.1b (Metz, 1998), and SPSS, Version 19. In addition, the relative contribution to prediction of different factors was examined using logistic regression. Five and ten-year sexual recidivism rates were examined with particular emphasis on ten year rates as these are both more complete and less vulnerable to short term suppression effects.

There were differences across states in the information that was available in the prison records and in other criminal justice records accessed for this study. Minnesota and New Jersey had less systematically missing information than either Florida or South Carolina. Table 1 presents the generally available items for each state.

Table 1. Examination of Static-99R Item Availability

State	Generally Available Items
FL	Index Non-Sexual Violence Convictions Prior Non-Sexual Violence Convictions Prior Sex Offenses Prior Sentences Non-contact Sex Offense Convictions
MN	All items
NJ	All items
SC	Prior Sex Offenses Prior Sentences

Static-99R scores were not computed for South Carolina because the inability to acquire victim information resulted in missing data for 3 of the 10 items (any unrelated victim, any stranger victim, and any male victim). Static-99R scores were calculated for the other three states and differences were evaluated by one-way ANOVA and pairwise comparisons were calculated using LSD procedures.

The unavailability of many of the items scored in the Static-2002 for a majority of the cases makes it impossible to use this instrument in the way that had originally been planned. In addition to the lack of victim information in South Carolina, juvenile criminal behavior was usually unavailable in Florida and was only available in Minnesota files when it was included in a pre-sentence investigation or psychosexual evaluation. Static 2002R scores could, however, be calculated in New Jersey and Minnesota. Table 2 presents the variables that were generally available for each of the participating states.

Table 2. Examination of Static-2002 Item Availability

State	Generally Available Items
FL	Prior Sentences for Sex Offenses Rate of Sexual Offending Non-contact Sex Offense Sentences Prior Non Sexual Violence Sentences Prior Criminal Justice Contact Prior Sentences for Any Crime Supervision Violations Years Free Prior to Committing Index Offense
MN	All items
NJ	All items
SC	Prior Sentences for Sex Offenses Rate of Sexual Offending Prior Criminal Justice Contact Prior Non-Sexual Violence Sentences Prior Sentences for Any Crime

To approximate the original intention a subset of Static-2002R items were identified that were more generally available across all states. Static-2002R items were preferred to the corresponding Static-99R items because they were more differentiated (had more levels). We chose items from one scale so the performance of these items could be compared to that of the scale as a whole.

The items selected were the Static-2002R items for sex priors, rate of prior sex offending, prior criminal justice contact, prior sentencing occasions for anything, and prior nonsexual violence. In addition, rather than using any of the age items, age since release (in years) was considered.

This pool of potential items was tested in the Static-2002R validation samples (see Hanson, Harris, & Thornton, 2010 for a description of the samples) by fitting a logistic regression equation. This led to the rate of prior sex offending being dropped due to a small, non-significant regression coefficient (b). The regression equation was again fitted without this item, resulting in the simplified scale shown below. It is referred to below as the Available Predictor (AP).

Table 3. Static 2002 Items and Weightings Used to Compute Available Predictor Score

Predictors	Weighting
Static-2002 Sex Priors	Multiple by 2 and Add
Static-2002 Prior Contact with the Juvenile System	Add
Static-2002 Non-Sexual Violence	Add
Age on release from Index Offense	Divide by 10 and Subtract

This AP scale is undoubtedly less predictive than either Static-99R or Static-2002R. Nonetheless, the scale has the advantage of providing risk scores for the majority of cases in the study. The standard instruments, on the other hand, could only be fully scored for a limited, unrepresentative subgroup of cases.

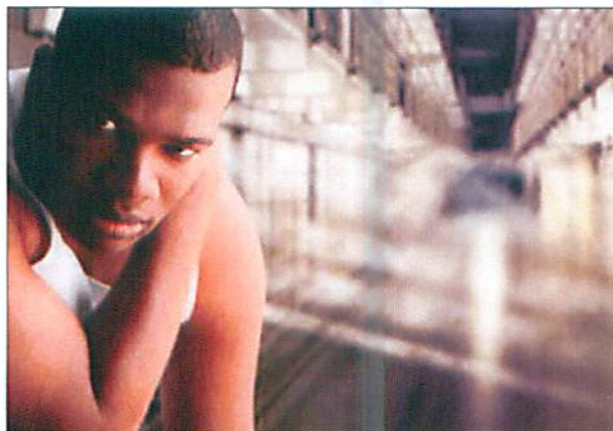
2. EVALUATION OF THE PREDICTIVE ACCURACY OF STATE RISK ASSESSMENT CLASSIFICATION SCHEMES.

The core of the present study, which is reported in the present document, was designed to evaluate the effectiveness of four state classification methods. Florida and South Carolina both distinguish only between offenders and offenders designated as sexually violent predators. In Florida this distinction is based on the type of offense and the number of convictions, with predator designation reserved for offenders convicted of one 1st degree felony sexual offense or two 2nd degree felony sexual

offenses. In South Carolina, the law is much broader. Individuals can be considered for SVP designation if, subsequent to conviction for a sexually violent offense, the individual is found to suffer from a mental abnormality or personality disorder that makes the person likely to engage in acts of sexual violence if not confined in a secure facility for long-term control, care, and treatment. Upon release from the civil commitment facility, these individuals are required to register four times per year (versus twice per year for other registered sex offenders) and are designated as sexually violent predators on the online notification site. Regardless of SVP status, all registered sex offenders are required to register for life and are included on the state's online notification site.

In states that go beyond distinguishing offenders and predators, there are substantial differences in the methodology for arriving at an individual's tier status. New Jersey developed a "Registrant Risk Assessment Manual" (RRAS) to provide prosecutors with an objective standard on which to base the community notification decision and to ensure that the notification law is applied in a uniform manner. Tier 1 (low risk) offenders' information is not made public. Information on offenders rated as lower risk (Level 1) can be shared among law enforcement agencies and with victims, witnesses, and other individuals designated by the prosecuting attorney. Tier 2 offenders appear on the NJ online registry. Tier 3 offenders appear on the online registry, and officers inform neighbors via in-person notification about the offender.

