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# Validation of the Juvenile Sexual Offense Recidivism Risk Assessment Tool--II

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**Validation of the Juvenile Sexual Offense  
Recidivism Risk Assessment Tool—II**

By

**Christopher Allen Ralston**

A dissertation submitted to the graduate faculty  
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

Major: Psychology (Counseling Psychology)

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2008

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## ABSTRACT

The accurate assessment of risk of sexual reoffense for juveniles has the potential to inform many actions, including the segregation of low risk from high risk offenders, allocation of limited resources, matching treatment assignments and other programming with risk, and implementation of various state and federal regulations (e.g., registration and community notification laws) (Epperson, Ralston, Fowers, DeWitt, & Gore, 2006). The *Juvenile Sexual Offense Recidivism Risk Assessment Tool – II* (JSORRAT-II; Epperson et al., 2006) is the only known fully actuarially-derived risk assessment tool designed specifically for juveniles who have offended sexually (JSOs). However, it has yet to be validated. To test the predictive validity of the JSORRAT-II, the present study employed an archival file review of an exhaustive and representative sample of JSOs ages 11 through 17 from Utah ( $n = 566$ ) who entered the juvenile justice system for a sexual offense, their index offense, in 1996 or 1997. Juvenile sexual recidivism data, defined as a new formal charge for a sexual offense prior to age 18, was obtained for all JSOs in order to determine the predictive validity of the JSORRAT-II. The results indicated that the tool can be scored with a high degree of reliability ( $ICC = .96$ ) when research assistants received extensive training and oversight. Additionally, the JSORRAT-II predicted juvenile sexual recidivism at greater than chance levels ( $ROC = .64$ , 95% CI from  $.58$  to  $.71$ ), and this level of predictive accuracy was the same regardless of time at risk. Because this level of accuracy was substantially below the values reported on the original development sample, several additional analyses were carried out to attempt to find its cause. First, several coded variables were examined to determine their impact on the predictive validity. Of these, it appeared that the JSORRAT-II did not perform well for JSOs who had exclusively offended against siblings ( $ROC = .58$ ; 95% CI



from .43 to .73). However, when these JSOs were removed from the predictive validity analysis, the ROC did not substantially improve (ROC = .66; 95% CI from .59 to .73). The amount of missing data was also examined *vis a vis* the predictive accuracy. The results of those analyses indicated that missing data did not substantially impact the indices of predictive validity. Confirmatory factor analysis was used to test the four-factor solution found with the original development sample. The results of the original model did not appear to fit the data adequately; however, model fit improved when factors and several residuals were allowed to correlate. Some of these correlated residuals appeared logically or theoretically justified, while many others did not. Consequently, an exploratory principle-components analysis with Varimax rotation was employed to compare the original, development factor structure with a four-factor structure from the validation sample. Three items loaded highest on different components between the two samples; however, two of these items exhibited similar cross-loading patterns in the two samples. Only Item 6 (Use of Deception and Grooming) did not follow the same pattern of loading. Finally, several possible explanations for the reduced level of accuracy were discussed, as well as the implications of this reduced accuracy for informing a variety of risk-related decisions.

## CHAPTER 1. INTRODUCTION

The public, government officials, and researchers alike have demonstrated increasing concern about sexual violence over the past 15 years (Epperson, Ralston, Fowers, DeWitt, & Gore, 2006). This is partly due to the large number of sexual offenses reported each year. For instance, the Federal Bureau of Investigation reported 83,213 arrests were made for sexual offenses in 2004. Despite the fact that the vast majority of these offenses were committed by first-time offenders, public concern has focused on repeat offenders. Consequently, most legislative and research effort has been devoted to the prediction and prevention of future sexual violence by known offenders.

State and federal legislatures have enacted a plethora of statutes intended to document concern about repeat sexual offenders and to prevent future offenses by this group. The most widely known statutes require sexual offenders to register with local authorities, include provisions for community notification regarding the presence of sexual offenders released in the community, permit post-sentence involuntary confinement of offenders deemed to be at high risk to reoffend, and/or specify where released sexual offenders may and may not reside.

Though originally intended for adult sexual offenders, more recent legislation has targeted juveniles who have offended sexually under these laws. For example, the Adam Walsh Child Protection and Safety Act of 2006 was passed by the federal legislature to unify state standards for registration and community notification of sexual offenders. Under that act, juveniles 14-years-old or older are required to register with local authorities by providing their names, aliases, social security number, address, name and address of employers, license plate numbers, and in some cases finger prints, photographs, and DNA samples.

Additionally, the act potentially requires juveniles younger than 14 to register if they have a

victim under the age of 13, and the registration requirement ranges anywhere from 10-years to life depending upon the nature of the crimes.

The application of these laws to juveniles is potentially perilous, as it must balance the possibility of community safety against the possible detrimental effects to the juvenile which include stigma, isolation, alienation, vigilantism, lost opportunities, and limited ability to reintegrate successfully into their community (Trivits & Reppucci, 2002). Another important potential detrimental effect is the possibility for contagion effects (e.g., Boxer, Guerra, Huesman, & Morales, 2005) through interactions with other, higher-risk sexual offenders. At the same time, there is little empirical evidence showing that these laws actually reduce sexual recidivism for adults (Barnoski, 2005; Schram & Milloy, 1995), and there is no evidence suggesting that the laws reduce sexual recidivism for juveniles.

To assuage these possible detrimental effects to juveniles and to assist with a multitude of other decisions (e.g., resource allocation, treatment, placement), researchers have invested considerable effort in determining factors that increase risk to reoffend sexually. The goal of identifying such factors is the development of risk assessment tools that could be used to appropriately determine those offenders who are more and less likely to reoffend. Additionally, these efforts to develop risk assessment tools are a reaction to the general inability of unguided clinical judgment to produce reliable and accurate predictions of future sexual violence (e.g., Hanson & Bussière, 1998; Hanson & Morton-Bourgon, 2005).

To date, several empirically-guided sexual offense risk assessment tools have been developed for juveniles. These include the Estimate of Risk of Adolescent Sexual Offense Recidivism (ERASOR; Worling & Curwen, 2001), the Juvenile Sex Offender Assessment Protocol-II (JSOAP-II; Prentky & Righthand, 2003), the Multiplex Empirically Guided

Inventory of Ecological Aggregates for Assessing Sexually Abusive Adolescents and Children (MEGA; Miccio-Fonseca & Rasmussen, 2006), the Risk Assessment Matrix (RAM; Christodoulides, Richardson, Graham, Kennedy, & Kelly, 2005), the Juvenile Risk Assessment Tool (J-RAT; Rich, 2001), and its variants (e.g., Interim Modified Risk Assessment Tool/IM-RAT; the Cognitively Impaired Juvenile Risk Assessment Tool/CI/J-RAT). Others have attempted to develop scales that tap into protective factors that minimize the risk of sexual reoffense (e.g., Protective Factors Scale; Bremer, 2001).

Of the previously mentioned risk assessment tools, the JSOAP-II has received the most empirical attention beyond initial development. However, these attempts to validate the JSOAP-II with independent samples have suffered from many problems. For example, Prentky, Harris, Frizzell, and Righthand (2000) attempted to validate the original JSOAP with a sample of 96 juvenile sexual offenders. After following the juveniles for 12 months, only 3 had recidivated, making it nearly impossible to do any statistical analyses supporting JSOAP-II predictive validity.

Other studies have had similar difficulties. Hecker, Scoular, Righthand, and Nagle (2002) found that original JSOAP total scores did not correlate with sexual recidivism in a sample of 54 male, juvenile sexual offenders. Waite, Keller, McGarvey, Wieckowski, Pinkerton, and Brown (2005) found no relation between JSOAP-II and sexual recidivism, though higher scores on one of the JSOAP-II factor scales were significantly more likely to reoffend sooner than those scoring lower on that factor.

All of the previously mentioned tools would be considered to be empirically-guided or structured clinical judgment risk assessment tools because they draw upon the empirical literature in selecting items, but they still require fairly extensive clinical judgment in scoring

the items and in assigning an overall risk estimate. Additionally, risk is likely the end product of an interaction between a number of underlying dynamic factors (Epperson, 2006), and these tools do not attempt to address how the factors specified therein interact to produce risk.

Fully actuarial, or statistically derived, risk assessment tools have been developed for adults to address these problems. Examples of fully actuarial adult sexual offense risk assessment tools include the Static-99 (Hanson & Thornton, 1999), the Minnesota Sex Offender Screening Tool-Revised (MnSOST-R; Epperson, Kaul, Hesselton, Alexander, Goldman, 1998), and the Sex Offender Risk Appraisal Guide (SORAG; Quinsey, Harris, Rice, & Cormier, 1998). These empirically validated, actuarial tools have substantially improved levels of accuracy of prediction over clinical judgment (Bengtson & Långström, 2007; Grove & Meehl, 1996; Harris, Rice, & Cormier, 2002; Harris, Rice, & Quinsey, 1993; Janus and Meehl, 1997), and they are generally more accurate and consistent than empirically guided clinical judgment tools (Hanson & Morton-Bourgon, 2004). These actuarial risk assessment tools commonly are used to inform a variety of release-related decisions with adult populations (Doren, 2002), and none have emerged as more accurate than the others (Hanson & Morton-Bourgon, 2004; Langton, Barbaree, Harkins, Seto, & Peacock, 2002).

Despite the advances in risk assessment in adult sexual offender populations using these actuarial tools, the field has rejected the use of adult actuarial tools with juveniles. Many argue that juveniles are different enough from adult sexual offenders to warrant the development of specific risk assessment tools for that population. They argue that risk, for juveniles, is more fluid than for adults because of the incomplete and dynamic state of

development, social structure, and education in adolescence (e.g., Prentky & Righthand, 2003). Similarly, actuarial methods, in general, have not been embraced by the field despite the documented improvement in predictive accuracy associated with actuarial risk assessment with adults. The argument against the development of actuarial risk assessment tools for juveniles has asserted that longer-term predictions based on adolescent behavior are impossible because of the dynamic and incomplete level of development in adolescence, as reflected in the inconsistent findings of past research on risk factors for adolescents (e.g., Caldwell, 2002).

These concerns, though plausible, are ultimately empirical questions that can only be answered through additional research. For example, much of the past research on risk factors for juvenile sexual offenders has been based on very small samples of convenience. It is certainly possible that results might be more consistent with larger and more representative samples. Similarly, a very recent study (Ralston & Epperson, 2006), documented that the MnSOST-R, an adult actuarial tool, was quite accurate in shorter-term predictions of juvenile sexual recidivism, though it was less accurate in longer-term predictions of sexual recidivism in early adulthood. Using new, formal charges for sexual offenses as the criterion for sexual recidivism, the area under the receiver-operator curve (ROC) was .81 (95% CI from .76 to .86) for sexual recidivism before the age of 18, and .62 for adult sexual recidivism (95% CI from .54 to .70). An ROC value of .81 is analogous to a Cohen's *d* of 1.24, and an ROC of .62 is analogous to a *d* of .51 (Rice & Harris, 2005).

Collectively, this study and the methodological problems associated with much of the past research on risk factors for juvenile sexual offenders suggest that it may be possible to

use actuarial methods to develop a risk assessment tool that can provide reasonably accurate shorter-term predictions for juvenile sexual offenders. The only attempt to date to develop a fully actuarial sexual offense risk assessment tool for juveniles produced the *Juvenile Sexual Offense Risk Assessment Tool – II* (JSORRAT-II; Epperson et al., 2006), and this tool was developed prior to the Ralston and Epperson (2006) study cited above. The JSORRAT-II was developed using a sample of 636 juveniles who had offended sexually in the state of Utah from 1990 through 1992. Because of the exhaustive sampling strategy, this large sample was representative of the full range of juvenile sexual offending behavior.

Using an analytic strategy that involved multiple logistic regression analyses, the authors of the JSORRAT-II identified 12 variables that were optimally predictive of sexual recidivism. Total scores on the JSORRAT-II were strongly predictive of juvenile sexual recidivism in the development sample, with an area under the ROC of .89 (95% CI from .85 to .92). The Cohen's *d* equivalent for an ROC of .89 is 1.74 (Rice & Harris, 2005). JSORRAT-II predicted sexual recidivism in early adulthood with much lower, but statistically significant level (ROC = .64, 95% CI from .56 to .73). The predictive accuracy of sexual recidivism at anytime, regardless of age, (ROC = .79, 95% CI from .74 to .84) was largely driven by the high level of accuracy in predicting juvenile sexual recidivism.

In addition, the authors of the JSORRAT-II also reported the results of an exploratory principle-components analysis of the 12 items. A four factor solution emerged after Varimax rotation. The factors included persistence of sexual offending behavior, antisocial orientation, abuse history and possible treatment needs, and planning.

Because of the recency of its development, only one other empirical study of the JSORRAT-II has been completed to date. That study assessed the reliability of scoring by a

group of mental health professionals with a contract to perform evaluations of juvenile sexual offenders for the Utah Juvenile Justice Services. In that study, the JSORRAT-II was scored on 17 juveniles from Utah by seven mental health professionals, and the resultant interclass-correlation coefficient for absolute agreement was .91, establishing that the tool can be scored reliably (D.L. Epperson, personal communication, September 4, 2006).

The JSORRAT-II appears to be a promising juvenile sexual recidivism risk assessment tool. Its overall accuracy in predicting juvenile sexual recidivism in the development sample was quite good. However, conclusions about the performance of the JSORRAT-II must remain tentative at this time because the JSORRAT-II has not been validated with an independent sample. Some amount of shrinkage in the index of predictive validity is expected with other, independent samples, so it is important to establish the level of accuracy of JSORRAT-II with independent samples from Utah and other states.

The primary purpose of the present study was to assess the predictive validity of the JSORRAT-II with a new, large, and representative sample of juveniles who have offended sexually from the state of Utah. Because of jurisdictional and demographic similarities between the development and current samples, this study hypothesized that the JSORRAT-II would exceed chance-level predictive accuracy of sexual recidivism. However, because the items were tailor-made for the development sample, some shrinkage in the indices of predictive validity was expected. Furthermore, this study sought to confirm the factor structure underlying the items and that the variables could be coded reliably.



## CHAPTER 2. LITERATURE REVIEW

### *Rates of Sexual Offenses in the United States*

In 2004, the FBI reported that 9,964,356 individual arrests were made. Of these, 18,542 arrests were for forcible rape, and 64,671 arrests were for some other form of sexual offense, excluding prostitution. Thus, the total number of arrests for sexual offenses in 2004 was 83,213. To put these numbers into perspective, the FBI reported 64,671 murder or manslaughter arrests, 313,579 aggravated assault, 919,529 assault, 78,494 robbery, 964,434 theft (larceny and motor vehicle), and 1,246,105 drug-related arrests. Since 1995, the rate of arrest for any crime fell 5.1%, whereas forcible rape fell by 17.6%. During that same period arrests for any sexual offense, excluding forcible rape and prostitution, fell by 3.2%.

A more detailed look at these reports indicates that individuals less than 18-years-old were arrested for 16.0% of all forcible rapes and 19.9% of all other sexual offenses, excluding prostitution. In total, juveniles were arrested for 19.0% of all sexual offenses in 2004. These percentages represent a slight increase from 1995 in the percentage of sexual offenses committed by juveniles. In 1995, juveniles were arrested for 16.9% of forcible rapes, 17.1% of other sexual offenses excluding prostitution, and 17.1% of all sexual offenses when the two categories were collapsed.

Combining forcible rape and other sexual offenses (not including prostitution), children under age 10 were arrested for 0.5% of sexual offenses, while children age 10 to 12 were arrested for 2.6% of sexual offenses. Adolescents age 13- to 14-year-olds were arrested for 6.2%, 15-year-olds were arrested for 3.3%, 16-year-olds were arrested for 3.0%, and teens age 17 were arrested for 3.5% of sexual offenses.

Though the observed rate of sexual offending in general is an important statistic, an equally important statistic is the rate of sexual reoffense or recidivism. Sexual recidivism rates for adult sexual offenders tend to be between 5 and 15% (Hanson & Bussière, 1998). However, a recent meta-analysis (Hanson & Morton-Bourgon, 2005) of 73 adult sexual recidivism studies that included 19,267 sexual offenders found that the observed average sexual recidivism rate was 13.7%, and the violent nonsexual recidivism rate was 14.3% (based on 24 studies with 6,928 offenders). The authors of that study noted that these estimates are likely underestimates of the true recidivism rate, as sexual offending is an often under-reported offense.

Likewise, juvenile sexual offense recidivism rates are likely to be underestimated. Studies investigating juvenile sexual recidivism report quite varied rates (See Table 1), ranging from 1.7% (Milloy, 1994) to 29.9% (Långström, 2002). This variability partly can be explained by the nature of the samples reporting these rates. In many cases, studies utilize convenience samples of treatment populations followed for a short period of time. Typically, these types of studies yield lower recidivism rates (Ralston, 2004). Conversely, few studies have utilized large, representative samples of the juvenile who have offended sexually (JSOs) followed for long periods of time. One such study (Epperson, Ralston, Fowers, DeWitt, & Gore, 2006) reported a juvenile sexual recidivism rate of 13.2%, and a rate of 19.8% for juvenile sexual recidivism plus sexual recidivism into early adulthood. The mean sexual recidivism rate observed from the studies in Table 1 is 10.7%, and the mean rate weighted by sample size is 12.1%.