Minnesota also employs a tier system to distinguish between low, medium, and high-risk offenders, but the specifics depart significantly from those in New Jersey, as does the type of notification. First, at the time Minnesota employed the Minnesota Sex Offender Screening Tool Revised (MnSOSTR-R; Epperson et al., 2005) to provide the starting point for risk level assignment. This tool comprises 16 items measuring static (historical) and dynamic (changeable) factors. In Minnesota offenders rated as high risk (Level 3) are included on the online sex offender registry and are the subject of community notification meetings. Offenders rated as medium risk (Level 2) are not included in the online registry and their information is only shared with schools, childcare centers, and other organizations with potential victims. Law enforcement may also share information with individuals who might be considered potential victims. Information on offenders rated as lower risk (Level 1) can be shared among law enforcement agencies and with victims, witnesses, and other individuals designated by the prosecuting attorney.



Analysis of this question involves exploring the distribution of reoffending rates within the statutory tiers assigned by the states of Florida, Minnesota, New Jersey, and South Carolina. Because Florida and South Carolina use a two-tier system, Tiers 1 and 2 in Minnesota and New Jersey were collapsed into a single tier. Thus, as in Florida and South Carolina, the Minnesota and New Jersey samples were partitioned into high risk and less than high risk tiers. The differences in reoffending rates across these tiers were assessed using chi-square analyses.

Multiple regression analyses were used to assess the relative contributions of state assigned tiers and the AWA tiers to predicting sexual recidivism.

For these and all other analyses of reoffending or recidivism, recidivism was defined as an arrest for a sexual crime subsequent to the individual's release from incarceration. An arrest was defined as sexual if any of the charges or counts listed were sexual in nature, regardless of the disposition of that count or charge. The date of the recidivist incident was either the arrest date, or if available, the date of the incident for which the individual was arrested. In almost all cases, the only date available was the arrest date.

3. EXAMINATION OF THE DISTRIBUTION OF RISK ASSESSMENT SCORES ACROSS AWA TIERS.

The percentage of offenders at each of the four levels of the Static-99R (low, moderate-low, moderate-high, high) was calculated within AWA tiers for all participants with sufficient data. A similar table was constructed using the APA measure described earlier, with level defined as low (lowest quartile), intermediate (second and third quartile), and high (highest quartile) for this sample across states. The differences in distribution were tested using chi-squares.

4. EXAMINATION OF THE ROLE OF OFFENDER AGE IN RISK AND RECIDIVISM.

First, ROC analyses were used to assess the sexual recidivism predictive accuracy at 5 and 10 years for three measures--age at instant offense, age at sentence, and age at release. A regression analysis was then calculated to compare the relative contributions of age at sentence and years incarcerated to the prediction of sexual recidivism. Finally, standardized logistic regression coefficients were calculated between age at release and 5-year and 10-year sexual recidivism.

III. RESULTS

DESCRIPTIVE STATISTICS

Prior to presenting the results for each of the four project aims, descriptive statistics on the full sample are presented below. The tables below includes information on offender age at sentencing and release for index offense, race/ethnicity, criminal history prior to index offense, relationship with known victims, age of known victims, living situation at time of index offense, and place of birth.

Table 4: Age of Sample

	Mean (SD)	N
Age at sentencing for index offense	33 (11) years	1,677
Age at release	37 (12) years	1,698

About half the offenders were white, and nearly one-third were black. Ethnicity was undetermined for 9% of cases.

Table 5: Race/Ethnicity Distribution (%)

White	51%
Black	31%
Latino	7%
Native American	2%

The majority of offenders had no prior conviction for a sexual crime, but two-thirds had prior involvement in the criminal justice system for a criminal offense. Of the cases in which victim characteristics were available, three-quarters were unrelated to the offender, and about one-fifth were strangers. Nearly half of the victims were age 12 or under. Additionally, the majority of the offenders were not living in a marital type of relationship, and 93% were born in the United States. The valid n varied between 1,065 (60 %) and 1,695 (95 %) for these analyses. In particular, South Carolina Department of Corrections had no information on victim characteristics. Although the data was recorded in their data banks, the South Carolina Probation, Pardon, and Parole Department was unable to provide victim characteristics for the purpose of this research.

Table 6: Descriptive Distribution (%)

Criminal History	
No prior sentencing occasions for sexual offenses	83%
Any prior sentencing occasions for any offense	67%
Any convictions for non-contact sexual offenses	6%
Prior sentencing occasions for non-sexual violence	27%
Relationship	
Any unrelated victims	75%
Any stranger victims	19%
Victim Age	
Age 6 or younger	14%
Age 7 to 12	32%
Age 13 to 15	27%
Age 16 or Older	18%
Living Situation at the Time of the Index Offense	
Valid n = 800	
Living with a common-law partner	7%
Living with someone to whom they were legally married	29%
Not living in a marital type of relationship	64%
Place of Birth	
Valid n = 1,468	
In State	57%
Out of State, but in USA	36%
Out of the USA	7%

The overall recidivism rate for the sample was 5.1% over five years and 10.3% over ten years. The doubling between 5 and 10 years indicates some suppression occurring during the first five years, possibly due to effects of formal supervision (e.g., parole). There was an apparent trend for sexual recidivism rates to differ among states after five years, but this trend failed to reach significance ($\chi^2(3) = 6.38, p = .095$). The trend reached significance at the 10 year follow up, with the highest rate occurring in Florida and the lowest rate in South Carolina ($\chi^2(3) = 13.39, p = .004$).

Table 7: Sexual Reoffending Rates by State

State	FL	MN	NJ	SC	Combined
Five-Year Sexual Recidivism	5.2% (25 of 477)	7.0% (35 of 498)	3.5% (10 of 288)	4.1% (20 of 488)	5.1% (90 of 1751)
Ten-Year Sexual Recidivism	13.7% (33 of 241)	12.9% (64 of 498)	8.3% (22 of 264)	7.0% (34 of 486)	10.3% (153 of 1,489)

RESEARCH QUESTION 1.

THE FIRST GOAL WAS TO COMPARE THE NATIONALLY RECOMMENDED AWA CLASSIFICATION TIERS WITH ACTUARIAL RISK ASSESSMENT INSTRUMENTS IN THEIR RESPECTIVE ABILITIES TO IDENTIFY HIGH RISK INDIVIDUALS AND RECIDIVISTS.

AWA TIERS

Sex offenders were assigned to an AWA tier according to the procedures outlined in the Methods section. Few offenders fit into the Tier 1 category, which federal guidelines define as eligible for a sentence of less than one year in prison, which typically met criteria for a misdemeanor offense rather than a felony. Consequently, most Tier 1 offenders would not have been sentenced to the state prison populations from which our samples were selected. In South Carolina some non-contact offenses were classified as Tier 1 or Tier 0 (not fitting any SORNA criteria), but too few Tier 1 cases were available for analysis. Accordingly, subsequent analyses are based on those offenders categorized as Tier 2 or Tier 3.

Table 8: Frequency (%) of Tier Assignment by State

State	Tier 0	Tier 1	Tier 2	Tier 3
FL	0	0	219 (44%)	275 (56%)
MN	0	0	60 (15%)	350 (85%)
NJ	0	0	5 (2%)	236 (98%)
SC	28 (6%)	3 (<1%)	187 (38%)	274 (57%)

As can be seen in Table 8, there were between-state differences in the percentage of offenders categorized as Tier 2 and Tier 3 offenders. Although in each state the majority of offenders fell into the Tier 3 category, these proportions were more discrepant in New Jersey and Minnesota than in Florida or South Carolina. It appears that in New Jersey and Minnesota the offenders who were sentenced to prison (and therefore released as part of our cohorts) tended to be convicted of more serious offenses.

The five-year sexual recidivism rates in respective tiers can be seen in the Table 9. Only in NJ was the recidivism rate of Tier 3 offenders higher than that of Tier 2 offenders. In Minnesota and South Carolina the rates were nearly equivalent in the two tier groups, whereas in Florida, the Tier 2 offenders had substantially higher rates of recidivism than the Tier 3 offenders. The association between tier and sexual recidivism was statistically significant but inversely related for Florida ($\chi^2(1) = 6.2, p = .013$). No significant differences were found between tiers for the other states.

Table 9: Five Year Sexual Reoffending Rate by State and Tier Assignment

State	Tier 2	Tier 3
FL	8.2% (17 of 208)	3.0% (8 of 266)
MN	6.7% (4 of 60)	6.9% (24 of 350)
NJ	0% (0 of 5)	2.9% (7 of 233)
SC	4.4% (8 of 182)	4.4% (12 of 272)

After ten years the trend remained similar except that South Carolina's recidivism rate was higher, but not significantly so, for Tier 2 offenders. In Florida, the difference between tiers for sexual recidivism was significant, but inversely related ($\chi^2(1) = 14.5, p < .001$). No significant differences emerged among tier groups in the other states.

Table 10: Ten Year Sex Reoffending Rate by State and Tier Assignment

State	Tier 2	Tier 3
FL	24.2% (23 of 95)	6.9% (10 of 145)
MN	11.7% (7 of 60)	12.0% (42 of 350)
NJ	0% (0 of 5)	8.9% (19 of 213)
SC	8.9% (16 of 180)	6.6% (18 of 272)

STATIC-99R SCORES BY STATE

There were substantial amounts of missing data in all states, due primarily to the unavailability of victim information in corrections files, and the valid *n* can be seen in the table below. As noted earlier, despite efforts to obtain victim information from multiple sources, these data were missing for most of South Carolina cases. Given the necessity of victim characteristics for computing Static-99R scores, South Carolina data did not contribute to these analyses.

One-way analysis of variance comparing Static-99R scores across Florida, Minnesota, and New Jersey identified significant differences ($F(2,706) = 23.14, p < .001$). Post hoc comparisons using the Least Significant Difference test (LSD) showed that scores were significantly higher for Minnesota than for Florida or New Jersey ($p_s < .001$; see Table 11). This may reflect the tendency of Minnesota to sentence only the most serious or repeat offenders to prison sentences.

Table 11: Static- 99R Scores by State

State	Mean Static-99R Score	SD of Static-99R Scores	N with valid scores
FL	1.97	1.96	103
MN	3.12	2.11	369
NJ	2.37	2.49	237
SC	-	-	10
Combined (excl. SC)	2.58	2.29	709

Missing data precluded computing Static-2002R scores to an even greater extent than was true for the Static-99R, being essentially absent for two states. In MN and NJ all items were available for about 75% of cases.

The means are reported in Table 12. As with the Static-99R, results indicated that mean Static 2002 scores were significantly higher for the Minnesota sample than the New Jersey sample ($F(1,599)=32.58, p<.001$).

Table 12. Level and Availability of Static-2002R Scores by State

State	Mean Static-2002R Score	SD of Static-2002 Scores	N
FL	-	-	3
MN	4.00	1.89	365
NJ	3.04	2.19	236
SC	-	-	0

To approximate the original research objective, as has been described earlier, a subset of Static-2002 items were identified that were more generally available across all states and used to create the Available Predictor.

ROC analyses were calculated for both the AP and the Static-2002R. Although both AUCs were statistically significant ($p < .005$), the AUC for the AP was relatively small. The AUC for the full Static-2002R, which had a medium effect size, was somewhat lower than is typically found for this actuarial. Confidence limits around these estimates of the AUCs are large, and they do not differ significantly from each other.