Table 1. Published Recidivism Rate for Studies Tracking Juvenile Sexual Offender Samples

Source	n	Ages <sup>a</sup>	Mean Follow-up (mo)	% Recid
Rearrest or Charge Recidivism Criterion				
Atcheson & Williams (1954)	116	12 to 16	12	2.6
Doshay (1943)	108	nr	108	1.8
Epperson, Ralston, Fowers, DeWitt, & Gore (2005)	636	11 to 18	149.8	19.8
Lab, Shields, & Schondel (1993)	155	nr	36	4.4
Miner, Siekert, & Ackland (1997)	96	nr	19.3	8.3
Prentky, Harris, Frizzell, & Righthand (2000)	75	9 to 20	12	4.0
Schram, Milloy, & Rowe (1991)	197	8 to 18	82	12.2
Sipe, Jensen, & Everett (1998)	164	nr	72	9.8
Smets & Cebula (1987)	21	13 to 18	36	4.8
Smith & Monastersky (1986)	112	10 to 16	28.9	11.6
Waite, Keller, McGarvey, Wieckowski, Pinkerton, & Brown (2005)	256	18.3*	28.7	4.7
Worling & Curwen (2000)	148	12 to 19	75	12.8
Observed Mean Recidivism Rate for Rearrest or Charge Criterion				8.1
Reconviction Recidivism Criterion				
Allan, Allan, Marshall, & Kraszlan (2003)	326	15.1*	50.4	9.5
Boyd (1994)	73	13 to 16	34.3	10.9
Brannon & Troyer (1995) <sup>b</sup>	36	nr	48	3.0
Bremer (1992)	193	14 to 16	48	7.8
Caldwell (2007)	249	17*	60	6.8
Hagan & Cho (1996)	100	12 to 19	42	9.0
Hagan & Gust-Brey (1999)	50	nr	120	16.0
Hagan, Cho, Gust-Brey, & Dow (2001)	100	nr	96	18.0
Hagan, King, & Patros (1994)	50	nr	24	10.0
Kahn & Chambers (1991)	221	14.7*	20.4	7.7
Kahn & LaFond (1998)	350	14.5*	36	9.1
Långström (2002)	117	15 to 20	115	29.9
Långström, Grann, & Linbald (2000)	46	15 to 20	96	19.6
Nisbet, Wilson, & Smallbone (2004)	292	16.05*	87.6	28.7
Milloy (1994)	59	16.5*	36	1.7
Rasmussen (1999)	170	7 to 18	60	14.1
Steiger & Dizon (1991)	105	nr	78	11.4
Observed Mean Recidivism Rate for Rearrest Criterion				12.5

Table 1. (Continued)

	Other Recidivism Criterion			
Becker (1990) <sup>c</sup>	52	nr	12	10.4
Hecker, Scoular, Righthand, & Nagel (2002) <sup>d</sup>	54	na	120 to 144	11.0
Observed Mean Recidivism Rate				10.7
Weighted Mean Recidivism Rate				12.1

*Note.* Weighted mean recidivism rate calculated by dividing number of observed recidivists by total sample size.

<sup>a</sup> Ages at start of study: nr = Not Reported, na = Not Available, \* = Mean.

<sup>b</sup> Used new incarceration as recidivism criterion.

<sup>c</sup> Used interview and psychological referral as recidivism criterion.

<sup>d</sup> Recidivism Criterion Unknown.

### ***Responses to Sexual Offenses and Their Application to Juvenile Who Have Offended***

#### ***Sexually***

Sexual offenses not only result in physical and emotional suffering on the part of victims and their families, but also enormous financial costs to society through the juvenile justice system; departments of child, family, or victims services; and through therapeutic intervention (Bench, Kramer, & Erikson, 1997; Prentky & Burgess, 1990). Some examples include costs associated with trials, incarceration, probation or parole, medical and mental health treatment for the victim and his or her family, and rehabilitative services for the offender.

The criminal justice system has sought to reduce future victimization and costs to society by implementing a variety of mechanisms to control or reduce the likelihood of reoffending by known perpetrators. Most obviously, crimes are punished by incarceration or other types of sanctions, such as probation, restitution, and fines. Additionally, many of these

sanctions are often coupled with some form of treatment. More recently, however, state and federal governments have introduced additional regulations that impose more stringent controls over the possibility of sexual recidivism. These newer regulations include “Megan’s Law,” the Jacob Wetterling Crimes Against Children Act, the Adam Walsh Child Protection and Safety Act of 2006. Common elements of these laws feature sexual offender registration with local authorities, provisions for community notification of sexual offenders living within communities, and in some cases post-sentence involuntary confinement.

Before 2006, only five states explicitly excluded JSOs from their registration requirements, while 18 states specifically required JSOs to register with local authorities. The remaining 27 states made no distinction between juvenile and adult offenders in applying these statutes (KlaasKids Foundation for Children, 2006). Of the 45 states that include juveniles under their registration laws, all allow for the possibility that some information regarding the juvenile can be released to the public (KlaasKids Foundation for Children, 2006). Seventeen states have passed laws allowing sexually violent persons (SVP) to be involuntarily committed beyond the normal judicial sentence. Caldwell (2002) reported that at least four of these states allow juveniles to be committed under SVP statutes, and the others allow the commitment decisions to be based, in part, on offenses perpetrated as a juvenile.

On July 27, 2006, however, the U.S. House of Representatives and Senate passed federal legislation unifying these laws, making it easier to track sexual offenders. Called the Adam Walsh Child Protection and Safety Act of 2006, this new law requires all sexual offenders to register with local law enforcement agencies. The registration process involves sexual offenders providing their name, any aliases, their social security number, their

address, the name and address of employers, their license plat numbers, and in many cases finger prints, photographs, and DNA samples.

The law also established a three-tier classification system for sexual offenders to be used to guide registration and community notification programs. The tiers are legislatively defined rather than being empirically based. Although the tiers are probably intended to convey the level of threat a convicted sexual offender poses to the community, they are not based on research or risk assessment. Tier I is presumed to represent the lowest level of threat, with Tier II representing a presumed increased threat and Tier III representing the presumed greatest threat.

According to the law, Tier I offenders are offenders convicted of misdemeanor types of sexual offenses (e.g., exposure, voyeurism). Tier II and Tier III offenders are generally convicted of felony-level sexual offenses (e.g., hands-on offenses), with Tier III offenders either committing more assaultive types of offenses or crimes against minors under age 13. Tier I sexual offenders are required to register with local authorities for a period of 15 years, whereas Tier II are required to register for 25 years. Tier III sexual offenders are required to register for life. However, with a clean record, Tier I offenders can have their registration period reduced by five years, and Tier III offenders can have their period reduced to 25 years. The law specifies no reduction for Tier II offenders.

Furthermore, the law requires that jurisdictions provide the public with several pieces of information. Typically, this is to be provided through the maintenance of a searchable Internet website and through distribution of information to schools in the offenders' communities. As specified in the law, information provided on the website includes a physical description of the sexual offender, his or her criminal conviction history including

sexual offenses, and photographs. Other information that law enforcement authorities can release include fingerprints and DNA samples. The law makes optional the notification of Tier I sex offenders, unless the offense was perpetrated against a minor.

Juvenile who have offended sexually are subject to the Adam Walsh Child Protection and Safety Act of 2006. Specifically, JSOs age 14 or older at the time of their sexual offense are required to register with local authorities and are subject to community notification per their Tier-level. JSOs under age 14 are also subject to this law, if they have a victim under age 13. As the law currently reads, any JSO who is under the age of 14 and who also has a victim under the age of 13 is subject to the Tier III registration and community notification requirements. Given that the vast majority of juvenile sexual offenders have a victim(s) their age or slightly younger, this could result in nearly all sexual offenders under age 14 being classified as Tier III.

No one doubts that sexual crimes can be very heinous and alarming to the general public, and the new laws appeared to provide some form of protection to community members. Yet, the effectiveness of such programs has yet to be demonstrated. For example, Schram and Milloy (1995) compared recidivism rates of sexual offenders both before and after the implementation of a registration and community notification law in the state of Washington. They found that recidivism rates were not statistically different for the two time periods, though offenders subject to the notification laws were apprehended faster than pre-law controls. Similarly, Barnoski (2005) reported comparisons of 8,359 sexual offenders' recidivism rates in the state of Washington for three time periods: prior to the implementation of registration and community notification laws, after the implementation but prior to a 1997

amendment, and after the 1997 period. The study found no reduction in rates of recidivism for violent, felony-level sexual offenses over time.

Conversely, the adverse effects of such laws are now starting to come to light. Using a sample of 183 convicted, adult sexual offenders from Florida, Levenson and Cotter (2005) found that approximately one-third reported “dire events,” including loss of jobs or home, threats, harassment, property damage, or in some cases physical assaults as a result of community notification. In addition, the overwhelming majority experienced stress, isolation, loss of friends or close relationships, fear for safety, shame and embarrassment that interfered with engaging in prosocial activities, and reduced hope. More than half reported that some information provided to the community on Florida’s Internet registry was incorrect. Lastly, 49% endorsed the item “No one believes I can change so why even try?”

In a similar study, Tewksbury (2005) sampled 121 adult, registered sexual offenders from Kentucky about the consequences of community notifications. The results indicated that over half had lost friends, 47% had been harassed in person, 45.3% had either lost or been denied a place to live, 42.3% had lost a job, and between 20 and 40% had reported lost opportunities at work or harassment through the mail or by phone. Approximately 17% had been physically assaulted. Though these studies utilized adult samples, it is likely that the same negative consequences can be generalized to JSOs subject to registration and community notification programs.

The purpose of laws such as the Adam Walsh Child Protection and Safety Act of 2006 is noble and serves the valid purpose of potentially protecting society against the commission of additional heinous acts. However, when applied to juveniles, this society’s interest is not the only interest in danger. A careful reading of that law indicates that a



substantial number of JSOs would likely be subjected to Tier II or Tier III classifications based on the age of the victim (i.e., minors) they typically commit offenses against. This sets up the prospect of between 25 years to a lifetime of community notification, which could potentially result many more negative consequences than those experienced by adults. Such consequences may include stigmatization, harassment, and lost opportunity during critical periods of development and maturation. Such consequences have the potential to greatly undermine risk reductions efforts through treatment that depend on a socially constructive reintegration to society as one of the important steps in rehabilitation/diversion into a non-offending life.

Furthermore, such laws rely upon at least three problematic assumptions. First, the laws assume that sexual offending is driven by stable traits, unaffected by development, maturation or changing life circumstances (Caldwell, 2007), and that as a results of these traits, sexual offenders are a specialized subgroup of criminals who will continue to perpetrate the majority of future sexual offenses. As applied to juveniles, this assumption implies that juveniles, because of these stable traits, are likely to continue into adulthood as continuing members of the sexual offender subgroup.

This assumption is potentially plausible, as some studies have noted differences between sexual and non-sexual juvenile offenders (e.g., Becker, 1998). However, as indicated above, the mean sexual recidivism rate from the 30 studies reported in Table 1 was 12.1%. Even if this is an underestimate, as it is likely to be, the low rate tends to suggest that, if stable traits cause future sexual offending, only a few of JSOs have enough of these traits to persist in this particular offending pathway beyond their first sexual offense. Thus, the subgroup is smaller than assumed under the law. Also, JSOs tend to have higher non-sexual

recidivism rates than they have sexual recidivism rates (e.g., Caldwell, 2002; Worling & Curwen, 2000), which indicates, at a minimum, that JSOs are not specialists. Lastly, at least one study that compared future sexual offense rates between 1,780 non-sexual offending juveniles and 249 sexual offending juveniles (Caldwell, 2007) found that there was no significant difference in future sexual offense rates (5.7% to 6.8%, respectively) between the two groups using a five-year follow-up. Taken together, these three points suggest that this first assumption is not entirely plausible.

A second assumption implicit in these is that all or most JSOs are at a high risk to reoffend sexually, and a third assumption is that the benefits of registration and community notification laws outweigh the potential negative effects to both the individual offender and the community. As indicated by both studies documenting low rates of sexual recidivism and studies failing to document a statistically significant reduction in recidivism rates as a result of these laws, neither assumption appears to be valid at this time (Letourneau & Miner, 2005), making the application of these laws to juveniles tenuous.

The implied conclusion is that scientific research has played little or no role in the development or evaluation of these laws and that risk levels must be developed empirically rather than being legislated. Optimal success will result from matching empirically assessed risk levels with interventions that have been documented to be effective. Empirically validated risk assessment may also help to minimize the potential negative consequences of current policies for a substantial number of juveniles who are least likely to continue sexual offending (Epperson et al., 2006).

Accurate assessment of risk is needed not only to identify to whom these laws should be applied, but also for a number of other reasons. Such reasons include informing

sentencing decisions, programming decisions, treatment decisions, and decisions regarding when and under what level of supervision the juvenile offender may return to the community (Cellini, 1995; Prentky, Harris, Frizzell, & Righthand, 2000). Informed decisions about risk benefit public policy makers, judges, parole and probation officials, therapists, and anyone who needs to make decisions regarding risk (Bench et al., 1995). Furthermore, accurate risk assessment also benefits the recipient of those decisions, the JSO him or herself. Without accurate indicators of risk, most jurisdictions must resort to blind decisions about potential risk or engage in blanket policies that apply to all sexual offenders. The consequences of these unguided conclusions could span from the deprivation of liberty to the expenditure of sizeable resources for offenders who may have stopped offending given minimal intervention (Epperson et al., 2006).

A third reason for the need for accurate risk assessment with juveniles involves what is commonly called contagion effects. The peer contagion hypothesis refers to increases in delinquent or antisocial behavior as influenced by associations with other delinquent or antisocial peers (Boxer, Guerra, Huesman, & Morales, 2005). A recent issue of the *Journal of Abnormal Child Psychology* (2005, Volume 33, Issue 3) included 12 articles that either reviewed past research on contagion effects or directly tested hypotheses related to the theory. In the initial review of the literature, the authors of the lead article (Gifford-Smith, Dodge, Dishion, and McCord, 2005) noted that there is much empirical support for the contention that late-starting juvenile delinquents may be more influenced to start delinquent behaviors after exposure to and interactions with earlier-starting delinquents. They later argued that, though high-risk adolescents may be drawn to interact with other high-risk adolescents, reflecting some underlying common diathesis, the increases in deviant behavior

after exposure to other deviant peers is “beyond what would be expected without such interactions” (p. 263).

Boxer and colleagues (2005) investigated the effects of 12- to 16-week aggression prevention programs with 504 high-risk third and fourth graders. Their results indicated that small group prevention programs without concurrent family interventions lead to increases in aggression relative to control groups. Even more interesting, individual participants who were exposed to groups with higher mean base levels of aggression actually increased their teacher- and peer-rated levels of aggression over time during group participation, and those levels at the end of the program were similar to the mean group aggression level. The converse was also evident. Children with the highest base levels of aggression reduced their externally rated levels of aggression throughout the course of the program.

The results led the authors to propose the principle of “discrepancy-proportional peer influence.” Basically, the principle states that the more discrepant the individual child is from peers in the group, the more the behavior of that child will change over time to become more similar to the mean of the group—essentially, regress toward the mean. Additionally, they reported that one mechanism for this occurrence is that people are motivated to reduce within-group differences, or that they seek homogeneity and modify their behavior accordingly.

If correct, contagion effects could have dramatic implications for the aggregation of relatively low risk and high risk juvenile sexual offenders in either the same treatment programs or correctional facilities. With sufficient exposure, those at the lower end of the risk spectrum may actually get worse through the mechanism assumed to correct their past

problematic behavior. In other words treatment and punishment could have an iatrogenic effect.

### ***Defining Risk, Threat, Risk Management, and Risk Reduction***

In order to inform decisions about risk and reduce the potential negative effects mentioned above, accurate sexual offense risk assessment is necessary (Epperson et al., 2006). However, before describing the types of assessments available, several key terms and their relation to future reoffense must be defined. Epperson and colleagues (2006) proposed a model of risk that specified several key components: *Risk, Risk Management, Threat to the Community, and Risk Reduction*. In that model, they defined *risk* as inherent in the individual and resulting from a collection of relatively stable characteristics that increase or decrease the likelihood of that individual reoffending sexually at some time in the future. Hanson (e.g., Hanson & Bussière, 1998; Hanson & Morton-Bourgon, 2004) identified a number of such characteristics, or *risk factors*, through meta-analyses, including drive to engage in future deviant sexual acts, impulse dyscontrol, and degree of psychopathy. Epperson and colleagues (2006) view *risk* as the composite of *risk factors*, and *risk* is operationally defined as the likelihood of the sexual offender reoffending if he is released on his own without any significant oversight. In such cases, the *threat* to the community presented by the offender would be equal to the offender's *risk*. Because of concerns about the *threat* to communities posed by higher risk released sex offenders, few are released without the imposition of significant external controls (e.g., intensive monitoring and supervision) intended to reduce the *threat* posed to the community given the offender's level of risk. Such interventions are conceptualized a *risk management*, and, again, they are efforts to manipulate the environment

in ways to reduce *threat* to the community below that implied by the offenders level of *risk*.

These concepts and their interrelatedness are reflected in Figure 1.

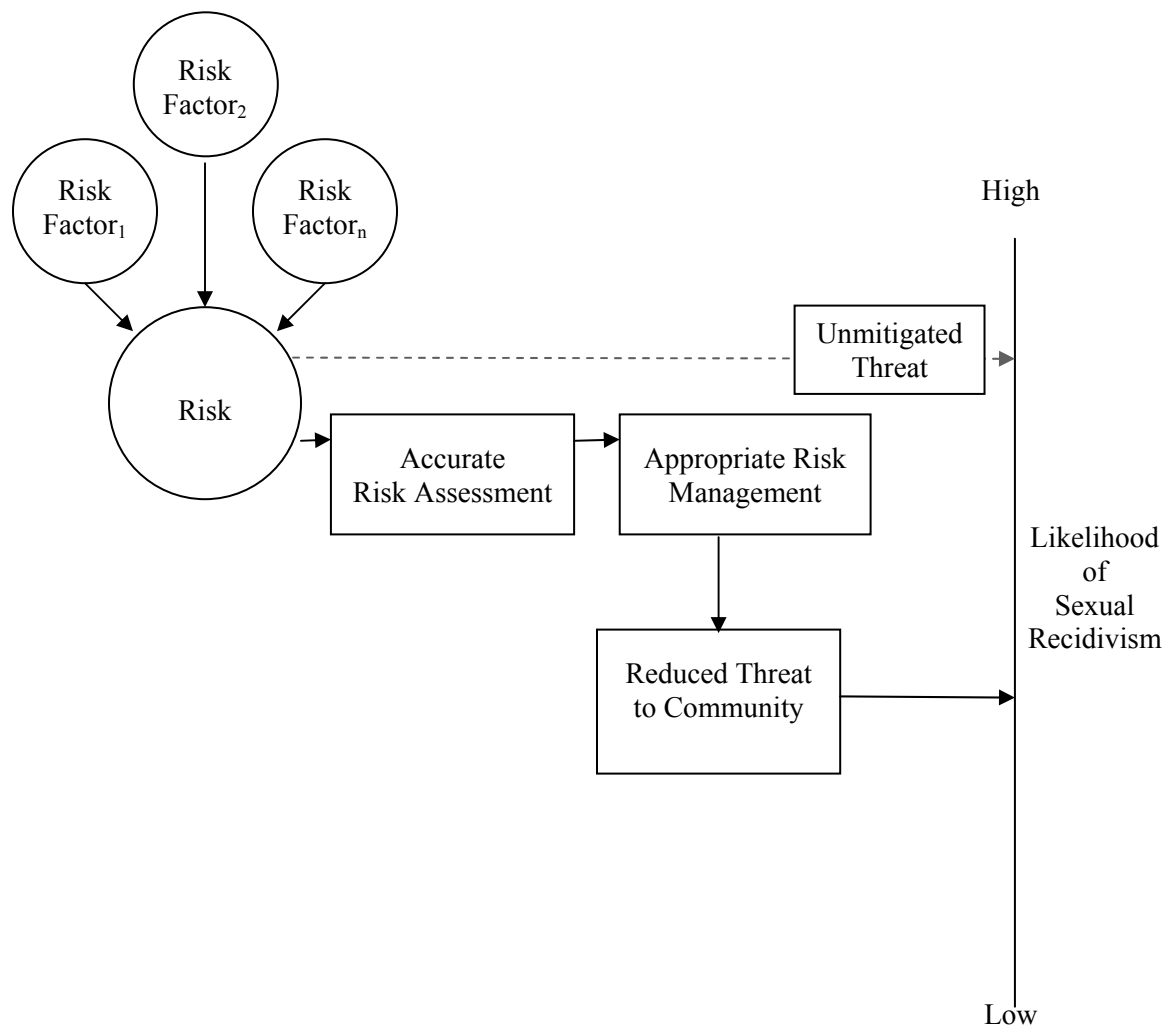


Figure 1. Epperson, Ralston, Fowers, DeWitt, & Gore (2006) Model of Risk Management.

A few points warrant repetition. As reflected in Figure 1, environmental factors (e.g., intensive supervision, access to child pornography) are not risk factors, themselves, as *risk* is viewed as inherent in the individual. Instead, environmental factors are part of another construct, *risk management*, which includes all external forces on the sexual offender that decrease the likelihood of his or her reoffense. It is important to note that environmental

factors can increase or a decrease the opportunity for new offenses, so part of effective risk management involves decreasing such opportunities. Similarly, environmental factors can encourage or discourage acting on urges to offend. For example, associating with active criminals and sexual offenders would likely create a social environment that would encourage offending, so an important part of risk management would involve preventing such relationships and promoting more pro-social relationships. Because a number of sexual offenders have impaired judgment and self-regulation skills, it would also be important for risk management to minimize exposure to environmental agents and situations that might further impair judgment and self-regulation. Finally, close monitoring should be a component of effective risk management for higher risk offenders to increase the probability of detecting violation of release conditions and pre-offense behaviors prior to any further victimization. These are only illustrative of a few components of risk management. The important point is that environmental manipulations are conceptualized as *risk management*, rather than *risk* itself, and they are intended to decrease *threat* to the community below the level of risk presented by the offender.

There are two important implications of this model. First, *risk* is inherent in the individual. Another important implication of this model is that *risk management* strategies should be selected to match the level of *risk* presented by the offender if optimal results are to be achieved given limited resources. For higher *risk* offenders, more intense levels of supervision, community notification, monitoring, and possibly post-sentence confinement should be considered. However, for lower *risk* offenders, less restrictive strategies should be employed in order to have the resources necessary for higher risk offenders.

As an example, it makes little sense to invest thousands of dollars on intensive supervision of a very low *risk* sexual offender, particularly when the funds and other resources needed to engage in this level of monitoring are limited. That offender, as a result of his initially low level of *risk*, already poses minimal *threat to the community*, and consequently, those expenditures would be a waste of precious resources. Additionally, exposing lower *risk* offenders to higher *risk* offenders as a condition of this intensive supervision may actually increase *risk* through contagion effects (e.g., Gifford-Smith, et al., 2005). Lastly, the level of intensity of this supervision also may unnecessarily deprive that offender of liberty interests that could be afforded to him by providing less restrictive *risk management* strategy.

On the other hand, very high *risk* sexual offenders require more intense *risk management* strategies to reduce the *threat* that offender poses to the community. These strategies may require a substantial investment in terms of time, resources, and funds to be effective, and these resources are scarce. Consequently, accurate matching of these strategies to *risk*-level is of ultimate importance.

In order for optimal matching to occur, accurate assessment of *risk* is essential. In the absence of accurate risk assessment, decision makers must rely upon one of two strategies to assign *risk management* strategies to sexual offenders. The first is to apply an undifferentiated, “one size fits all” or blanket *risk management* strategy, which as previously indicated may be too intense and costly for the lowest risk offenders and insufficient to reduce *threat* to the public for the highest *risk* offenders. The second is to employ idiosyncratic and unscientific judgments about *risk* to the individual sexual offender. Both cases are likely to produce mismatched and ineffective *risk management* strategies.



*Risk*, though inherent in the individual and relatively stable, is not completely static. Thus, *threat* to the public can be affected, not only by *risk management* strategies, but also by *risk reduction* strategies, such as sexual offender specific treatments and long-term constructive and active supervision, that ameliorate the individual *risk factors* of the individual sexual offender. These individual *risk factors* have often been described in the literature as dynamic risk factors (e.g., Hanson & Harris, 2000, 2001) and may include characteristics such as the offender's level of deviant sexual drive, distorted sexual attitudes, psychopathy, and impulse dyscontrol, among others.

Similarly to assigning appropriate *risk management* strategies based on level of *risk*, accurate risk assessment is a key component to determining types and intensities of treatments. For example, higher risk offenders are likely to require longer, more intense treatments than lower risk offenders. Since treatments of appropriate intensity for these offenders are expensive, resources could be diverted toward these offenders and away from the lowest risk offenders that already pose minimal *threat* to the public. Though accurate risk assessment is a key component, psychological needs assessments are also necessary to tailor the focus of such treatments.

This strategy of matching treatments to risk may be even more important for JSOs when considering the possibility of contagion effects (e.g., Boxer, et al., 2005). Juveniles may be considered to be more malleable than adult offenders. Thus, "one size fits all" treatment strategies that mix low and high risk offenders may have the disadvantage of actually increasing the risk of the lowest offenders through mere exposure to higher risk offenders. So, in addition to appropriately allocating resources to those offenders that most

require them, effective matching may also keep lower risk offenders low risk and at a decreased level of *threat* to the public.

### ***The Nature of Sexual Offense Risk Assessments***

Risk assessment with adults has developed dramatically over the past 15 years. During that time, risk assessors and the research community have learned that unguided clinical prediction of reoffense risk improves minimally over chance levels, whereas tools that employ actuarial methods significantly exceed chance level prediction (e.g., Bengtson & Långström, 2007; Hanson & Bussière, 1998; Hanson & Morton-Bourgon, 2004). Consequently, the field has witnessed a rise in the number of tools developed using actuarial methods to predict sexual reoffense. Some examples of these measures include the MNSOST-R (Minnesota Sex Offender Screening Tool-Revised: Epperson, et al., 1998, 2000, 2003), the RRASOR (Rapid Risk Assessment for Sexual Offense Recidivism; Hanson, 1997), the SORAG (Sex Offender Appraisal Guide; Quinsey, Harris, Rice, & Cormier, 1998), and the Static-99 (Hanson & Thornton, 1999). These empirically validated tools have substantially improved levels of accuracy of prediction over clinical judgment (Bengtson & Långström, 2007; Grove & Meehl, 1996; Harris, Rice, & Cormier, 2002; Harris, Rice, & Quinsey, 1993; Janus and Meehl, 1997) and are commonly used to inform a variety of release-related decisions with adult populations (Doren, 2002); however, none has emerged as more accurate than the others (Hanson & Morton-Bourgon, 2004; Langton, Barbaree, Harkins, Seto, & Peacock, 2002).

Though accurate risk assessment is a crucial aspect to informing a variety of decisions with sexual offenders of all ages, assessments developed with and for JSOs have lagged. Some of the tools that are available (e.g. J-SOAP, Prentky et al., 2000; J-SOAP-II,

Prentky & Righthand, 2003; the ERASOR, Worling & Curwen, 2000; The ERASOR Version 2.0, Worling & Curwen, 2001; the MEGA, Miccio-Fonseca & Rasmussen, 2006) fall short of their adult counter-parts in several ways (Ralston, 2004). Specifically, many development and validation studies are seriously biased (e.g., reliance on small numbers of JSOs, short-follow-ups, failure to account for treatment effects). Some fail to provide or determine *a priori* weighting to items that may have more or less relevance to risk of reoffending or fail to specify how one determines what constitutes “high risk.” Additionally, some included variables have little or no empirical support for predicting sexual recidivism among juvenile populations, basing the variables on either adult studies or conjecture.

Yet, accurate risk assessment with JSOs is important for all of the reasons mentioned above. Though there is some existing empirical evidence that adult tools significantly predict short-term risk with juvenile samples (Ralston & Epperson, 2006), there is general consensus in the field that juveniles are sufficiently different from their adult counterparts to warrant risk assessment tools tailored to that population. This assumption typically follows from observations that, as a class, JSOs are a more heterogeneous population than adult sexual offenders (e.g., Knight & Prentky, 1993) and that the dynamic state of their development (e.g., social, emotional, cognitive, physical) differentially impacts risk to sexually reoffend (Ralston & Epperson, 2006).

### ***Review of Juvenile Sexual Offense Risk Assessment Tools***

***Juvenile Sex Offender Assessment Protocol-II (J-SOAP-II)***. The J-SOAP-II (Prentky & Righthand, 2003) is an empirically-guided sexual reoffense risk assessment checklist designed to be used with adolescent sexual offenders and juveniles with nonadjudicated sexually coercive histories. A total of 16 static and 11 dynamic variables are

arranged into four scales representing four factors: Sexual Drive or Preoccupation, Impulsive Antisocial Behavior, Clinical Intervention, and Community Stability. The latter two factors are assumed to assess dynamic or changeable risk, while the former are assumed to reflect more stable, static factors. Items were developed based on a review of the juvenile and adult sexual offender literature and can be scored from information gained from case file review, interview, and psychological data. Each item is scored from 0, representing the absence of some characteristic, to 2, representing the clear presence of that characteristic. Though factor and total scores can be calculated from the items, no risk-levels have been established for varying scores.

Only four published studies that attempted to establish the psychometric properties of either the original (J-SOAP) or revised version (J-SOAP-II) could be located. The first study assessed 96 sexual offenders, ranging in age from nine to 20, who were referred for assessment and treatment in Philadelphia (Prentky, Harris, Frizzell, & Righthand, 2000). The results indicated that the original J-SOAP items had moderate to good interrater reliability (interclass correlation coefficients from .75 to .91) for all items, with the exception of the caregiving instability item (ICC = .59). Internal consistency was low to moderate for three subscale scores ( $\alpha = .68$  to  $.73$ ) and high for the Clinical Intervention subscale ( $\alpha = .85$ ). The juveniles were followed for 12 months after the initial assessment to determine the predictive validity of the J-SOAP, but only three JSOs recidivated during that time. No significant differences in scores were found between those three and the nonrecidivists.

On the basis of the results from the first study, the J-SOAP was revised to form the J-SOAP-II (Prentky & Righthand, 2003). Using the revised scale, 134 juvenile sexual offenders from Maine, ranging in age from seven to 20 ( $M = 15.9$ ) were assessed to

determine its psychometric properties (Righthand, Prentky, Knight, Carpenter, Hecker, & Nagle, 2005). The results indicated that inter-rater reliability on the four scales ranged from .80 to .91, and internal consistencies ranged from .64 on the Sexual Drive or Preoccupation scale to .95 on the Clinical Intervention scale. The researchers also used principle components analysis to determine the factor structure of the items. Four components emerged accounting for 57.7% of the variance and roughly mapping onto the four subscales. Unfortunately, the researchers did not follow the JSOs in this study to provide predictive validity evidence.

Two other studies sought to provide predictive validity evidence for the original J-SOAP. In the first, Hecker, Scoular, Righthand, and Nagle (2002), scored the original J-SOAP on 54 male JSOs and followed them for 10 to 12 years. A total of 6 (11%) sexually recidivated during that time. Though the total J-SOAP score was not correlated with sexual recidivism, the predictive accuracy of the Sexual Drive or Preoccupation scale was significantly greater than chance (ROC = .79).

The second study followed 256 JSOs from two incarcerated treatment programs for 10 years (Waite, Keller, McGarvey, Wieckowski, Pinkerton, & Brown, 2005). Using rearrest data, a total of 57.4% reoffended in some way, but only 4.7% JSOs recidivated sexually during the follow-up period. Using only a modified version (8 of 9 items) of the Impulsive Antisocial subscale, JSOs were split up into two groups: low impulsive/antisocial and high impulsive/antisocial. Their results indicated that those JSOs in the high impulsive antisocial category were approximately three times more likely to be arrested for a new sexual offense. It should be noted that these comparisons were made using considerably small numbers of sexual recidivists and the difference was not significant. However, JSOs in the high group

were significantly more likely to reoffend regardless of type of offense, and using survival analysis, they were significantly more likely to reoffend sooner than those in the low impulsive/antisocial group.

Despite the few empirical studies, the J-SOAP-II has been the most widely researched risk assessment tool for JSOs. Unfortunately, the studies that have been conducted have suffered methodologically and have not found convincing evidence for predictive validity. Similarly, the J-SOAP-II suffers from its inability to assign risk estimates from its total scores. Thus, the final determination of risk is left to the clinician doing the scoring. As indicated earlier, clinical judgment often fails to improve over chance level predictions (e.g., Hanson & Bussière, 1998).

***Estimate of Risk of Adolescent Sexual Offense Recidivism, Version 2.0 (ERASOR).***

The ERASOR (Worling & Curwen, 2001) is an empirically guided-clinical judgment checklist of possible risk factors. Clinical assessors review each of 25 risk factors and rate each on a four-point scale including “present,” “possibly or partially present,” “not present,” or “unknown.” Clinicians are advised to use case file information, psychological tests, behavioral observations, medical reports, and interviews in their determination of ratings. However, there are no explicit rules about how to tally risk scores or determine risk-levels from the 25 risk factors listed on the ERASOR. Instead, the final risk-level is determined by clinical judgment.

The risk factors are grouped into one of five categories: Sexual Interests, Attitudes, and Behaviors (factors 1 through 4); Historical Sexual Assaults (factors 5 through 13); Psychosocial Functioning (factors 14 through 19); Family and Environmental Functioning

(factors 20 through 23); and Treatment (factors 24 through 25). Dynamic factors account for 16 of the factors, while the remaining nine are static in nature.

Some of the factors are supported by research with juveniles (e.g., deviant sexual interests). However, some factors draw upon the adult literature (e.g., indiscriminate choice of victims), and others seem to be based on factors that have received mixed support in both the juvenile and adult literature (e.g., lack of intimate peer relationships or social isolation, negative peer influences). Also of note, several potentially relevant variables were left out of the checklist. This include denial, lack of victim empathy, historical nonsexual offenses, offenders own abuse history as a victim, and penetrative assaults (Prescott, 2004; Worling, 2004).

Very little research has been conducted on the ERASOR. In fact, only one published study has reported any psychometric data (Worling, 2004). In that study, 28 masters or doctoral level clinicians used the ERASOR to evaluate 136 adolescents who had either been convicted of a sexual offense or who had acknowledged a sexual offense. Interclass correlations (ICC) were reported for each item and ranged from .40 for two items (Recent escalation in anger or negative affect and Parents not supporting sexual offense specific assessment/treatment) to .92 for one item (Ever assaulted a male victim). Of note, only one other item exceeded an ICC of .80 (Incomplete sexual offense specific treatment). The ICC for final risk ratings (low, moderate, high) was .85 for a single rating and .92 for an average of ratings across three time periods. The total number of factors coded as “present” correlated .68 with overall risk rating. The adolescents were not followed after the assessment. Thus, recidivism data was not available. However, to estimate predictive validity the adolescents were separated into repeaters and non-repeaters on the basis of their offense histories and

ROC statistics were calculated. Areas under the ROC statistics ranged from .66 to .72; however, these statistics may be inflated due to failing to remove the item directly tapping offense history from the analyses. Lastly, adolescents had significantly lower scores on the ERASOR following treatment at discharge. However, it is unclear whether this result was possibly confounded by these raters also doing the treatment of these offenders.