It is possible that the AP scores computed for cases with missing data varied in a nonrandom manner from those AP scores computed for cases with sufficient data for full scoring of the Static 2002R. As a partial check on the concurrent validity of the AP score, the AUC for the AP instrument was also calculated with the subset of cases for which the full Static 2002R scores were available. The AUC for the AP score was a little larger in this subset of cases at both five and ten year follow ups but these differences were not significant (see Table 13).

Table 13. AUC Statistics for AP Scores

	Sexual Recidivism	
	5-Year	10-Year
AUC for the Available Predictor in the Whole Sample	0.60 N=1,524	0.59 N=1,269
AUC for the Available Predictor for those case for whom Static-2002R scores were available	0.63 N=604	0.61 N=580
AUC for Static-2002R	0.66 N=604	0.64 N=580

RECIDIVISM RATES FOR RISK BANDS BASED ON THE AVAILABLE PREDICTOR

The predictive validity of the AP is supported by the finding that cases with higher AP scores at index offense were more likely to reoffend sexually over follow-up, as indicated by the significant AUCs reported above and data presented in Table 14. Table 14 also illustrates the low overall base rate of sexual recidivism.

Table 14. Reoffense rates for AP Risk Band

Risk Band	Proportion in Band	Sexual Recidivism	
		5-Year	10-Year
Lower Scores	Lowest Quarter	3.2%	5.9%
Intermediate Scores	Middle Half	3.9%	8.1%
Higher Scores	Highest Quarter	7.6%	14.4%

SEXUAL RECIDIVISM RATES BY ACTUARIAL CLASSIFICATION AND AWA TIER

We examined whether AP risk bands varied by AWA tier designation. If tier designations identify higher risk offenders, cases with Tier 3 designations should on average also have higher AP scores. Surprisingly, cases with Tier 2 designations had higher mean AP scores (or higher percent of upper risk band scores) than did cases with Tier 3 designations. Consequently, there was a consistent pattern across all of the cells of the table below for Tier 2 cases to have higher sexual recidivism rates than Tier 3 cases. In particular, cases characterized by Lower AP Band and Tier 2 designation had a surprisingly high sexual recidivism rate of 8.4%, which was approximately four times as high as the corresponding Lower AP Band/Tier 3 cases whose recidivism rate was 1.8%.

Reflecting on this surprising result, the AP risk bands only significantly predicted sexual recidivism for Tier 3 cases ($\chi^2(1) = 17.61, p < .001$). The linear trend was not significant for Tier 2. Closer examination of the AWA Tier 2/Lower AP band cell indicates that this surprisingly raised recidivism rate was found in FL and SC but not in MN or NJ (5-Year Sexual Recidivism rates of 8.3% and 9.5%, respectively). As indicated earlier, FL and SC had far less stringent criteria for incarcerating sex offenders. Thus Tier 2 and 3 designations not only failed to predict dangerousness, but also they were particularly poor indicators of risk in states with broad incarceration rules.

Table 15. Reoffense rates by AWA Tier and AP Risk Band

Classification	Sexual Recidivism	
	5-Year	10-Year
AWA Tier 2		
Lower AP Band	8.4%	14.3%
Intermediate AP Band	5.0%	10.8%
Higher AP Band	8.9%	16.7%
AWA Tier 3		
Lower AP Band	1.8%	4.0%
Intermediate AP Band	3.5%	7.3%
Higher AP Band	7.4%	14.2%

RESEARCH QUESTION 2.

THE SECOND GOAL WAS TO EVALUATE THE PREDICTIVE ACCURACY OF EXISTING STATE RISK ASSESSMENT CLASSIFICATION SCHEMES.

The researchers examined the ability of existing state classification schemes to predict recidivism. As described previously, whereas Florida and South Carolina assign a sexual predator designation for offenders deemed to be particularly dangerous, Minnesota and New Jersey assign tiers using unique evidence-based risk assessment procedures. At 5-years follow up there was a slight apparent trend for higher state tiers to be associated with higher sexual recidivism, but this was not statistically significant. At 10-year follow-up the effect approached statistical significance ($\chi^2(1) = 3.37, p = .066$).

Table 16. Reoffense Rates by State Assigned Tiers

	Sexual Recidivism	
	5-Year	10-Year
Lower Tiers	5.2% (40 of 767)	11.5% (67 of 582)
Higher Tiers	7.6% (12 of 158)	17.9% (19 of 87)

These findings contrast with the findings from the parallel analyses with the AWA tier designations (see Tables 9 and 10, above) in which there was neither a trend nor a significant positive association between AWA tier designation and recidivism rate. We examined the association of state and AWA tier designations with 10-year recidivism rates via a logistic regression equation. Results indicated that higher state assigned tier was significantly associated with sexual recidivism in the expected, positive direction, whereas a higher AWA tier was significantly associated with sexual recidivism in the unexpected negative direction. The comparable analysis for 5-year sexual recidivism yielded similar results but statistically significant only for AWA tier.

Table 17. Regression weights associated with state-designated and AWA-designated tiers associated with 10-year sexual recidivism.

Predictors	B	Sig
State Category	+0.704	0.016
AWA Tier	-0.814	0.001
Constant	0.154	

RESEARCH QUESTION 3.

THE THIRD GOAL WAS TO EXAMINE THE DISTRIBUTION OF RISK ASSESSMENT SCORES WITHIN AND ACROSS AWA TIER CATEGORIES.

Table 18 shows the distribution of Static-99R relative risk by AWA tier for all offenders for whom Static-99R score could be calculated ($n=709$). There is a small but statistically significant difference between the tiers in the distribution of Static-99R levels ($\chi^2(3) = 9.16, p=0.027$). Inspection of the cell percentages indicates that this effect is primarily due to Tier 3 having a higher proportion of Low Risk cases and Tier 2 a higher proportion of Moderate-Low risk cases. Tier 3 has a slightly higher, but not significant, proportion of the high risk cases, but also has a higher proportion of low risk cases. Overall, however, in both tiers, about two-thirds of the offenders fell in the Low or Moderate-Low risk categories. Only around one in ten are identified as high risk.