In addition to no evidence for predictive validity, the ERASOR suffers from several important problems. First, the items were derived from a review of the literature; however, the authors drew upon the adult literature for many of their items (e.g., indiscriminant choice of victims). Though there may be some theoretical reasons for including these items, at this time, there is no empirical support for their predictive ability in juvenile populations. Second, some items draw upon speculation and conjecture (e.g., social isolation) that have not received empirical support. Lastly, there are no explicit rules about how to calculate risk scores or determine risk-levels from the 25 risk factors. Instead, the final risk-level is determined by clinical judgment. As indicated above, clinical judgment often does not exceed chance-level predictions of risk. Consequently, at this time, the ERASOR falls short of being an adequate risk assessment tool for JSOs.

***Risk Assessment Matrix (RAM).*** The RAM; Christodoulides, Richardson, Graham, Kennedy, & Kelly, 2005) is a relatively new empirically-guided juvenile sexual offense risk assessment tool. It involves a two stage assessment protocol. The first stage can be scored by probation or social workers prior to referral to mental health clinicians, and the 10 factors it is assumed to measure can be scored from information from both interview and case file review. Each of the ten factors is scored on a three-point scale, where one corresponds to low risk and three corresponds to high risk. Scores range from 11 to 33. The risk factors included



in this first stage include: the nature of offense (opportunistic to predatory), frequency (number of incidents), severity (non-contact to penetration), victim (number and gender combined), location (single to multiple), aggression (no force or violence to weapon or violent attack), victim and perpetrator age differences (<2 years to 5 or more), family adjustment (2 parent good functioning family to chronic dysfunction and violence), perpetrator adjustment (no history of behavioral/emotional difficulties to early onset school and family problems or general offending history), opportunities to repeat offense, (“risk immediately contained” to no situational changes and denial), and victim impact (quick recovery to bedwetting, self-harm, and extreme withdrawal or suicide).

The second stage of the RAM requires more subjective interpretation of 16 risk factors, and is typically scored by mental health clinicians. Like the first stage, risk factors are scored on a three point scales with total scores ranging from 16 to 48. The risk factors for the second stage include: the duration and onset of sexual offending, escalation (none to increasing physical aggression or seriousness of sexual behavior), substance misuse (none or social to use of hard drugs), previous convictions for antisocial behavior (none or petty property to sexual offenses and violence), history of sexual physical and emotional abuse (none or emotional to multiple or prolonged), family motivation (acceptance or support to denial and collusion), perpetrator motivation (acceptance and engagement to total denial and victim blame), sexual boundaries within home (clear sexual boundaries to humiliation of weaker individuals and sexual violence and incest), inconsistencies in care/parenting (natural parents entire life to numerous cohabitees poor bonding with mother), social competency (function well to alienated, rejected or bullied), victim empathy (appropriate empathy to denial of harm or no empathy), attitude toward offense (accepts wrong and responsibility to

blame and cognitive distortions), family history (no criminal, abuse or mental illness in family), either parent convicted of serious crime or suffering from prolonged mental illness), family functioning (model parents to inconsistency and neglect), family stress/support (low stress with no financial worries to high stress, poverty, poor coping), and negative emotions (no angry feelings toward victim to intense anger at the victim or those similar to the victim).

Initial validity evidence was presented by Christodoulides and colleagues (2005). In their study, they scored the RAM on 50 juveniles referred to a forensic mental health unit. The referral process was not elaborated upon. Thus, it was unclear as to who did the referring and for what reasons (i.e., convicted of sexual offense, familial concern, etc.). Recidivating offenses were determined in two ways: clinician report and reconviction data. Specifically, clinicians were asked if, “to their knowledge, the individual had committed a further act of sexually abusive behaviour or a sexual offence, after being assessed or treated within the clinical service” (p. 40). The rate of recidivism using these criteria was 46% on the basis of clinician report and 20% with new convictions. They did not report the length of the follow-up time period.

The results of their analysis were as follows. Using clinician report of recidivism, significant differences between recidivists and non-recidivists emerged for both Stage 1 and Stage 2 total scores. Using logistic regression analysis, Stage 1 scores and a cut-score of 22 correctly predicted 81.6% of offenders, but only two variables emerged as significant predictors (family adjustment and number of victims). Stage 2 scores with a cut-score of 30 correctly predicted 82.0% of offenders, but only social competency and family history of offending emerged as significant predictors. Unfortunately, the RAM did not discriminate between recidivists and non-recidivists using official conviction data alone.

Despite the apparent wide coverage of the risk factors included in the RAM, some concern is warranted. First, many factors have little to no empirical support in the literature (e.g., victim impact, substance misuse, sexual boundaries in the home, social competency, family history of offending, negative emotions toward victim). Second, the descriptions of risk-levels do not always include clear demarcation lines for which to place JSOs. This leaves much room for JSOs to be placed into multiple risk-levels within any given factor. Similarly, many risk factors seem to encompass many diverse variables, and it is not always clear which variable is most important to score. Third, on many of the clinical factors, denial is included in the highest risk area. Though denial has received some support in the literature as related to sexual reoffense (e.g., Epperson et al., 2006), it is has not been universally accepted as a risk factor (e.g, Hanson & Morton-Bourgon, 2005). Consequently, it may be weighted too heavily in the RAM. Lastly, the RAM did not discriminate between recidivists and non-recidivists in the only validation attempt.

***Multiplex Empirically Guided Inventory of Ecological Aggregates for Assessing Sexually Abusive Adolescents and Children (MEGA)***. The MEGA (Miccio-Fonseca & Rasmussen, 2006) is a newer empirically-guided risk assessment tool that was designed to apply to all adolescents under the age of 19, regardless of gender and level of developmental ability. The authors of this instrument reported that this tool can be used for a number of functions including assess the dynamics underlying a juvenile's sexual offending to guide treatment, make statements concerning risk, assess protective factors assumed to buffer against future offending, and assess reduction of risk through treatment (Miccio-Fonseca & Rasmussen, 2006).

The MEGA is structured to tap seven “ecological aggregates” which are comprised of “empirically guided elements to assess risk and protective factors related to the youth’s neuropsychological, behavioral, and family functioning” (p. 2; Miccio-Fonseca & Rasmussen, 2006). These aggregates include and are labeled Neuropsychological, Antisocial, Family Lovemap, Sexual Incident, Coercion, Stratagem, and Relationship [Predatory Elements]. Each aggregate is assumed to tap both static and dynamic factors.

The authors of this tool claim that a strength of the MEGA is that it is based on research specific to JSOs, as opposed to adult sexual offenders. Though the exact items on the MEGA have not been released, they also claim that they used that research to assign weights to the individual “elements” in each ecological aggregate. By anchoring the weights of the elements to those found in other tools (e.g., JSORRAT-II by Epperson et al., 2006), they contend that the risk estimates will exceed other tools in terms of accuracy.

Though the items on the MEGA have not been released, there appears to be several problems that are left unresolved. First, there is no research evidence linking some of the aggregates to future reoffense. For example, Miccio-Fonseca and Rasmussen note that low intellectual functioning and a history of epilepsy are elements considered under the Neurological aggregate. However, in their review of the literature, they failed to produce any studies that linked either characteristic to sexual offending in general or future risk of recidivism. Other elements that they mentioned (e.g., family’s sexual history in the Lovemap aggregate, animal physical and sexual abuse in the Antisocial aggregate, progression in offending in the Sexual Incident aggregate, etc.) do not appear to be linked to the literature on future risk of sexual reoffense. Instead, it appears that the authors deferred to their “50+

years of combined direct clinical and research experience” (p. 15) in assigning weights to those elements.

The second potential limitation of the MEGA concerns the population it is intended for. The authors claim that the MEGA can be used for children and adolescents younger than age 19, both males and females, and those who are developmentally delayed. Though their goal of trying to design an instrument with such wide applicability is laudatory, they are attempting a very difficult feat. Specifically, most research to date in the sexual offending literature has focused on males who are either adults or juveniles age 12 and older (Miccio-Fonseca & Rasmussen, 2006). Research on female sexual offenders, younger children, and the developmentally disabled offenders is still in an infancy stage, with few if any results pointing to specific dynamics or risk factors in those populations (Miccio-Fonseca & Rasmussen, 2006). Consequently, the inclusion of those populations into a risk assessment tool poses a very formidable challenge, and its utility with those populations must be demonstrated empirically.

The final limitation of the MEGA is in its validation. Currently, the items have not been made available to the research community, and consequently, no studies have been presented or published that address the tool’s psychometric properties. Until such time, the MEGA must be regarded as an untested work in progress.

***Protective Factors Scale (PFS).*** The PFS (Bremer, 2001) is an assessment device designed to address characteristics of juvenile sexual offenders that might mitigate risk to sexual reoffense. Instead of focusing on risk factors, the PFS focuses on “elements of personality, family function, or community environment that mediate the negative impact of adverse circumstances” (p. 89; Bremer, 2006) associated with negative life events and

personal sexual offending history. The goal of using the PFS is to identify strengths and weakness to better design treatments and interventions, with the ultimate goal of reducing risk of sexual reoffense.

The PFS is composed of 10 “factors” that are arranged into three areas: personal development, sexuality, and environmental support. Each “factor” is assessed through interview of the juvenile and his or her family, case file review, and psychological testing. Each factor is scored on a four point scale ranging from 0 indicating the presence of the protective factor to 3 indicating the lack of a protective factor, and lower total scores indicate a greater presence of protective factors.

The PFS seems to provide a useful rubric for directing treatment and determining when risk may be reduced, as the majority of “factors” are dynamic in nature. However, there are several problems with the current version of the PFS. The first problem that is readily apparent when looking at the “factors” is that some of the factors may also be considered risk factors (e.g., antisocial orientation, impulsivity, harming sexual behavior). Thus, the tool does not appear to clearly differentiate protective versus risk factors. The second problem concerns the relevance of some factors to mitigating future risk to reoffend. In other words, some protective factors do not have empirical support in the literature (e.g., social adjustment, emotional adjustment, sexual preferences). The third problem stems from its lack of established psychometric properties. At the current time, there are no studies that report reliability or predictive validity, nor are there studies that report risk estimates on the basis of score levels.

***Stetson School Tools.*** Phil Rich from the Stetson School in Barre, Massachusetts has recently created a series of guided-clinical tools designed to assess the risk of future sexually

abusive behavior and guide treatment (Rich, 2001). These tools include the Juvenile Risk Assessment Tool (J-RAT), the Interim Modified Risk Assessment Tool (IM-RAT), the (Cognitively Impaired) Juvenile Risk Assessment Tool (CI/J-RAT), the Interim Modified Risk Assessment Tool (Cognitively Impaired Juveniles) (IM-RAT/CI), the Latency Age Sexual Adjustment and Assessment Tool (LA-SAAT), and the Latency Age Interim Assessment Tool (LA-IAT). Interestingly, these are the only series of tools that specifically differentiate risk factors for average, cognitively impaired (IQ below 75), and youth considerably younger than typically assessed using the above mentioned tools. Also, he designed specific tools to track the impact of treatment.

The tools vary in their assessment coverage. However, the tools generally cover 12 to 14 “domains” (e.g., Social Skill, Past Trauma) and range from 105 to 132 specific “elements” (e.g., social confidence, exposure to violence) or variables to consider. These elements include both static and dynamic factors, assumed to be important to the determination of risk. Each element is rated as significant, moderate, mild, none, or unknown according to the juvenile’s “severity of concern” on that element.

There are several problems with the Stetson School tools. First, there are no explicit rules for combining observations into scores that can be summed to create an overall risk estimate. Instead, the tool asks the clinician to form an opinion about risk on the general impressions they form during the assessment. Second, though the purpose of the tools is to assist clinicians to gain a more holistic picture of the offender (Rich, 2001), many of the “domains” and “elements” do not appear to be supported in the literature as related to future sexual offense risk (e.g., degree of honesty, quantity of peer relationships). Third, no research exists that would seem to justify using such considerably different tools to assess reoffense

risk. Lastly, no research has been published on the utility and psychometric properties of the instruments.

***Juvenile Sexual Offense Recidivism Risk Assessment Tool – II (JSORRAT-II)***. The JSORRAT-II (Epperson et al., 2006) is the only known actuarially-derived risk assessment tool specifically for JSOs. The authors of this tool reported that they developed the JSORRAT-II to achieve several goals. The first was to develop a reliable and accurate measure of risk that was applicable to a broad range of JSOs. Second, they sought to develop a tool that could inform decisions about JSOs that require accurate assessment of risk. Examples of such decisions included decisions about segregating low-risk JSOs from high-risk JSOs to avoid contagion effects, informing treatment match in terms of length and intensity, and informing the match between supervision or security placement and the JSO's risk-level (Epperson et al., 2006). Third, the authors also noted that if their tool was successful in accurately assessing risk, it could also serve to limit the scope and application of community notification laws to juveniles.

The JSORRAT-II was developed using case file information from an exhaustive sample of 636 JSO males who were adjudicated guilty of a sexual offense from 1990 through 1992 in the state of Utah. JSOs generally ranged between ages 12 and 18 at the time of their adjudication (mean = 15.2, sd = 1.6). The majority of the sample was White/Caucasian (76.4%). Of the remaining JSOs, 7.7% were Latino/Hispanic, 2.2% were Black/African American, 1.6% were Asian American, 1.4% were Native American, 1.1% were multiethnic, and 9.6% were unspecified.

The case files used for data collection were obtained from the Utah Juvenile Court and the Utah Division of Juvenile Justice Services. Prior to data extraction, each file was



edited to appear as it did when the JSO exited the juvenile justice system for their 1990 through 1992 sexual offense adjudication. This procedure was undertaken to emulate a prospective study while using archival data.

Each case file contained a wide range of content. However, most generally consisted of records of criminal involvement with the juvenile justice system until their release. These records typically included arrest, investigation, other police, court, probation, and youth corrections reports from all offenses in the JSOs history. From these reports information could be obtained about the JSO's history of offending, events leading up to offenses, the nature of the offenses, and any information about victims. Additionally, most files also contained reports from caseworkers or psychologists that provided information on background (e.g., education history, social functioning, substance use or abuse) and psychological variables (e.g., mental health issues, treatment history). Lastly, many files also contained documents from familial contacts with either the court or the Department of Human Services regarding the abuse or neglect of the JSO or other family members.

A total of eight research assistants at Iowa State University who had no knowledge of the JSO's recidivism status extracted information from each of the 636 JSO's case files. Two types of codebooks were used to guide this process. First, a background codebook was used to gather demographic data and information about the JSO's care-giving structure, family relationships, child abuse history, educational history (academic and behavioral), consenting sexual history, substance abuse history, mental health history, treatment history (mental health, substance abuse, sexual offender specific), nonsexual offense charges and adjudications, and sexual offense charges and adjudications. Only one background codebook was completed for each offender.

The second type of codebook was used to guide collection of sexual offense specific information. Whereas only one background codebook was completed for each JSO, a separate offense codebook was completed for each sexual offense victim of the JSO. For each victim, information was extracted from the case file for victim characteristics (e.g., age, gender, relationship to perpetrator), pre-offense behaviors (e.g., stalking, grooming), methods used to achieve compliance (e.g., force, threat of force, bribery), offense locations (e.g., workplace, school, offender's home), sexual acts used in each offense (e.g., fondling, penetration), the JSO's role in the offense (e.g., leader of a group, sole perpetrator), and post-offense behaviors (e.g., threats of harm if victim told, confessions).

Sexual offense recidivism data, defined as any new arrest for a new sexual offense, was collected after all information was extracted from the case files. Recidivism data was collected from two databases, Utah's state-wide criminal offender database and the Federal Bureau of Investigation's Crime Index, for two time spans. The first recidivism check pertained to any new sexual offense occurring prior to the offender's 18<sup>th</sup> birth date. Recidivism during this time span was labeled "juvenile sexual recidivism." A total of 84 (13.2%) JSOs recidivated sexually prior to age 18. The second recidivism check pertained to any new sexual offense that occurred during adulthood prior 2004, so recidivism during this time period was labeled "adult sexual recidivism." At the time of this check JSOs ranged in age from 22-years-old to 31-years-old. A total of 58 (9.1%) recidivated during adulthood, and 42 of the 58 recidivated for the first time as adults. The other 16 recidivated both as juveniles and as adults. From these two data sets, it was possible to determine who had sexually recidivated at anytime regardless of age to determine "anytime sexual recidivism."

One hundred twenty-six (19.8%) JSOs had recidivated as a juvenile and/or adult prior to 2004.

After data was extracted from the case files, Epperson and colleagues grouped all variables into one of ten families based on conceptual similarities. These ten families included history of sexual offending, sexual offense characteristics, sexual offender treatment, child abuse, special education, discipline problems at school, family instability, mental health diagnosis, mental health treatment, and nonsexual offending. Within each of these families, the authors further categorized variables into similar groups and then subgroups. For example, under the family of child abuse, variables were grouped by type of abuse (e.g., physical, sexual), and within the sexual abuse group, variables were further categorized in to subgroups (e.g., types of sexual abuse, frequency of sexual abuse).

Upon classifying all variables, Epperson and colleagues followed a five-step process to determine the optimal set of variables that predicted future juvenile sexual recidivism, defined as a new arrest for a sexual offense prior to age 18. The first step involved identifying variables within subgroups that were significantly related to juvenile sexual recidivism at the bivariate level. The authors tested for significant relations using chi-square analysis for categorical variables and point-biserial correlation for continuous variables.

After all significant bivariate relations were established, the JSORRAT-II authors sought to identify the best “marker variables” within each subgroup. The authors utilized two strategies for determining these variables. First, if only one subgroup variable was significant it was retained. Second, using juvenile sexual recidivism as the dependent variable, the authors utilized logistic regression analysis for subgroups that had more than one significant bivariate relation. If a subgroup had two or more significant bivariate relations, variables

were retained for further analysis if all Wald chi-square statistics were significant during simultaneous logistic regression analysis. If one or more was not significant, hierarchical logistic regression analysis was used to assess the impact of entering variables in different orders to determine the optimal set of predictors from the subgroup. If no pattern emerged, variables were collapsed where theoretically possible. As an example, the subgroup for types of sexual abuse (e.g., penetration, fondling) correlated highly with both juvenile sexual recidivism and each other, and consequently, no one type of sexual abuse emerged as most predictive of juvenile sexual recidivism. Thus, the authors collapsed the individual types variables into a single presence or absence of hands-on sexual abuse and retained only this variable for later analyses.