Table 18. Static-99R within Tier

Static-99R	Low	Mod-Low	Mod-High	High	N in Tier
AWA Tier 2	22%	44%	26%	8%	116
AWA Tier 3	33%	32%	24%	11%	599

Distribution of Static-2002R categories within tier was examined, but only 56 AWA Tier 2 cases had Static-2002R scores available, and this was insufficient to compute meaningful statistics. Thus, as above, the Available Predictor Categories were used in lieu of Static-2002R. Again there is a significant difference between tiers in the distribution of risk categories ($\chi^2(2) = 29.21, p<0.001$). This seems to be due primarily to the greater proportion of AWA Tier 2 cases with Intermediate Risk scores and fewer with either higher or lower scores.

Table 19. Available Predictor Categories within Tier

Available Predictor	Lower Scores	Intermediate Scores	Higher Scores	N in Tier
AWA Tier 2	20%	61%	19%	439
AWA Tier 3	26%	46%	28%	1078

Thus, both Static-99R and Static-2002R scores do differ across Tier 2 and 3. This difference is not, however, indicative of a consistent pattern of higher risk levels for Tier 3. In fact, the differences appear in the moderate risk categories, with those offenders assigned Tier 2 being more likely to score as moderate risk on both actuarial tools.

RESEARCH QUESTION 4.

THE FOURTH GOAL WAS TO EXAMINE THE ROLE OF OFFENDER AGE IN RISK AND RECIDIVISM ACROSS THE ADULT LIFESPAN.

Age has typically been found to have an inverse relationship with sexual recidivism. Thus, the age AUCs are expected to be below 0.5. This was true for both five- and ten-year sexual recidivism predictions, though the effect was greater for the longer follow up. Whereas none of the AUCs for five-year sexual recidivism were statistically significant, all those for ten-year sexual recidivism reached significance ($p < .05$).

Table 20. AUCs Associated with Different Age Measures

	AUCs for Five-Year Sexual Recidivism (N=1,495)	AUCs for Ten-Year Sexual Recidivism (N=1,247)
Age at Instant Offense	0.467	0.442
Age at Sentence	0.459	0.440
Age at Release	0.445	0.431

AGING DURING THE CURRENT SENTENCE VERSUS PRIOR AGING

The table below shows logistic regression equations predicting five-year and ten-year sexual recidivism from age at the time of the sentence for the index sex offense and for the number of years served for the index sentence. Obviously, there was much more variation in age on sentence than there was for time served but the β coefficients for these two effects are about the same size with the β coefficient for years served always being slightly larger. This suggests that aging in prison and aging in the community had the same protective effect on sexual recidivism.

Table 22. Relative Risk Associated with Age at Release

	B for Five-Year Sexual Recidivism	Exp(B)	p	B for Ten-Year Sexual Recidivism	Exp(B)	p
Age on Release	-0.020	0.981	NS	-0.024	0.976	0.010
Constant	-2.309			-1.432		

Table 21. Regression Coefficients Associated with Age of Sentence and Years of Incarceration in Prediction of Reoffending

	B for Five-Year Sexual Recidivism	p	B for Ten-Year Sexual Recidivism	p
Age at Sentence	-0.015	NS	-0.022	0.026
Years incarcerated on the index sentence	-0.040	NS	-0.033	NS
Constant	-1.482		-1.482	

Taken together, the results shown in Tables 20 and 21 appear to indicate that increased age is protective of future reoffending, regardless of whether it is the age at which the commitment offense occurred, age at sentencing, or age at release from incarceration. Given the correlation between these variables, it appears that risk assessments do not need to consider the context in which aging occurs.

EXP (B) FOR AGE ON RELEASE IN RELATION TO SEXUAL RECIDIVISM

Exp(B) shows how the odds of sexual recidivism decline for each additional year of age. In analyses of this kind Barbaree has reported that the typical Exp(B) is approximately 0.95. The effect of age on release seems to be a little smaller in the present data set, though it is still statistically significant for the ten-year follow up.

Again, consistent with the above, age confers a decrease in the risk for reoffending. Given the results presented in Tables 20 and 21, it is likely that age of instant offense and age of sentencing would have similar effects on relative risk, as does age at release.

Additional analyses tested for departures from linearity by testing quadratic and cubic effects of age. Neither was statistically significant. Similarly, the interaction between age and whether the offender had a victim aged under 13 was not significant. It should be noted, however, that the present sample size, combined with the low base rate of sexual recidivism, limit the power of these analyses. The safest conclusion is that, consistent with the more general literature, the present results support a general decline in sexual recidivism with older age but do not tell us much about the exact shape of this relationship.

IV. DISCUSSION

IMPLICATIONS FOR POLICY AND PRACTICE

The Adam Walsh Act seeks to improve community safety by standardizing procedures by which states classify sex offenders and subject them to registration and notification requirements. Presumably, efforts to classify sex offenders are expected to result in improved identification and better risk management of those who pose the greatest threat to public safety. Any method used in the implementation of public policy, however, needs to be empirically tested for its effectiveness, namely, a reduction in sex offender recidivism. Which begs the question: is the Adam Walsh Act's offense-based classification system the most effective and reliable method of achieving this goal?

Accordingly, the overarching purpose of this study was to explore the degree to which current national policies might be expected to facilitate best practices in sex offender management. Specifically, the principal aims of this study included the following: 1) a comparison between the Adam Walsh Act (AWA) classification tiers and actuarial risk assessment instruments in their respective abilities to identify high risk individuals and recidivists; 2) an evaluation of the predictive accuracy of existing state risk assessment classification schemes; 3) an examination of the distribution of risk assessment scores within and across tier categories defined by the AWA; and 4) an examination of the role of offender age in risk and recidivism across the adult lifespan.