The third step of the data analysis involved only the subgroup variables that emerged from step number two as optimally predictive within each subgroup. Using hierarchical logistic regression analysis for each group, the authors employed a “drill-down” method, whereby they entered more general, group-level variables into the first block of the regression model followed by more specific, subgroup variables in the second block. In order for a subgroup variable to be retained for further analysis, it had to predict juvenile sexual recidivism above and beyond the more general, group-level variable.

The fourth step involved identifying the best marker variables within each family. Using the group and subgroup variables that survived the third step analyses, Epperson and colleagues again employed hierarchical logistic regression, this time, within families. However, in order to be retained for the final round of analyses, not only did variables need to contribute significantly and uniquely to the prediction of juvenile sexual recidivism within each family, but also the family variables needed to predict juvenile sexual recidivism above

and beyond sexual offending history family variables. The authors noted that they employed this strategy because the literature generally supports the notion that past behavior is the best predictor of future behavior (e.g., Hanson & Morton-Bourgon, 2005) and because they wanted to ensure that the variables retained beyond the fourth step added to the prediction of sexual recidivism beyond sexual offending history.

The final step of the item-selection analyses involved determining the optimal set of family variables that predicted juvenile sexual offense recidivism. Again, the authors employed hierarchical logistic regression analysis, and entered family variables in the following order: sexual offending history, sexual offense characteristics, child abuse, sexual offender treatment, special education, school discipline, mental health diagnoses, mental health treatment, family instability, and nonsexual offending history. In order for variables to be retained, both the family block they were entered and the individual variable within the family needed to be significant. Once significant, it remained in the model regardless of how it performed as additional variables were entered.

The results of the item-selection analyses yielded a total of 12 variables from seven families and included both discrete and continuous variables. The 12-variable model's performance was assessed in several ways. Using a probability cut score of .50, as generated from the final logistic regression model, the model had an overall accuracy rate of .91, meaning that 91% of juvenile sexual offenders' juvenile sexual recidivism status was correctly predicted. More importantly, however, the positive predictive power—the percent of predicted recidivists that actually recidivated—was .73, and the negative predictive power—the percent of predicted nonrecidivists that actually did not recidivate—was .92. Furthermore, the sensitivity, or the percent of observed recidivists that were predicted to

recidivate, was .48, and the specificity, or the percent of observed nonrecidivists that were predicted to not recidivate, was .97.

The performance of the 12-variable model was also assessed using the area under the receiver operator curve (ROC) statistic. This statistic has the advantage over simple classification table based statistics (e.g., overall accuracy, positive predictive power, etc.) because ROC curve statistic provides an estimate of the accuracy of a risk assessment tool across all possible cut-scores, rather than just one cut score (e.g., probability of .50, as generated from the logistic regression model). Additionally, unlike correlation coefficients, the ROC value is unaffected by base rates, making the values comparable across studies (Quinsey, Harris, Rice & Cormier, 1998).

The ROC curve is generated by plotting sensitivity on the y-axis and 1 minus specificity on the x-axis for all possible cut scores on the risk assessment tool. The area under the resulting curve reflects the overall accuracy of the tool. Values of this area range from 0.0 to 1.0, where .50 reflects purely chance-level prediction. A value of 1.0 represents perfect positive prediction, and a value of 0.0 represents perfect inverse prediction. Thus, values significantly greater than .50 represent significant improvement over chance-level prediction.

Using the Statistical Package for the Social Sciences (SPSS), the authors calculated the ROC curve for probability cut scores generated by the full logistic regression model. The resultant area under the ROC curve was .91 with a 95% confidence interval ranging from .87 to .94. Because the confidence interval did not include .50, the performance of the full, 12-variable model exceeded chance-level prediction. Rice and Harris (2005) reported that an ROC value of .91 is roughly equivalent to a Cohen's *d* of between 1.88 and 1.94.

Epperson and colleagues (2006) noted that risk assessment models that utilize formal regression equations introduce problems for scoring in everyday practice, particularly when they include nonlinear effects. Consequently, they decided to explore the performance of a simplified model to address the inherent difficulties of using such a complex model. To do so, they devised a categorical scoring system. For each of the 12 variables a score of zero was assigned to all levels of each variable that was associated with the lowest rate of juvenile sexual recidivism. For each meaningful increase in recidivism rate associated with each variable, an additional increase in one scoring point was paired with that level of the variable. Additional points ceased to be added to levels of variables when the distribution of JSOs became too thin to evaluate (generally defined as an  $n$  below 25). This strategy was employed to ensure that all risk-levels within each variable had adequate size. See Table 2 for a breakdown of each variable, the total number of JSOs in the development sample at each level, associated recidivism rates, and categorical score. A total score was then calculated from these categorical scores for each JSO. The possible range for total scores was 0 to 21, though the actual score range in their development sample was 0 to 15.

Table 2. Categorical Scoring for the Final Twelve JSORRAT-II Variables

Variable	<i>N</i>	Juvenile Sexual Recidivism Rate	Categorical Score
Number of juvenile sexual offense adjudications			
One	452	6.2%	0
Two	118	26.3%	1
Three	37	35.1%	2
Four or more	29	41.4%	3
Number of victims in charged sexual offenses			
One	442	6.8%	0
Two	116	24.1%	1
Three or more	78	33.3%	2
Length of charged sexual offending			
0 Months (only one charge)	416	5.3%	0
0.01 to 5.99 months	144	17.4%	1
6.00 to 11.99 months	27	37.0%	2
12.00 or more months	49	55.1%	3
Was any charged sexual offense committed while under supervision?			
No	505	9.9%	0
Yes	131	26.0%	1
Was any felony-level, charged, sex offense committed in a public place?			
No	523	10.1%	0
Yes	113	27.4%	1
Was any charged sexual offense preceded by deception or grooming			
No	506	10.3%	0
Yes	130	24.6%	1
Sexual offender treatment program status prior to index offense			
Never entered	584	9.1%	0
Entered and completed all	26	46.2%	1
Entered and did not complete at least once	26	73.1%	2



Table 2. (Continued)

Variable	<i>N</i>	Juvenile Sexual Recidivism Rate	Categorical Score
Number of “hands-on” sexual abuse incidents experienced as the victim (official-report)			
None	533	9.8%	0
One to four times	77	26.0%	1
Five or more times	26	46.2%	2
Number of physical abuse incidents experienced as the victim			
None	537	11.4%	0
One to four times	84	16.7%	1
Five or more times	15	60.0%	2
Did the offender receive any special education placement in K-12?			
No	454	7.5%	0
Yes	182	27.5%	1
Number of different educational periods with discipline problems (elementary, middle school, high school)			
None or one	481	9.4%	0
Two	109	22.9%	1
Three	46	30.4%	2
Number of juvenile non-sexual offense adjudications			
None or one	333	8.1%	0
Two or more	303	18.8%	1

The performance of this simplified, categorical scoring system was again assessed by using the area under the ROC curve statistic. The area under the ROC curve for this simplified model was .89 (95% CI from .85 to .92), which roughly corresponds to a Cohen’s *d* of 1.74 (Rice & Harris, 2005). This value was not statistically significant from the value obtained from the full regression model; in fact, the difference was only very slightly lower

at a nominal level. Thus, very little information was lost by simplifying the model, so the simplified model was retained as the *Juvenile Sexual Offense Recidivism Risk Assessment Tool—II* (JSORRAT-II).

The authors of the JSORRAT-II did several other analyses that are noteworthy. First, they noted that there were several adolescents in their sample that were approaching 18 years of age at the time of their index offense. Consequently, the inclusion of those individuals may have served to artificially reduce the juvenile sexual recidivism rate. Thus, the authors recalculated the ROC statistics excluding those older JSOs. The resultant ROC statistic was .88 when 17-year-olds or older were excluded, and the ROC statistic was, again, .88 when 16-year-olds or older were excluded. These values were nearly identical to the accuracy rate calculated for the full sample (ROC = .89).

Epperson and colleagues also calculated the accuracy of the JSORRAT-II in predicting “anytime sexual recidivism” and “adult sexual recidivism,” keeping in mind that this sample had only been followed into early adulthood. The area under the ROC curve for anytime sexual recidivism was .79 with a 95% confidence interval of .74 to .84. Given that anytime sexual recidivism includes juvenile sexual recidivism, it was clear that it was largely the accuracy in predicting juvenile sexual recidivism that was driving accuracy with anytime sexual recidivism. This was confirmed in analyses of predictive accuracy with adult sexual recidivism, which produced an area under the ROC curve of .64 with a 95% confidence interval of .55 to .73 ( $d$  approximately .50). The authors noted that, though these values reflected a significant improvement over chance-level prediction, the level of accuracy in predicting longer-term sexual recidivism was significantly lower than the level obtained for

prediction of juvenile sexual recidivism. Consequently, they strongly cautioned against the use of the JSORRAT-II for longer-term predictions of sexual offense recidivism.

Epperson and colleagues conducted one final set of analyses to explore the factor structure underlying the 12 variables of the JSORRAT-II. Employing an exploratory principle-components analysis with Varimax rotation, a four-factor solution emerged. The first factor was comprised of three variables: number of sexual offense adjudications, length of sexual offending history, and number of sexual offense victims. The authors suggested that this first factor tapped into persistence of sexual offending. The second factor was comprised of four variables: number of adjudications for non-sexual offenses, number of educational periods with discipline problems, commission of a sexual offense while under supervision, and placement in special education (primarily behavioral disordered). The authors suggested that this factor taps an antisocial orientation, with specific emphasis on problems conforming to rules and relating to authority figures. The third factor was comprised of three variables: number of physical abuse incidents as the victim, number of sexual abuse incidents as the victim, and prior sexual offending treatment. The authors labeled this factor abuse history/treatment needs. The fourth factor was comprised of two variables: commission of a sexual offense in a public place and the use of deception and grooming in a sexual offense. The authors noted that the relation between these two variables is less evident; however, they tentatively labeled this factor planning because some level of planning is clearly involved in deception and grooming, and planning is arguably also involved in committing an offense in a public place and hoping to do so with impunity.

The JSORRAT-II has received limited empirical attention. In fact, only one other study has investigated it. In that study, the researchers sought to establish inter-rater

reliability estimates using seven mental health professionals from the state of Utah who routinely perform evaluations of JSOs for the Utah Juvenile Justice Service. The mental health professionals attended a one-day training session and then scored the same 17 case files, which were selected based JSOAP scores (which were already available) to ensure that there would be some variability in JSORRAT-II scores. The interclass-correlation coefficient for absolute agreement in total score was found to be .91, indicating strong overall inter-rater reliability (D. L. Epperson, personal communication, September 4, 2006).

Overall, the JSORRAT-II seems to be a promising juvenile sexual recidivism risk assessment tool. Its overall accuracy predicting juvenile sexual recidivism in the development sample was quite good. However, conclusions about the predictive accuracy of the JSORRAT-II for JSOs in Utah must remain tentative because it has not yet been validated on an independent sample. Because of the methods employed to create the JSORRAT-II, the items derived were tailor-made for the development sample. Thus, some amount of shrinkage in the index of validity is expected with other samples.

### ***Rationale and Purpose for the Present Study***

Accurate risk assessment with juveniles is necessary given the impacts of sexual offending on the victim, victim families, society, and the JSO himself. Such assessments have the potential to inform a number of decisions (e.g., resource allocation, treatment, placement), reduce the unnecessary imposition of adult statutes to low risk juveniles, and potentially protect countless potential future victims. Unfortunately, the state of sexual offense risk assessment with juveniles leaves much to be desired because there are no fully validated risk assessment tools designed specifically for juveniles.

The primary purpose of the present study was to assess the predictive validity of the JSORRAT-II with a new, large, representative sample of JSOs from the state of Utah. Because of jurisdictional and demographic similarities between the development and current samples, this study hypothesized that the JSORRAT-II would exceed chance-level sexual recidivism predictive accuracy with the current sample. However, because the JSORRAT-II items were tailor-made for the development sample, some shrinkage in the indices of predictive validity was expected. Second, the present study sought to confirm that the items on the JSORRAT-II could be reliably coded. Third, the study attempted to determine the impact of missing data on the predictive accuracy of the JSORRAT-II. Finally, the study tested the factor structure of the JSORRAT-II found by Epperson and colleagues (2006) during its development.

## CHAPTER 3. METHOD

### *Participants*

The present study utilized the juvenile justice case files from 568 male JSOs ages 11-years to 18 years who were adjudicated guilty for a sexual offense in 1996 and 1997 (index offense). The case files represent an exhaustive sample of male JSOs from the state of Utah whose index offense fell within that window. Of note, four case files represented JSOs who were also in the JSORRAT-II development sample (i.e., they also had sexual offense between 1990 and 1992). They were not excluded from the present sample. Two JSO case files were excluded from the analysis, as their case files indicated they had died prior to 1997. This resulted in a total of 566 JSO case files.

At the time of their index sexual offense, JSOs ranged in age from 11.0 to 17.9 years of age. The mean age was 15.0 ( $s = 1.6$ ). The age frequencies were as follows: 22 (3.9%) were 11-years-old, 47 (8.3%) were 12-years-old, 84 (14.8%) were 13-years-old, 103 (18.2%) were 14-years-old, 125 (22.1%) were 15-years-old, 105 (18.6%) were 16-years-old, 72 (12.7%) were 17-years-old, and 8 (1.4%) had ages that could not be determined from their files.

The sample was predominantly Caucasian/White (76.0%). The remaining JSOs were Latino (12.4%), African American/Black (1.4%), Asian/Pacific Islander (1.1%), Multi-racial (3.9%), or from some other racial-ethnic background (1.8%). A total of 3.5% of JSOs did not have a listed racial-ethnic background.

The majority of JSOs did not have a listed religious affiliation (81.8%). Of the remaining JSOs, 14.3% were classified as Mormon, 2.7% as some other Christian

denomination, 0.2% as Muslim, 0.0% as Jewish, 0.5% as some other religious affiliation, and 0.5% as having no religious affiliation (e.g., atheist or agnostic).

### ***Materials***

***Juvenile Judicial and Corrections Case Files.*** Juvenile justice case files for all JSOs in the study were located and copied by the staff of the Utah Juvenile Court and the Utah Division of Juvenile Justice Services. All files were transported to Iowa State University where they prepared for scoring. In order to emulate a prospective study, all case files were arranged chronologically by two undergraduate research assistants. After chronological arrangement, this study's author removed all information after one of two time periods. First, if the JSO did not recidivate sexually after their 1996 to 1997 index sexual offense, all information found in the case file dated January, 2000 or later was removed. Second, if the JSO was identified as having a recidivating offense, all information was removed from the first mention of that offense onward. If the recidivating offense occurred in 2000 or later, all information dated January, 2000 or later was removed. These two steps were instituted to ensure sufficient information to code the JSORRAT-II, while ensuring that the coders were blind the JSO's recidivism status.

The case files varied in their content, but the majority contained several core types of information, as found in several types of reports. Specifically, the vast majority of case files contained information pertaining to and describing the JSO's criminal involvement in the juvenile justice system including the index sexual offense and any other criminal offenses up to that index offense. Reports that typically described this involvement include arrest, investigation, juvenile court, and juvenile justice services reports. Additionally, many files also contained information about the JSO's family, educational history, social functioning,

substance abuse, mental health issues, treatment history, and history of abuse or neglect. This information was typically found in reports by caseworkers, probation officers, psychologists, education staff, and the Department of Human Services.

***Juvenile Sexual Offense Recidivism Risk Assessment Tool—II (JSORRAT-II).*** As described above, the JSORRAT-II (Epperson et al., 2006) is a 12-item, actuarial juvenile sexual offense risk assessment tool. Scores can range from 0 to 21 with higher scores indicating greater risk to reoffend sexually. Initial predictive validity estimates were provided by the authors in the form of area under the receiver operator curve (ROC) statistics. Using the JSORRAT-II to predict juvenile sexual recidivism with the development sample, Epperson and colleagues found an ROC statistic of .89 with a 95% confidence interval of .85 to .92. In a separate study, Epperson (personal communication, September 2006) found the absolute agreement inter-class correlation coefficient for the total score to be .91 using seven trained coders and 17 juvenile case files.

***Scoring Guide for the Juvenile Sexual Offense Recidivism Risk Assessment Tool—II: Validation Scoring Grid (VSG).*** The VSG is a scoring device designed by Epperson and Ralston (2006) for extracting information from case file data. It consists of a scoring manual (See Appendix A) and a two-page coding form (See Appendix B). Both were used to extract information on several variables found to be predictive of sexual recidivism in the JSORRAT-II development sample. From these 43 variables, all 12 variables from the JSORRAT-II could be scored. The first 19 variables of the VSG are used to document information on all of the JSO's sexual offenses, both charged and documented but uncharged. Variables 20 through 43 are used to document background information of the JSO.



***Sexual Recidivism Data.*** The Utah Juvenile Justice Services conducted an electronic search of the statewide juvenile court/juvenile justice services database to generate a list of charges, adjudications, offense dates, charge dates, and adjudication dates for each JSOs in this study up to July of 2006. Juvenile sexual recidivists, defined as those JSOs with a formal charge for a new sexual offense prior to age 18 were identified from this list.

In order to determine which JSOs sexually recidivated, the JSO's index sexual offense had to be identified from the list. If a JSO had only one sexual offense in the 1996 through 1997 window, that offense was identified as the index sexual offense. In the event that there were two or more sexual offenses within the window, the first of these offenses was identified as the index sexual offense. Sexual recidivism was then defined as any new charge for a sexual offense occurring both after sanction for the index sexual offense and prior to age 18. A total of 70 (12.4%) JSOs were identified as having a new, recidivating sexual offense. Of those offenders who were under age 17 ( $n = 486$ ) at the time of the index offense, 68 (14.0%) sexually recidivated, and of those under age 16 ( $n = 381$ ) at the time of the index offense, 63 (16.5%) recidivated sexually.

### ***Procedure***

***Data Extraction.*** A total of five undergraduate research assistants with no knowledge of the recidivism status of the JSOs were trained over the course of several didactic training meetings on the procedures for extracting information from the case files. During these meetings they were introduced to and trained on how to use the VSG (Epperson and Ralston, 2006). All research assistants then scored the VSG for the same set of practice cases. These practice cases were actual cases from the sample. After completing these cases, all coders met with the lead researcher to discuss the cases, any discrepancies in scoring, and

any other questions pertaining to scoring the cases. This process was repeated until all coders completed the VSG for several cases in which the scoring was consistent across coders.

In addition to this primary training, all coders met with the lead researcher six times throughout the course of the coding to help stave off coder drift. During these sessions, the coders and the lead researcher reviewed discrepancies in scoring reliability cases, key scoring issues, and any additional questions that they had pertaining to the coding information from the cases.

Furthermore, in anticipation of future scoring questions, the coders were instructed to utilize a research coding log to log all scoring questions they encountered as they extracted information from the case files. The lead researcher reviewed this log on a nearly daily basis and responded to these questions. This log was placed in the research lab near the VSG coding forms for all coders to review prior to each coding session, so that all coders would have any new scoring information. These questions were also used to direct discussion during the secondary training meetings.

**Reliability Cases.** A total of 16 cases were identified for reliability purposes. Identification of these cases followed one of two strategies. Initially, four cases were identified at random for the research assistants to score over the first four weeks. Then, after approximately 100 cases had been scored, the data was entered into a *Statistical Package for the Social Sciences (SPSS)* datasheet and JSORRAT-II total scores were calculated. From these scores, an additional 12 cases were selected to ensure that the distribution of possible scores was represented in the reliability cases.

Approximately once per week, thereafter, each coder was instructed to score one of these reliability cases. The coders were instructed not to discuss these cases with other coders

and to place their VSG coding forms in a separate secure location where the other coders would not have access to their responses. These coding form responses were used to assess inter-rater reliability.

**Data Entry.** Each VSG coding form was double-entered into a *SPSS* database to assess and correct for data entry error. Once all forms had been entered, the researcher analyzed the entries for inconsistencies. Upon finding inconsistencies, the original VSG coding form was consulted for the appropriate entry, and the database was corrected.

### **Data Analysis**

**Reliability Analyses.** Each of the 16 cases coded by all research assistants was double-entered into an *SPSS* database and checked for entry error. After correction, both the total score and each variable from the VSG were analyzed for inter-rater reliability using percent of absolute agreement.

**Predictive Validity Analyses.** Overall predictive accuracy of the total JSORRAT-II score was assessed in two ways. First, a one-tailed, independent-samples t-test was employed to determine if there was a significant difference in the total scores between recidivists and nonrecidivists. Second, the area under the receiver operator curve (ROC) statistic was utilized to determine the predictive accuracy of the JSORRAT-II. This is the most frequently used analysis in the risk assessment literature to assess predictive accuracy for a number of reasons. Because the ROC statistic assesses the accuracy across all possible cut-scores, it is, thus, the most appropriate statistic for assessing the overall accuracy (Quinsey, Harris, Rice, & Cormier, 1998). Also, unlike correlation coefficients, the ROC statistic is independent of base rates, making it comparable across samples and studies (Quinsey et al., 1998).

The receiver operator curve is generated by plotting the false-alarm rate (1 minus specificity) on the x-axis and the hit rate (sensitivity) on the y-axis for all possible cut scores of the risk assessment device (Quinsey et al., 1998). The area under the resultant curve ranges from 0.0 to 1.0 and reflects the overall accuracy of the scores in discriminating recidivists from non-recidivists. Values of 1.0 indicate perfect positive prediction, whereas values of 0.50 indicate chance-level prediction. Values significantly greater than 0.50 denote significant improvement over chance prediction in the positive direction.

The ROC statistic was generated for the entire sample, as well as several sub-samples to assess the potential impact on predictive accuracy of several theoretically relevant variables, including time at risk, severity of offenses, and extrafamilial offending, .

***Analysis of Missing Data.*** Missing data has the potential to deflate the predictive validity of tools such as the JSORRAT-II. This is the case because any missing data for any item is scored as a zero for that item, per the JSORRAT-II scoring rules. Furthermore, this problem is more likely to have an impact on recidivists, as recidivists are assumed to have higher scores on more items than non-recidivists. Thus, any missing data would likely disproportionately impact recidivists.

Missing data's impact on the predictive accuracy of the JSORRAT-II was analyzed in two ways. First, all JSORRAT-II items were scored according to the rules in the JSORRAT-II scoring manual. If the JSO had any missing data points for that item, the item was converted to a missing data cell. The number of these missing data cells was summed and ROC values were calculated for those JSOs who had complete data, missed one item or less, missed two items or less, and so on.

Second, the potential impact of missing data impact on predictive validity was analyzed by determining the percentage of missing data points across all variables, regardless of the JSORRAT-II item relevance. This strategy was employed to circumvent the possibility that research assistants attended more carefully to item-relevant material. For each JSO the total number of data points expected to contain data was calculated. From that number the percentage of missing data points was calculated. ROC statistics were calculated for several percentage levels: 2.5% or more, 5% or more, 7.5% or more, 10% or more, and so on.

***Item-Level Analyses.*** Each of the 12 items on the JSORRAT-II was cross-tabulated with juvenile sexual recidivism status to explore for differential performance at the item level in predicting juvenile sexual recidivism. Chi-square analysis were performed to determine significant bivariate relations between individual variables and recidivism status ( $p < .05$ )

***Confirmatory Factor Analysis.*** The LISREL 8.50 (Du Toit & Du Toit, 2001) statistical program was used to test the oblique, four-factor structure found by Epperson and colleagues' (2006). Item 1 (number of adjudications for sexual offenses), Item 2 (number of victims in charged sexual offenses), and Item 3 (length of sexual offending history) were hypothesized to load on factor number one. Item 4 (commission of a charged sexual offense while under supervision), item 10 (placement in special education), Item 11 (number of educational periods with discipline problems), and Item 12 (number of adjudications for non-sexual offenses) were hypothesized to load on factor number two. Item 7 (prior sexual offender treatment status), Item 8 (number of officially documented "hands-on" sexual abuse incidents), and Item 9 (number of officially documented physical abuse incidents) were hypothesized to load on factor number three. Lastly, Items 5 (commission of a charged felony-level sexual offense in a public place) and Item 6 (use of deception or grooming in a

charged sexual offense) were hypothesized to load on factor number four. Several indices for determining the overall model fit were used. These included chi-square, chi-square divided by degrees of freedom, the goodness of fit statistic, the adjusted goodness of fit statistic, critical N, the comparative fit index, the root-mean-square error of approximation, and the standardized root-mean-square residual.

## CHAPTER 4. RESULTS

### *Reliability Analyses*

All five research assistants coded the same 16 cases over the course of the research project. After any data entry errors were resolved, scores for each JSORRAT-II item and the total score were calculated. The median and modal total scores for each individual case ranged from a score of 0 to 11, with the mean total scores ranging from 0 to 11.2. The overall mean score across all reliability cases was 4.26 ( $s = 3.47$ ).

Singular inter-class correlations (ICC) for absolute agreement using a two-way mixed effect model were calculated for the total score and each individual item on the JSORRAT-II, as was coefficient alpha. The singular ICC for absolute agreement counts baseline differences between raters as error, so it is a very conservative measure and appropriate as an index of reliability for a risk assessment tool where one is interested in absolute and not just relative agreement. Because of the way it is calculated, this index can also be viewed as a coefficient of generalizability reflecting the proportion of total variance that is due to true differences between the cases. Coefficient alpha, a more traditional index of reliability, is based on relative agreement, and it can be viewed as the average inter-rater correlation. It also reflects the increase in reliability that would result in each risk assessment being based on the average score from all coders rather than just the score from one coder.

The singular ICC for absolute agreement for JSORRAT-II total scores in this study was .96 (95% CI from .92 to .98) and coefficient alpha was .99. As expected, this reliability coefficient is quite high. Very high reliability was expected because each research assistant received extensive didactic and experiential training at the beginning of the project, and they received additional corrective feedback during the course of the project. More specifically,

all research assistants received several hours of didactic training, coded practice cases independently, and then discussed each case as a group, facilitated by the author. This process was followed for several weeks until cases were coded in a nearly identical fashion by all coders. In addition, all research assistants met with the lead researcher approximately every two weeks to discuss scoring discrepancies on the previous reliability cases and any additional scoring questions they had. These meetings were intended to minimize coder drift and serve as a reminder about key scoring issues.

Because of the intensity and duration of training for the coders, this coefficient of reliability cannot be viewed as representative of “real-world” scoring based on a typical one-day training workshop. However, as noted earlier in this manuscript, the JSORRAT-II is sufficiently easy to score and who state evaluators who performed assessments in Utah also achieved a very high degree of reliability following a one-day workshop. In that study of seven evaluators who scored the same 17 cases, the singular ICC for absolute agreement was .91 (Epperson, personal communication, September 2006).

The individual item ICCs, 95% confidence intervals, and alphas are presented in Table 3. Eight of the 12 items had ICCs greater than .80 and no item had an alpha below .85. The items that were more difficult to score were Item 11 (History of Education Discipline), Item 5 (Sex Offense in a Public Place), Item 8 (Frequency of Hands-On Sexual Abuse), and Item 9 (Frequency of Physical Abuse), however, even these items yielded adequate indices of reliability.



Table 3. Inter-Class Correlations

Item	ICC	95% Confidence	
		Interval	Alpha
Item 1: Number Sexual Offense Adjudications	1.00	1.00 to 1.00	1.00
Item 2: Number of Victims	1.00	1.00 to 1.00	1.00
Item 3: Length of Sexual Offending	0.99	.98 to 1.00	1.00
Item 4: Sex Offense Under Supervision	0.87	.76 to .99	0.97
Item 5: Felony Sex Offense In a Public Place	0.66	.46 to .83	0.91
Item 6: Use Deception or Grooming	0.81	.67 to .92	0.96
Item 7: Prior Sexual Offender Treatment Status	0.85	.72 to .93	0.97
Item 8: Frequency of Hands-On Sexual Abuse	0.65	.44 to .83	0.90
Item 9: Frequency of Physical Abuse	0.65	.44 to .83	0.90
Item 10: History of Special Education	0.81	.67 to .92	0.96
Item 11: History of Education Discipline	0.50	.28 to .74	0.85
Item 12: Number of Prior Non-Sexual Adjudications	0.95	.91 to .98	0.99
JSORRAT-II Total Score	0.96	.92 to .98	0.99

### *Predictive Validity Analyses*

After double entry error was resolved, scores were generated for each individual JSORRAT-II item and the total score. Total scores ranged from 0 to 16 in the full sample, with a mean score of 3.56 ( $s = 3.26$ ). Scores were significantly skewed in the positive direction. The frequency distribution is presented in Figure 2, and additional descriptive statistics are found in Table 4.

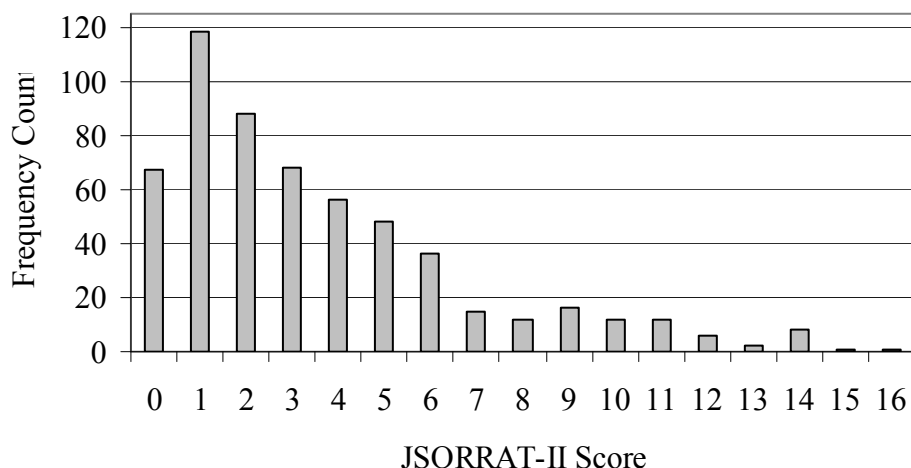


Figure 2. Frequency Distribution of JSORRAT-II Scores.

Table 4. Descriptive Statistics of the Total Score for the Sample

	Full Sample	Non-Recidivists	Recidivists
Minimum	0	0	0
Maximum	16	15	16
Mean	3.56	3.37	4.91
Median	3	2	4
Standard Deviation	3.26	3.17	3.59
Skewness	1.31	1.37	1.02

**Overall Predictive Validity.** Overall predictive accuracy of the total JSORRAT-II score was assessed in two ways. First, a one-tailed, independent-samples t-test was employed to determine if there was a significant difference between the total scores of recidivists and nonrecidivists. The difference between mean scores for non-recidivist (3.37) and recidivists (4.91) was significant,  $t(564) = 3.75, p < .05$ . Cohen's  $d$  for the difference was .46, which is a moderately-small effect (Cohen, 1988).

Calculating areas under the Receiver Operator Characteristics (ROC) curve is a second, and more common in the risk assessment literature, way to assess predictive

accuracy. Total scores from all 566 JSOs to predict juvenile sexual recidivism yielded an ROC value of .64 (95% CI from .58 to .71). Though this value represented a significant improvement over chance-level prediction and is roughly equivalent to a Cohen's *d* of .50 (Rice & Harris, 2005), it also represented a reduced level of predictive accuracy compared to the ROC value of .89 found in the development sample.

***Exploration of Potential Impact on Accuracy of Time at Risk, Severity of Index Offense, and Exclusively Intrafamilial Offending.*** Because time at risk had the potential to influence the predictive accuracy of the JSORRAT-II, the ROC statistic was recalculated with JSOs over age 17-years-old ( $n = 72$ ) excluded. The resulting ROC value from the remaining 494 JSOs did not result in an improvement over the previous estimate (.64, 95% CI from .57 to .71). The influence of time at risk was again assessed recalculating the ROC statistic with JSOs age 16 or older excluded, yielding a total of 389 JSOs. Again, the resulting ROC value (.64, 95% CI from .57 to .71) did not represent an improvement in prediction over the initial estimate using all JSOs in the sample.

“Hands-off” sex offenses were excluded during the development and validation of some adult sexual offender risk assessment tools, so differential accuracy for the JSORRAT-II based on severity of the index sexual offense was explored. Severity of the index sexual offense was defined in terms of the level of the charge, misdemeanor or felony. Three ROC values were calculated: (1) one for JSOs whose only sexual offenses were exclusively misdemeanors, (2) one for those whose only sexual offenses were exclusively felonies, and (3) one for those who had at least one felony. These ROC values are reported in Table 8. All three ROC values were between .63 and .65, indicating that charge-level of the index sexual offenses did not affect the predictive validity of the JSORRAT-II.

Epperson et al. (1998) excluded purely intrafamilial sexual offenders from the development sample for the MnSOST-R because preliminary data indicated exclusively intrafamilial sexual offenders were quite different than other offenders. Consequently, it made some sense to assess differential accuracy for these two groups (JSOs who had offended exclusively against siblings and JSOs who had offended against at least one none sibling. The area under the ROC curve for those with exclusively sibling victims (.58) was not statistically significant and somewhat lower compared to those with at least on non-sibling victim (.66)

Table 5. Effects of Offense-Level Characteristics, Type of Victim, and Index Sexual Offense Treatment on Predictive Accuracy

Additional Analysis of JSORRAT-II Performance				
Group	n (total)	n (recid)	ROC	Significant?
Entire Sample	566	70	0.64	Yes
JSOs under age 17	494	69	0.64	Yes
JSOs under age 16	389	64	0.64	Yes
Misdemeanor Only	138	15	0.63	Yes
Felony Only	377	48	0.65	Yes
Any Felony	427	55	0.64	Yes
Exclusively Victimized Sibling	106	14	0.58	No
At Least One Non-Sibling Victim	460	56	0.66	Yes

#### ***Exploration of the Potential Impact of Missing Data on Predictive Accuracy.***

According to the JSORRAT-II scoring manual (Epperson et al., 2006), missing data is to be scored a zero on all items. However, missing data, when scored as a zero, has the potential to deflate the predictive validity of tools like as the JSORRAT-II, and this problem is likely to have more of an impact on recidivists. For example, if the JSORRAT-II is a valid

assessment of risk, non-recidivists should score high on few items, whereas, recidivists should score highly on many items. Thus, any missing data would likely disproportionately impact recidivists, deflating their scores. Furthermore, all recidivists' case files were cleaned to remove information from the first mention of their recidivating offense. Because those offenders may have been in the juvenile justice system at the time of their recidivating offense, valuable information in their case files that was relevant to the scoring of some items may have been removed as a consequence of this cleaning process. Again, this cleaning and removal process occurred only for recidivating JSOs. Consequently, the predictive accuracy of the JSORRAT-II was analyzed to determine the effect of missing data on that accuracy.