Five and ten year recidivism rates, across the four-state sample, were 5.1% and 10.3% respectively. The five year sexual recidivism rate is consistent with the rates observed in samples which have not been pre-selected for risk related characteristics (Helmus, 2009). Good estimates of the ten-year sexual recidivism rate for modern unselected samples have not been previously reported. Ten-year rates have been examined in samples that have been subject to some kind of selection. In these "non-routine" samples the expected sexual recidivism rate for an offender with a typical Static-99R score is 9.1% at five years and 14.6% at ten years follow up (Phenix, Helmus & Hanson, 2012). Thus in these samples the ten year rate is about 1.6 times the five year rate. Thus the ten-year rate observed here is higher than might be expected (being double the five year rate). A plausible explanation for this is that the five-year rate may be being temporarily

suppressed by aggressive supervision practices targeted at higher risk offenders.

There were few Tier 1 offenders in our sample, which was selected from a released prison population. Federal Tier 1 criteria indicate that the offender be sentenced to no more than one year incarceration, which tends to reflect misdemeanor status in many states. As such, it may be that Tier 1 offenders are rarely sentenced to incarceration and/or are credited with time served at the point of sentencing.

After five years, Tier 3 offenders did not have significantly higher rates of recidivism than Tier 2 offenders, and at ten years, this trend persisted. The only statistically significant differences were found in Florida, where Tier 2 offenders had substantially higher rates of recidivism at both follow-up times. The findings suggest that AWA tiers did a poor job of identifying high-risk offenders, and thus may not meaningfully guide sex offender management

THE FINDINGS SUGGEST THAT AWA TIERS DID A POOR JOB OF IDENTIFYING HIGH-RISK OFFENDERS, AND THUS MAY NOT MEANINGFULLY GUIDE SEX OFFENDER MANAGEMENT PRACTICES.

practices. These findings are consistent with research conducted in New York, where AWA tiers did a poor job of identifying sexual recidivists (Freeman & Sandler, 2009). In that study, lower-tiered individuals had higher recidivism rates than those who were assigned into ostensibly higher-risk tiers. Empirically derived risk factors, in contrast, were better able to predict recidivism (Freeman & Sandler, 2009). Without a meaningful categorization scheme that truly reflects a hierarchical portrayal of risk, tiers become less useful for the public and create an inefficient distribution of resources for sex offender management purposes. Some research suggests that the offense-based Adam Walsh Act stratification system increases the number of offenders in the highest tier by expanding eligible offenses, lengthening duration of registration, and setting criteria that move offenders from lower state risk classification levels into higher Adam Walsh Act tiers (Harris, Lobanov-Rostovsky, & Levenson, 2010). If public awareness is a goal of notification, then less precise

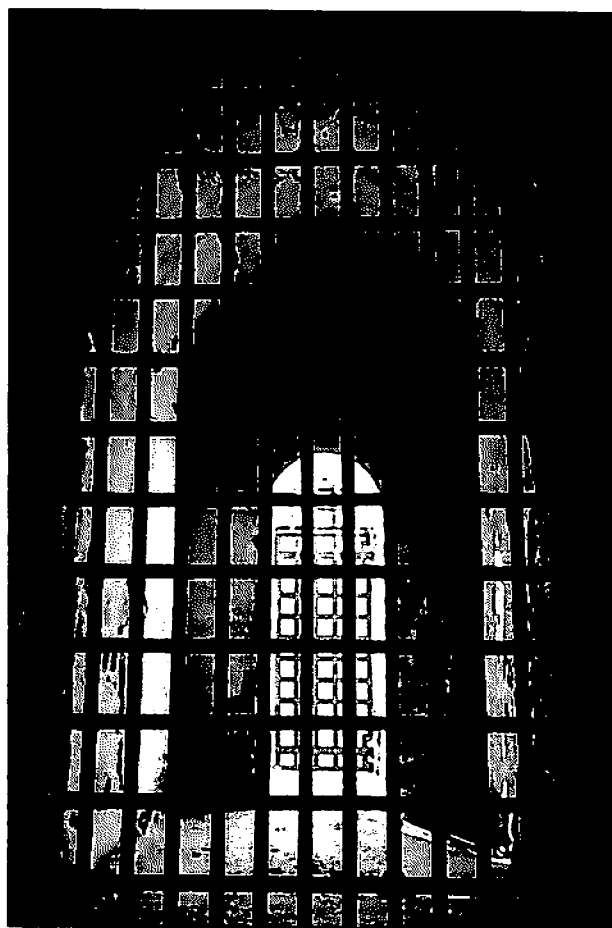
and more inclusive categorical schemes may not be as helpful for the public consumer of registry information who seeks to identify the most high-risk and dangerous predators (NAESV, 2007).

Existing state tiers, based in many cases on empirically supported risk criteria, appeared to provide a more consistent trend in the expected direction, with lower tier offenders recidivating at lower rates than higher tier offenders at both five and ten year follow-up times. Logistic regression indicated that whereas existing state classification was significantly associated with 10-year sexual recidivism in the expected direction, AWA classification was significantly but inversely associated with sexual recidivism. Many states have invested extensive resources over the past decades in devising their registration classification schemes, resulting in the reluctance of some to embrace new AWA criteria. These results suggest that empirically derived and risk-based state systems do indeed prove more efficient in assessing relative risk and identifying recidivists.

Actuarial risk assessment scores were found, on average, to be in the moderate-low risk range. Few offenders were found in the highest risk bands. To illustrate, for example, 8% of Tier 2 offenders and 11% of Tier 3 offenders were classified as highest risk using the Static99-R. Comparatively, however, the majority of sex offenders in all four states fell into Tier 3, suggesting that the AWA tiers overestimate risk in many cases and may erroneously imply that the majority of registered sex offenders pose a high threat to community safety.

The results indicate that increased age is protective of future reoffending, regardless of whether it is the age at which the offense occurred, age at sentencing, or age at release from incarceration. In general, risk for sexual re-offense decreases with advancing age, suggesting that longer registration durations as mandated in current federal policy may be inefficient. As the sex offender population ages, individuals pose less threat to public safety, and their lifetime presence on a registry may obscure the public's ability to distinguish those offenders who are more likely to reoffend. However, it should be noted that our analyses do not determine whether this aging effect is linear. While there appears to be an overall effect of risk decreasing with age, a threshold age at which risk substantially drops was not detected.

Although the present choice of states constituted (to some degree) a sample of convenience, dependent as it was on the state connections of the investigators and their ability gain cooperation in data acquisition, nonetheless it represented a diverse selection of states from three regions of the country. Moreover, the consis-



tency of the results across these diverse states and their corroboration of previous AWA research (Freeman & Sandler, 2009) suggest that the findings should readily generalize to other states. Specifically, these results validate prior findings relating to the failure of AWA tiers to differentiate risk levels, the superior performance of risk-based state systems and empirically validated actuarials, and the effect of aging on recidivism.

The inconsistencies we found in record keeping and categorization across states are noteworthy, because they indicate that significant changes will be necessary if any effort to standardize interstate assessment is to be achieved. Such standardization is a desirable basis for any implementation of policies that attempt to institutionalize best practices. Moreover, they form the basis of any attempts to empirically validate assessment tools and to evaluate intervention and management innovations. Especially notable was the lack of victim information, which made the coding of empirically validated actuarials problematic. Such information will be necessary for future efforts to improve risk assessment and any efforts at effective tiering of offenders.

The most salient policy considerations are twofold. First, if the purpose of a classification scheme is to identify higher risk offenders to guide public awareness and law enforcement monitoring, it is essential for that classification scheme to approximate relative risk in a meaningful fashion. Second, it follows that if the classification scheme is indeed a meaningful portrayal of relative risk, then resources for tracking and monitoring can be allocated concordantly. In other words, if the classification scheme implies that Tier 3 offenders are more dangerous by virtue of their required increased frequency and duration of registration, then there should be a way of testing and ascertaining the validity of the Tier 3 designation. This study attempted to accomplish that goal by examining the actuarial risk distribution associated with AWA tiers and by examining the corresponding recidivism rates of respective actuarial risk categories and AWA tier categories. The AWA classification scheme does not appear to represent a systematic and hierarchical classification of relative risk categories. It follows, then, that resource distribution may not be optimizing cost-effectiveness and personnel allocation. Actuarial risk assessment instruments are superior to AWA tiers in identifying the relative risk of individual sex offenders, and should be used for screening offenders into relevant risk categories.

LIMITATIONS

Any study that includes numerous states, historical files, and individualized criminal codes will pose challenges and several limitations to the present study merit discussion. First, our samples were not randomly selected samples of sex offenders; rather, our samples were comprised primarily of prison releases, the majority of whom were or would have been tiered as Tier 2 or Tier 3 offenders. Beyond the general concern that officially detected offenders might differ from non-detected offenders (discussed below) is the concern that detected offenders who were convicted and sent to prison might differ from detected offenders who were diverted from judicial punishment and from those who were convicted and released as probationers rather than incarcerated. Findings from comparisons of prisoners and probationers indicate that prisoners reoffend more frequently and more rapidly than do probationers (e.g., Spohn & Holleran, 2002). Thus, offenders released from prison are likely to be higher risk than those who avoided prison, whether due to the iatrogenic effects of imprisonment (e.g., Irwin & Bennett, 1987) and/or due to the presumption that higher risk at conviction informed sentencing decisions (i.e., whether to incar-

cerate). Therefore, findings from the present study might not generalize to lower risk or non-incarcerated sex offenders. However, this concern is tempered by the fact that registration and notification policies are designed to protect the public from higher risk sex offenders. If policies fail to do so with higher risk samples, then it seems unlikely the policies would success with lower risk offenders. A related limitation of focusing on offenders released from incarceration is that offenders civilly committed following incarceration were excluded from this study. There are practical reasons for this limitation, including the fact that few civilly committed offenders have been released back into the general public. For example, in 2004, a combined total of just 52 offenders had ever been released from civil commitment facilities in FL, MN, NJ, and SC (Davey & Goodnough, 2007). Research has indicated that civilly committed offenders tend to be characterized by higher rates of risk-relevant factors (Levenson,

THIS STUDY ATTEMPTED TO ACCOMPLISH THAT GOAL BY EXAMINING THE ACTUARIAL RISK DISTRIBUTION ASSOCIATED WITH AWA TIERS AND BY EXAMINING THE CORRESPONDING RECIDIVISM RATES OF RESPECTIVE ACTUARIAL RISK CATEGORIES AND AWA TIER CATEGORIES.

2004) and thus it seems reasonable to conclude that results of the present study are limited by the exclusion of civilly committed offenders.

Second, our ability to control for potentially confounding variables was limited. In particular, we noted that the doubling of recidivism between 5 and 10 years follow-up indicates some suppression occurring during the first five years, possibly due to effects of formal supervision. For most cases, we were unable to determine the degree of supervision to which the offender was released and therefore unable to test for differences based on supervision condition or to control for supervision condition in analyses.

Third, the sample size, while sufficient to carry out the identified analyses, was smaller than planned due to missing data. Missing data necessitated the creation of a modified version of the risk assessment instruments

to account for absent variables. The predictive validity of the modified version is very likely to be somewhat less than would be found for the full instrument. It is striking therefore that even this attenuated version of actuarial assessment so strikingly outperformed AWA tiers in predicting sexual recidivism. The data that appeared to be systematically missing were those pertaining to victim characteristics and juvenile criminal behavior. Victim characteristics are important in scoring actuarial risk assessment instruments and the juvenile information was necessary for scoring the Static-2002. The missing data is not necessarily surprising; it is not unusual to find that corrections files are incomplete, and that in particular, victim information and juvenile criminal history are commonly unavailable. Our experience may indicate that in many states, it may be difficult to implement a pre-release actuarial risk assessment because the requisite information is not currently being gathered and recorded in files that would be available to corrections personnel for scoring. This problem is especially common in the United States, where data collection is the responsibility of the state's criminal justice agencies and extensive variability exists by which states define terms and collect information. As we indicated earlier, it is essential that this problem be addressed.