Of the 566 JSOs in the sample, only 400 (70.67%) had data complete enough to score all 12 items of the JSORRAT-II. Of these 50 (14.3%) were recidivists, slightly more than the proportion of recidivists in the total sample (12.4%). A total of 522 (92.23%) of JSOs had complete enough data to score 11 of the 12 items, and only 16 (2.8%) JSOs did not have sufficient data to score three or more items (See Table 6).

Two items appeared to be missing most frequently: Item 6 (Use of Deception or Grooming) and Item 5 (Felony Sex Offense in a Public Place). A total of 110 (19.4%) of JSOs did not have sufficient information to code Item 6, and 60 (10.6%) of JSOs did not have sufficient information to code Item 5. No other item was missing in more than 3% of the cases.

To some extent, the larger number of cases missing the deception or grooming item makes sense. Of all 12 items, this item is the least behaviorally anchored and requires more subjective interpretation of the events surrounding offenses. If sufficient detail about the events leading up to the offense is not available, this item cannot be scored. Similarly, Item 5

requires some detail about the events and locations of the sexual offense, and without detailed investigation or predisposition reports, this item may not be documented well enough to be scored.

The potential impact of missing data on predictive accuracy was assessed by calculating ROC statistics for sub-samples of JSOs that contained increasingly more missing data. This approach determined if there was a pattern in which predictive validity would drop as JSOs were added that had progressively more missing data. As summarized in Table 6, there was very little fluctuation in ROC values across the different levels of missing items. This seems to indicate that adding JSOs with more missing data, and potentially deflated scores, to the sample did not appreciably reduce the ROC values. However, because the vast majority of JSOs (92.23%) were added in the second step, this is not surprising.

Table 6. Results of Missing Data Analysis Using Items Missing

Cumulative Forward Approach								
Number of Items Missed	Number of Non-Recidivists	Number of Recidivists	Number of JSOs	Cumulative Percentage	Percent Recidivists	ROC	95% CI Lower Bound	95% CI Upper Bound
0	350	50	400	70.67	12.50	0.64	0.56	0.72
≤ 1	107	15	522	92.23	12.30	0.63	0.56	0.69
≤ 2	27	1	550	97.17	3.57	0.63	0.57	0.70
≤ 3	2	3	555	98.06	60.00	0.64	0.57	0.70
≤ 4	5	1	561	99.12	16.67	0.64	0.57	0.71
≤ 5	1	0	562	99.29	0.00	0.64	0.58	0.71
≤ 6	2	0	564	99.65	0.00	0.64	0.57	0.71
≤ 7	1	0	565	99.82	0.00	0.64	0.58	0.71
≤ 8	1	0	566	100.00	0.00	0.64	0.58	0.71

Though it is possible that missing data had little or no impact on the predictive validity of the JSORRAT-II, one additional potential explanation for the lack of impact needed to be explored. Specifically, ROC values may have remained stable in the previous analyses due to heightened research assistant attentiveness to the information directly

relevant to the JSORRAT-II items. All research assistants were aware that the study was being conducted as a validation attempt, and thus, they may have intentionally or unintentionally looked harder for information directly relevant to scoring the JSORRAT-II items. As mentioned above, however, several other research items were coded for during the present study. Given that these items are not found on the JSORRAT-II, an indirect way of testing the effect of missing data was to utilize the percent of missing data cells that should contain data relative to each individual JSO.

For each JSO, the total number of data cells that should have contained data, if the file was complete, was calculated. Though not unexpected, very few JSOs had data in all possible cells ( $n = 20$ , 3.53%). Roughly 61% of cases were missing 5% or less. Approximately 73% of JSOs were missing 10% or less, and 92% of JSOs were missing 20% or less. Recidivating JSOs appeared to comprise slightly higher proportions than the base rate for cases missing the most data (See Table 7).

The percent of cells containing data was calculated for each JSO individually and broken into 10 groups based on the percent of cells missing (e.g., 2.5% of cells or more missing, 5% of cells or more missing, etc.). This produced a distribution of JSOs who had varying degrees of file completeness. The full distribution is in Table 7.

Table 7. Results of Missing Data Analysis Using Percent of Cells Missing

Percent of Missing Cells	Number of Non-Recidivists	Number of Recidivists	Number of JSOs	Percent of Sample	Percent Recidivists	ROC	95% CI Lower Bound	95% CI Upper Bound
≥ 0	496	70	566	100.00	12.37	0.64	0.58	0.71
≥ 2.5	328	40	368	65.02	10.87	0.65	0.57	0.73
≥ 5	196	26	222	39.22	11.71	0.66	0.55	0.76
≥ 7.5	174	17	191	33.75	8.90	0.62	0.49	0.75
≥ 10	139	13	152	26.86	8.55	0.63	0.48	0.77
≥ 15	92	10	102	18.02	9.80	0.61	0.45	0.77
≥ 20	41	5	46	8.13	10.87			
≥ 25	25	4	29	5.12	13.79			
≥ 30	20	3	23	4.06	13.04			
≥ 35	17	3	20	3.53	15.00			

ROC statistics were calculated for each cumulative level of this distribution (e.g., 5% of cells or more missing) in which there were at least 10 recidivists. ROC statistics based on cells with 5 or fewer recidivists would not be reliable. These ROC values are presented in Table 7. As one can see, the ROC values range from .61 to .64, and there was a trend for small, but obviously insignificant, declines in accuracy with additional amounts of missing data. The ROC values for samples of JSOs having 7.5% or more cells with missing data failed to remain significant, but this is primarily driven by the decline in sample size.

As mentioned above, missing data, when scored as a zero, has the potential to deflate the predictive validity of tools such as the JSORRAT-II, and this problem is likely to have more of an impact on recidivists. However, the results of the preceding analyses seem to suggest that the predictive validity of the JSORRAT-II is not appreciably affected by smaller amounts of missing data.

### *Item-Level Analyses*

All JSORRAT-II items were cross-tabulated with juvenile sexual recidivism status, which was defined as any new charge for a sexual offense prior to age 18, to assess for



differential contributions to the predictive accuracy of the JSORRAT-II in the validation sample. Additionally, chi-square analyses assessed the statistical significance of the association between each item and sexual recidivism ( $p < .05$ ). The results of these analyses are presented in Table 8.

Table 8. Bivariate Relations Between Juvenile Sexual Recidivism and Each Individual Item for the Entire Sample

Variable and Levels (Score)	Total N	Entire Sample		$\chi^2$	df	<i>p</i>
		Sex Recid. N	Sex Recid. %			
Item 1: Number Sexual Offense Adjudications				3.42	3	.331
One (0)	408	45	11.0%			
Two (1)	104	15	14.4%			
Three (2)	28	6	21.4%			
Four or More (3)	26	4	15.4%			
Item 2: Number of Victims				9.46	2	.009*
One (0)	391	38	9.7%			
Two (1)	96	20	20.8%			
Three (2)	79	12	15.2%			
Item 3: Length of Sexual Offending				17.54	3	.001*
Only One Charge (0)	481	52	10.8%			
1 Day to 5.99 Months (1)	29	9	31.0%			
6.00 Months to 11.99 Months (2)	10	4	40.0%			
12.00 Months or More (3)	46	5	10.9%			
Item 4: Sex Offense Under Supervision				0.78	1	.376
No (0)	413	48	11.6%			
Yes (1)	153	22	14.4%			
Item 5: Sex Offense In a Public Place				1.11	1	.293
No (0)	425	49	11.5%			
Yes (1)	141	21	14.9%			
Item 6: Use Deception or Grooming				1.77	1	.184
No (0)	454	52	11.5%			
Yes (1)	112	18	16.1%			
Item 7: Prior Sexual Offender Treatment Status				1.16	2	.559
Never Entered (0)	506	60	11.9%			
Completed All (1)	41	7	17.1%			
Did Not Complete At Least One (2)	19	3	15.8%			

Table 8. (Continued)						
Item 8: Frequency of Hands-On Sexual Abuse				31.63	2	<.001*
None (0)	472	42	8.9%			
One to Four (1)	75	22	29.3%			
Five or More (2)	19	6	31.6%			
Item 9: Frequency of Physical Abuse				6.66	2	.036*
None (0)	472	51	10.8%			
One to Four (1)	76	16	21.1%			
Five or More (2)	18	3	16.7%			
Item 10: History of Special Education				6.57	1	.010*
No (0)	361	35	9.7%			
Yes (1)	205	35	17.1%			
Item 11: History of Education Discipline				4.62	2	.099
None or One (0)	437	48	11.0%			
Two (1)	93	14	15.1%			
Three (2)	36	8	22.2%			
Item 12: Number of Prior Non-Sexual Adjudications				0.32	1	.570
None or One (0)	309	36	11.7%			
Two or More (1)	257	34	13.2%			

\* denotes  $\chi^2$  is significant at  $p < .05$

For the entire sample, only five items emerged as significant predictors of juvenile sexual recidivism. These included Item 2 (Number of Victims), Item 3 (Length of Sexual Offending), Item 8 (Frequency of Hands-On Sexual Abuse as the Victim), Item 9 (Frequency of Physical Abuse, and Item 10 (History of Special Education). Of the remaining non-significant predictors, several trended in the hypothesized direction. These included Item 4 (Sexual Offense Under Court-Ordered Supervision), Item 5 (Felony Sexual Offense in a Public Place), Item 6 (Use of Deception, Grooming, or Misrepresentation), Item 11 (History of Education Discipline), and Item 12 (Number of Non-Sexual Adjudications). Items 1 and 7 did not trend in the hypothesized direction; however, in both cases, JSOs scoring above zero on those items had rates of recidivism above the base rate.

To rule out the possibility that the non-significant values were, in part, due to the inclusion of 17-year-olds ( $n = 72$ ) in the sample who had less than one year at risk, the bivariate analyses were re-run excluding these older JSOs. Unfortunately, no additional items emerged as significant predictors, and Item 9 (History of Physical Abuse) actually became non-significant (See Table 9). The same procedure was run excluding 16-year-olds or older ( $n = 177$ ). Again, no additional JSORRAT-II items emerged as significant, and Items 2, 9 and 10 became non-significant (See Table 10).

Table 9. Bivariate Relations Between Juvenile Sexual Recidivism and Each Individual Item for the JSOs Under Age 17

Variable and Levels (Score)	Under Age 17			$\chi^2$	df	<i>p</i>
	Total N	Sex Recid. N	Sex Recid. %			
Item 1: Number Sexual Offense Adjudications				2.34	3	.506
One (0)	358	45	12.6%			
Two (1)	90	15	16.7%			
Three (2)	25	5	20.0%			
Four or More (3)	21	4	19.0%			
Item 2: Number of Victims				8.43	2	.015*
One (0)	340	38	11.2%			
Two (1)	87	20	23.0%			
Three (2)	67	11	16.4%			
Item 3: Length of Sexual Offending				21.37	3	<.001*
Only One Charge (0)	422	51	12.1%			
1 Day to 5.99 Months (1)	26	9	34.6%			
6.00 Months to 11.99 Months (2)	7	4	57.1%			
12.00 Months or More (3)	39	5	12.8%			
Item 4: Sex Offense Under Supervision				1.19	1	.276
No (0)	363	47	12.9%			
Yes (1)	131	22	16.8%			
Item 5: Sex Offense In a Public Place				0.5	1	.478
No (0)	361	48	13.3%			
Yes (1)	133	21	15.8%			

Table 9. (continued)						
Item 6: Use Deception or Grooming				1.57	1	.210
No (0)	393	51	13.0%			
Yes (1)	101	18	17.8%			
Item 7: Prior Sexual Offender Treatment Status				0.66	2	.718
Never Entered (0)	443	60	13.5%			
Completed All (1)	33	6	18.2%			
Did Not Complete At Least One (2)	18	3	16.7%			
Item 8: Frequency of Hands-On Sexual Abuse				26.33	2	<.001*
None (0)	403	41	10.2%			
One to Four (1)	73	22	30.1%			
Five or More (2)	18	6	33.3%			
Item 9: Frequency of Physical Abuse				5.6	2	.061
None (0)	407	50	12.3%			
One to Four (1)	71	16	22.5%			
Five or More (2)	16	3	18.8%			
Item 10: History of Special Education				5.65	1	.017*
No (0)	307	34	11.1%			
Yes (1)	187	35	18.7%			
Item 11: History of Education Discipline				4.8	2	.091
None or One (0)	378	47	12.4%			
Two (1)	85	14	16.5%			
Three (2)	31	8	25.8%			
Item 12: Number of Prior Non-Sexual Adjudications				0.73	1	.395
None or One (0)	281	36	12.8%			
Two or More (1)	213	33	15.5%			

\* denotes  $\chi^2$  is significant at  $p < .05$

Table 10. Bivariate Relations Between Juvenile Sexual Recidivism and Each Individual Item for the JSOs Under Age 16

Variable and Levels (Score)	Under Age 16			$X^2$	df	<i>p</i>
	Total N	Sex Recid. N	Sex Recid. %			
Item 1: Number Sexual Offense Adjudications				1.53	3	.675
One (0)	282	43	15.2%			
Two (1)	73	14	19.2%			
Three (2)	21	5	23.8%			
Four or More (3)	13	2	15.4%			
Item 2: Number of Victims				4.83	2	.089
One (0)	267	37	13.9%			
Two (1)	74	18	24.3%			
Three (2)	48	9	18.8%			
Item 3: Length of Sexual Offending				22.25	3	<.001*
Only One Charge (0)	338	49	14.5%			
1 Day to 5.99 Months (1)	22	8	36.4%			
6.00 Months to 11.99 Months (2)	5	4	80.0%			
12.00 Months or More (3)	24	3	12.5%			
Item 4: Sex Offense Under Supervision				2.64	1	.104
No (0)	298	44	14.8%			
Yes (1)	91	20	22.0%			
Item 5: Sex Offense In a Public Place				0.71	1	.401
No (0)	284	44	15.5%			
Yes (1)	105	20	19.0%			
Item 6: Use Deception or Grooming				2.1	1	.147
No (0)	306	46	15.0%			
Yes (1)	83	18	21.7%			
Item 7: Prior Sexual Offender Treatment Status				1.99	2	.370
Never Entered (0)	354	56	15.8%			
Completed All (1)	22	6	27.3%			
Did Not Complete At Least One (2)	13	2	15.4%			
Item 8: Frequency of Hands-On Sexual Abuse				26.42	2	<.001*
None (0)	314	37	11.8%			
One to Four (1)	61	21	34.4%			
Five or More (2)	14	6	42.9%			

Table 10. (continued)						
Item 9: Frequency of Physical Abuse				3.63	2	.163
None (0)	318	47	14.8%			
One to Four (1)	57	14	24.6%			
Five or More (2)	14	3	21.4%			
Item 10: History of Special Education				3.7	1	.055
No (0)	242	33	13.6%			
Yes (1)	147	31	21.1%			
Item 11: History of Education Discipline				4.28	2	.118
None or One (0)	299	45	15.1%			
Two (1)	68	12	17.6%			
Three (2)	22	7	31.8%			
Item 12: Number of Prior Non-Sexual Adjudications				1.14	1	.285
None or One (0)	230	34	14.8%			
Two or More (1)	159	30	18.9%			

\* denotes  $\chi^2$  is significant at  $p < .05$

### ***Confirmatory Factor Analysis***

The orthogonal, four-factor solution found during the development of the JSORRAT-II (Epperson et al., 2006) was tested using confirmatory factor analysis. Items 1, 2, and 3 were hypothesized to load on factor one, Items 4, 10, 11, and 12 on factor two, Items 7, 8, and 9 on factor three, and Items 5 and 6 on factor 4.

The results of the CFA analysis indicated that the four-factor solution does not appear fit to the data sufficiently. The chi-square value was significant,  $\chi^2(48) = 248.98, p < .05$ ; however, chi-square values are influenced by sample size, and thus may not be the best indication of a good-fitting model (Bollen, 1989). The results of the other indices of model-fit were as follows:  $\chi^2/df = 5.12$ , critical N (CN) = 168.67, goodness-of-fit index (GFI) = .93, adjusted GFI (AGFI) = .89, comparative fit index (CFI) = .87, root-mean-square-error of

approximation (RMSEA) = .086, standardized root-mean-square residual (SRMR) = .075, and non-normed fit index (NNFI) = .76.

Bollen (1989) suggested that an acceptable fit to a model is indicated when the chi-square value divided by degrees of freedom fall below 2.0 and when AGFI is above .90.

Hoelter (1983) reported that a CN value of 200 or higher is an indication of a good model fit.

Hu and Bentler (1999) reported several additional criteria for other goodness of fit indices.

These include a nonsignificant chi-square,  $CFI \geq .95$ ,  $RMSEA \leq .06$ ,  $SRMR \leq .08$ , and  $NNFI \geq .95$ .

According to these criteria, the fit indices for this model suggest that the orthogonal, four-factor solution does not adequately account for a sufficient amount of variance in JSORRAT-II scores. Factor loadings and t-values are found in Table 11. Of note, all items loaded significantly on their assigned factors (i.e., t-values over 2).