Related to limitations stemming from missing data are issues commonly experienced by researchers investigating criminal recidivism in general, and sexual recidivism in particular; namely, the underreporting of sexual offenses and accuracy of criminal history data repositories. Because many sex crimes go unreported, rates of sexual recidivism among the sampled offenders underestimate actual rates of reoffending, as suggested by the Bureau of Justice Statistics' National Crime Victimization Survey (NCVS). In fact, in its latest report, the NCVS indicated that only half of all sexual assaults against persons 12 or older were reported to law enforcement (U.S. Department of Justice, 2011). Findings from the NCVS also suggest that even when sex offenses are reported, many fail to result in an arrest of the perpetrator (Bachman, 1998). It should be noted, however, that under-reporting may be less of a problem when sex crimes are committed by individuals who have already been detected; sex offenses committed by registered sex offenders may be less likely to go unreported and if reported may be more likely to result in an arrest. Thus, recidivism rates as defined in this study are probably less likely to be effected by under-reporting than overall sex crime rates.



In addition, the authors acknowledge that data inaccuracies may exist within state criminal justice data repositories. As reported in the Bureau of Justice Statistics latest policy report, "Survey of State Criminal History Information Systems, 2010", more than half of state repositories had arrest and disposition data entry backlogs, with up to 40% of arrest records having no final court dispositions recorded. Furthermore, when final court dispositions are received, in some instances, dispositions cannot be matched to arrest records. With criminal justice agencies expending greater efforts on timely and accurate reporting, the authors note that the quality of recidivism data may vary, depending on the release cohort and the follow-up period used in statistical analyses. Although it is unlikely that incremental improvements in data quality would affect results, the authors acknowledge this potential limitation.

We also recognize that the system for classifying offenders into AWA tiers might not precisely reflect the procedures used by the federal government. This complicated process differs due to the idiosyncratic statutory definitions in each state. We recognize the potential imperfections of our research strategy, but are confident that the method approximates the federal classification system in a reliable and valid fashion. Future research on this topic will continue to test this classification system and aid the process, when and if states adopt the AWA. The results of the present research indicate that it is essential that both state and federal government agencies allocate sufficient financial resources for validating whatever systems are implemented. To assess their utility, evaluate their consequences, and document the potential incremental validity of alternatives, an investment in the improvement and standardization of record keeping capabilities is necessary.

V. CONCLUSION

Title 1 of the AWA seeks to improve community safety by standardizing the procedures states use to classify sex offenders and to determine registration and notification requirements. As of this writing, the Adam Walsh Act has been substantially implemented by 16 states. Presumably, classification schemes are expected to assist with identifying and managing offenders who pose the greatest threat to public safety. The findings of the present study, however, call into question the accuracy and utility of the AWA classification system in detecting high-risk offenders and managing risk upon an offender's release into society.

If decision-making is going to be driven by assigning offenders into defined risk classes, those categories must be determined by empirically derived procedures that are likely to correctly identify higher risk offenders. Although there were limitations with both the Static-99R and the AP score samples used in this study, it is important to highlight that both outperformed the AWA tiers in predicting reoffending, as did the existing tiering systems in the states.

Consistent with prior criminological research, the findings indicate that desistance from crime is common among older offenders. Although some individuals may continue to engage in sexually deviant and abusive behavior throughout the lifespan, the long-term risk posed by convicted sex offenders significantly declines with age. The researchers found that age significantly lowered the risk of reoffending and this was consistent across age measures and across states. Older offenders are at lower risk for reoffending than younger offenders. Thus, lifetime registration may not be necessary and it may be more efficient to phase out such requirements as offenders grow older. Because our results do not indicate whether the aging effect is linear or whether there is a particular threshold after which risk declines, we cannot speculate on when to phase out registration. Future research should more specifically investigate this question.

Presently, sex offenders released into the community experience different conditions from the sex offenders released in most of the development samples used to study the predictive accuracy of actuarial assessment instruments. Major differences

include longer prison sentences, tighter probationary supervision, longer supervision periods, community notification, residence restrictions, and electronic monitoring. All of these conditions may collectively alter the relative risk posed by different kinds of sex offenders. Our data indicate that, even in the current environment, the actuarial predictors of recidivism at 10 years post-release produce a modest level of predictive accuracy and should be used in making significant decisions about release conditions and community supervision.

Assessment tools serve multiple, important roles in treatment and management. They allow clinicians to target the factors that are most problematic for an offender's reintegration and that

OLDER OFFENDERS ARE AT LOWER RISK FOR REOFFENDING THAN YOUNGER OFFENDERS. THUS, LIFETIME REGISTRATION MAY NOT BE NECESSARY AND IT MAY BE MORE EFFICIENT TO PHASE OUT SUCH REQUIREMENTS AS OFFENDERS GROW OLDER.

contribute most to his recidivism potential. Thus they should be an integral part of supervision and management (Andrews, Bonta, & Wormith, 2011; Poston & Hanson, 2010). Moreover, they allow for the allocation of limited treatment, management, and law enforcement resources to the highest risk offenders so that public safety can be maximized. Assessment tools that are not empirically driven may offer misinformation to the public and lead to an inefficient distribution of resources, perhaps ultimately undermining the very objectives of registration and notification. States that continue to resist adoption of AWA offer this concern as a rationale, arguing that existing risk-based classification approaches function more effectively in identifying high-risk sex offenders and can outperform AWA's offense-based system.

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