Table 11. Confirmatory Factor Analysis Factor Loadings and t-Values

	Persistence or Drive	Antisocial Orientation	Abuse or Trauma	Impulse Control
	Loading (t-Value)	Loading (t-Value)	Loading (t-Value)	Loading (t-Value)
Item 1: Number Sexual Offense Adjudications	0.68 (16.00)			
Item 2: Number of Victims	0.71 (16.75)			
Item 3: Length of Sexual Offending	0.76 (18.12)			
Item 4: Sex Offense Under Supervision		0.72 (14.36)		
Item 5: Sex Offense In a Public Place				0.26 (4.15)
Item 6: Use Deception or Grooming				0.48 (5.01)
Item 7: Prior Sexual Offender Treatment Status			0.76 (11.24)	
Item 8: Frequency of Hands- On Sexual Abuse			0.38 (7.47)	
Item 9: Frequency of Physical Abuse			0.20 (3.99)	
Item 10: History of Special Education		0.42 (8.64)		
Item 11: History of Education Discipline		0.53 (10.90)		
Item 12: Number of Prior Non-Sex Adjudications		0.54 (11.17)		



There are two ways to improve the fit of the model. The first is to allow the factors to correlate with each other (i.e., specify an oblique rotation), and the second is to allow residual error to correlate. The modification indices from the above analysis suggested that releasing the error paths between several variables would improve model fit. They also suggest the presence of important relations between the variables. Paired indicators with modification indices over 20 include: Items 1 and 2 (31.95), Items 3 and 7 (26.84), and Items 8 and 9 (25.14). The significant residual correlations between these items is understandable. The number of sexual offense adjudications (Item 1) and the number of victims (Item 2) should be highly correlated, as the juvenile justice system in Utah often levies one sexual offense charge per victim. The length of sexual offending and prior sexual offender specific treatment status should also be highly correlated, as all JSOs scoring highly on the treatment item were likely to have charges for sexual offenses occurring prior to the index sexual offense. Length of sexual offending is calculated from the difference between the dates of the first sexual offense charge and the charge date for the index sexual offense. Also, the correlation between frequency of hands-on sexual abuse and frequency of physical abuse is likely to be correlated highly as they are both abuse-related.

The error paths between the three pairs of indicators were freed and a CFA specifying an oblique rotation was conducted. The chi-square value was significant,  $\chi^2(48) = 181.3, p < .05$ . The results of the other indices of model-fit were as follows:  $\chi^2/df = 4.03$ , CN = 216.00, GFI = .95, AGFI = .91, CFI = .88, RMSEA = .073, SRMR = .070, and NNFI = .82. The model reflected an improved fit on all indices using the criteria of Bollen (1989), Hoelter (1983), and Hu and Bentler (1999). Four indices suggest an adequate fit to the data (GFI, AGFI, CN, and SRMR), while five do not ( $\chi^2$ ,  $\chi^2/df$ , CFI, RMSEA, and NNFI). Table 12

reports the factor loadings and t-values for all items. Of note, all items loaded significantly on the assigned factors (t-values over 2).

Table 12. Confirmatory Factor Analysis Factor Loadings and t-Values for Model Freeing Three Correlated Residuals

	Persistence or Drive	Antisocial Orientation	Abuse or Trauma	Impulse Control
	Loading (t-Value)	Loading (t-Value)	Loading (t-Value)	Loading (t-Value)
Item 1: Number Sexual Offense Adjudications	0.57 (11.08)			
Item 2: Number of Victims	0.61 (11.92)			
Item 3: Length of Sexual Offending	0.84 (14.87)			
Item 4: Sex Offense Under Supervision		0.72 (14.39)		
Item 5: Sex Offense In a Public Place				0.27 (4.23)
Item 6: Use Deception or Grooming				0.46 (4.98)
Item 7: Prior Sexual Offender Treatment Status			0.84 (9.00)	
Item 8: Frequency of Hands- On Sexual Abuse			0.35 (6.31)	
Item 9: Frequency of Physical Abuse			0.13 (2.66)	
Item 10: History of Special Education		0.42 (8.49)		
Item 11: History of Education Discipline		0.53 (10.93)		
Item 12: Number of Prior Non-Sexual Adjudications		0.55 (11.29)		

One final CFA was conducted to test a model that allowed both correlated factors and correlated error for all paired indicators with modification indices over 10. These included: Items 1 and 2 (31.95), Items 3 and 7 (26.84), Items 8 and 9 (25.14), Items 8 and 10 (16.55), Items 7 and 9 (15.00), Items 1 and 3 (14.61), Items 4 and 11 (13.37) Items 7 and 12 (13.31), Items 4 and 12 (12.77), and Items 5 and 10 (10.52). As mentioned above, the first three pairs are logically and theoretically justifiable. Of the remaining pairs, only one seems logically justifiable. The pairing of Items 1 and 3 should correlate highly as JSOs with larger numbers of sexual offense adjudications are likely to have offended over longer periods of time. The remaining pairs escape simple explanation for their higher covariance.

For this model, the chi-square value was significant,  $\chi^2(48) = 140.90, p < .05$ . The results of the other indices of model-fit were as follows:  $\chi^2/df = 3.61$ , GFI = .96, adjusted GFI = .92, CN = 249.34, CFI = .91, RMSEA = .068, SRMR = .060, and NNFI = .85. The model reflected an improved fit over both the original model and the model that freed only three residuals to correlate. Four indices suggest an adequate fit to the data (GFI, AGFI, CN, and SRMR), while five do not ( $\chi^2$ ,  $\chi^2/df$ , CFI, RMSEA, and NNFI). Table 13 reports the factor loadings and t-values for all items. Of note, all items loaded significantly on the assigned factors.

Table 13. Confirmatory Factor Analysis Factor Loadings and t-Values for Model Freeing All Correlated Residuals

	Persistence or Drive Loading (t-Value)	Antisocial Orientation Loading (t-Value)	Abuse or Trauma Loading (t-Value)	Impulse Control Loading (t-Value)
Item 1: Number Sexual Offense Adjudications	0.61 (8.63)			
Item 2: Number of Victims	0.62 (11.64)			
Item 3: Length of Sexual Offending	0.84 (14.12)			
Item 4: Sex Offense Under Supervision		0.63 (9.31)		
Item 5: Sex Offense In a Public Place				0.26 (4.08)
Item 6: Use Deception or Grooming				0.45 (4.83)
Item 7: Prior Sexual Offender Treatment Status			0.78 (9.18)	
Item 8: Frequency of Hands- On Sexual Abuse			0.37 (6.65)	
Item 9: Frequency of Physical Abuse			0.33 (4.00)	
Item 10: History of Special Education		0.46 (8.76)		
Item 11: History of Education Discipline		0.58 (9.56)		
Item 12: Number of Prior Non-Sexual Adjudications		0.45 (7.66)		

When residuals were allowed to correlate, the results of the confirmatory factor analysis suggest that the original four-factor solution was a moderate fit to the data. To investigate the similarities and differences between the original structure from the development sample and the underlying structure of the items in this validation sample, an exploratory principle components analysis with Varimax rotation was performed. Scree analysis (see Figure 3) suggests a three- or four-component solution. Because the fourth component's eigenvalues was .99, the four-component solution was selected to directly compare the structures underlying the items in both the development and validation samples.

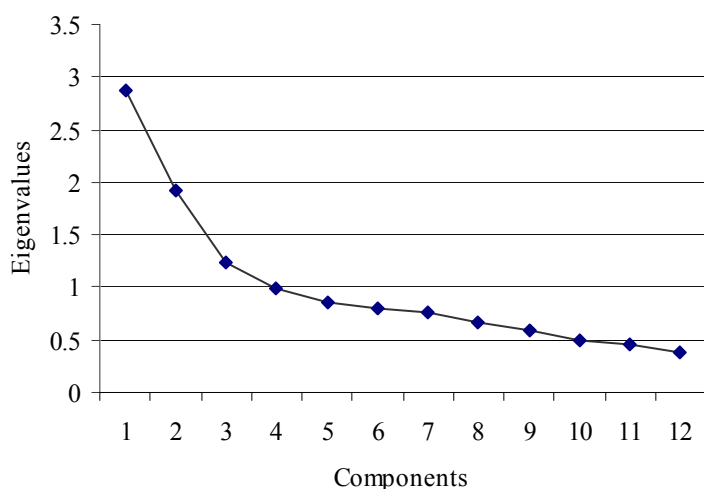


Figure 3. *Scree Plot for Exploratory Principle Components Analysis*

The four component solution's loadings for both the validation and development samples are presented in Table 14. A total of nine items loaded highest on the same components in both samples. These include Item 1 (Number of Sexual Offense Adjudications), 2 (Number of Victims), 3 (Length of Sexual Offending), 4 (Sexual Offense Under Supervision), 5 (Sex Offense in a Public Place), 8 (Frequency of Hands-On Sexual Abuse), 9 (Frequency of Physical Abuse), 11 (History of Education Discipline), and 12

(Number of Prior Non-Sexual Offense Adjudications). The three items that did not load highest on the same component included Item 6 (Use of Deception and Grooming), 7 (Prior Sexual Offender Treatment), and 10 (History of Special Education).

Table 14. Rotated Four-Component Structure for the JSORRAT-II Items for both Validation and Development Samples

	Validation Sample Components				Development Sample Components			
	1	2	3	4	1	2	3	4
Item 1: Number Sexual Offense Adjudications	<b>0.819</b>	-0.071	0.031	-0.067	<b>0.882</b>	0.035	0.044	0.036
Item 2: Number of Victims	<b>0.802</b>	0.048	-0.028	0.029	<b>0.793</b>	0.012	0.067	0.213
Item 3: Length of Sexual Offending	<b>0.782</b>	0.191	0.056	0.160	<b>0.858</b>	0.105	0.098	0.041
Item 4: Sex Offense Under Supervision	0.222	<b>0.698</b>	0.159	0.134	0.273	<b>0.686</b>	-0.087	-0.119
Item 5: Sex Offense In a Public Place	0.115	-0.015	-0.071	<b>0.812</b>	0.176	-0.019	0.003	<b>0.797</b>
Item 6: Use Deception or Grooming	0.349	<b>-0.420</b>	0.074	0.239	0.032	0.060	0.081	<b>0.610</b>
Item 7: Prior Sexual Offender Treatment Status	<b>0.505</b>	0.052	0.340	0.337	0.376	0.005	<b>0.473</b>	0.059
Item 8: Frequency of Hands-On Sexual Abuse	0.065	-0.037	<b>0.760</b>	0.240	0.106	0.033	<b>0.754</b>	0.123
Item 9: Frequency of Physical Abuse	0.030	0.164	<b>0.756</b>	-0.188	-0.055	0.214	<b>0.777</b>	-0.030
Item 10: History of Special Education	-0.008	0.385	0.313	<b>0.532</b>	0.071	<b>0.590</b>	0.243	0.290
Item 11: History of Education Discipline	0.065	<b>0.661</b>	0.096	0.164	-0.058	<b>0.705</b>	0.217	0.103
Item 12: Number of Prior Non-Sex Adjudications	-0.027	<b>0.781</b>	-0.040	-0.081	-0.043	<b>0.762</b>	0.007	-0.058

Note. Highest loadings are presented in bold.

In the development sample, two of these items exhibited some amount of cross-loading. Item 7 (Prior Sexual Offender Treatment), which loaded highest on the third component in the development sample, also loaded moderately on the first component. It loaded highest on the first component in the validation sample. Similarly, Item 7 appears to cross-load moderately in the validation sample on both the third and fourth component. Thus, the pattern of loading for this item is similar in both analyses.

Item 10 (History of Special Education) also exhibited a moderate amount of cross-loading in the development sample on components 2, 3, and 4, with the highest loading on component 2. A similar pattern emerged for Item 10 in the validation sample; however, the highest loading was on component 4.

Item 6 (Use of Deception and Grooming) is the only item that did not exhibit a similar pattern of loading across samples. In the development sample, it loaded solely on the fourth component, whereas it loaded negatively on the second component in the validation sample and both moderately and positively on the first component.

Despite the differential loadings of these three items, the possible interpretations of all components do not appear to change much, and in some cases (e.g., the fourth component) the interpretation is strengthened. The first component is defined by number of sexual offense adjudications, length of sexual offending history, number of victims, and prior sexual offending treatment. With the exception of prior sexual offending treatment, this factor is quite similar to the first factor reported during the development of the JSORRAT-II (Epperson et al., 2006) and seems to be tapping persistence of sexual offending behavior or drive to engage in sexual offending behaviors. The first three variables seem to fit this explanation well. Prior sexual offending treatment also fits this explanation because JSOs

with longer histories of offending are more likely to have treatment mandated. Only offenders who have received treatment in the past score a 1 or a 2 on this item. Additionally, all JSOs scoring 1 or 2 on this item “failed” their most recent treatment by having a new sexual offense following treatment, their index sexual offense.

The second component is defined by four items: commission of sexual offense while under court-ordered supervision, educational disciplines, number of non-sexual adjudications, and offenses using deception or grooming to access the victim. The deception item loaded negatively on this component. The pattern of items loading on this component suggests that the factor represents an antisocial orientation. Offending under supervision, having a greater number of education time periods with school disciplines, and having multiple non-sexual adjudications directly suggests a disregard for rules, authority, and rights for others. Also, the negative loading of the deception item tends to suggest antisocial orientation, when one recognizes that offenders scoring a 0 on this item had either consensual victims or were more likely to use force or threats to gain access to their victims. Approximately 57% of offenders scoring 0 on this item used force or threat to gain compliance during one or more of their sexual offense.

The third component, defined largely by the two abuse items and to a lesser extent by prior sexual offender treatment, seems to reflect a history of trauma and possibly specialized treatment needs. It is possible that victims of abuse may require treatments that focus not only on their offending behaviors, but also their own victimization issues. Because of their greater treatment needs, JSOs with a history of victimization are probably more likely to be referred to sex offender treatment and may be more difficult to treat successfully. Those JSOs that score 1 or 2 on the prior sexual offender treatment item had entered treatment prior



to their index sexual offenses, and all went on to “fail” by means of having a new sexual offense, their index offense. Consequently the treatments did not address the treatment needs of these individuals in a sufficient manner to divert them from future offending pathways.

Epperson and colleagues (2006) reported that the fourth component underlying the items in the development sample was “less evident,” largely because of the inclusion of the deception and grooming item. They hypothesized that the component probably reflected lack of judgment and poor impulse control. Two items defined this component for the validation sample: Item 5 (Sexual offense in a Public Place) and Item 10 (History of Education Discipline). These two items probably more strongly represent lack of judgment and/or poor impulse control. Offending in public increases the chances for detection by extrafamilial persons. Thus, JSOs who scored a 1 on this item seemed either to lack the judgment or foresight about this increased possibility of detection or they lacked impulse control to restrain their drive toward offending behaviors.

The history of special education variable also seems to fit with this interpretation. JSOs are placed into special education for a variety of reasons. Some placements are because of cognitive deficits that may be related to inability to adequately weigh rewards and costs of behavior. Other may be placed because of acting out behavior that may be directly tied to difficulties restrain impulses. Placement solely for a learning disability would not seem to capture the dimensions of poor judgment or impulse control in the same way as placements for mental disabilities, emotional disorders, or behavioral disorders. Approximately 51% of JSOs who offended in a public place also had a special education placement, and of these, only 15.8% were placed for a learning disability alone. The remaining 84% JSOs were placed for mental disabilities (e.g., mental retardation diagnosis), behavioral disorders, emotional

disorders, or some combination of all four types. Thus, it appears likely that the fourth component reflects poor judgment and/or impulse control.

## CHAPTER 5. DISCUSSION

### *Description of Sample*

Overall, the results from the 566 JSOs indicated a base rate of sexual recidivism (12.4%) that was quite similar to the rates found in many other studies. The weighted mean recidivism rate from the 30 JSO studies reported in Table 1 was 12.1%, and the juvenile sexual recidivism rate reported using development sample was 13.2%. Furthermore, this study's recidivism rate was quite similar to the adult sexual recidivism rate (13.7%) reported in the Hanson and Morton-Bourgon (2005) meta-analysis.

### *Reliability*

One of the most promising findings of this study was that the JSORRAT-II could be scored reliably. In fact, the total score ICC for absolute agreement was quite high (.96). However, there are several reasons why this reliability coefficient should be interpreted with some caution. First, unlike justice system professionals who would use this tool to make decisions *vis a vis* risk, the research assistants received a much higher level of training and oversight. All research assistants received extensive didactic and experiential training lasting several weeks. As part of this training, the research assistants coded several actual case files cases until they reached the criterion-level of scoring on several successive cases. Justice system professionals typically receive one day of training with limited to no practice on actual case files. Second, coder drift was assuaged by research meetings held approximately every two weeks. During these meetings, the lead researcher reviewed previous reliability cases discussing coding discrepancies and any questions that the assistants had. This level of oversight is not common in "real-world" settings. Third, whenever a research assistant had a question pertaining to scoring of a particular item or case, they utilized a scoring log book.

That log was checked by the lead researcher on an almost every day basis and questions were answered in the log and at the research meetings. Thus, all assistants were current on scoring issues, as they presented themselves. Again, this level of training and oversight is not common in “real-world” settings, and consequently, the high reliability coefficient found in this study may be representative only of research settings that have similar training and oversight. It is likely that the “real-world” reliability of the JSORRAT-II is closer to the ICC (.91) reported by Epperson (personal communication, September 2006), which is still very high. In that study, juvenile justice personnel received one day of training prior to scoring the same 17 cases.

Most individual items on the JSORRAT-II exhibited outstanding reliability. Even the weakest item produced acceptable reliability. Item 11 (History of Education Discipline) had the lowest ICC at .50 with an alpha of .85. This item required research assistants to sift through all documents in the case files looking for incidents of disciplined misconduct in school during three time periods: elementary, middle school or junior high, and high school. Scores on this item are based on the number of time periods that the JSO had received a disciplined misconduct. Seven cases exhibited at least one discrepant score. Of these, only one case had assistants scoring the case at all three scoring levels. The remaining discrepancies occurred in adjacent score categories.

Qualitative analysis of discrepancy trends and research assistant report suggests two reasons for the lower level of reliability on Item 11. First, research assistants reported some discrepancies that could possibly be due to whether or not the coder believed the JSO’s school system utilized a junior high school versus middle school approach. Junior high schools typically include grades seven through nine, whereas middle schools include grades

five through eight. This distinction may have posed some problem for coders if the official designation “junior high” or “middle school” was not explicitly stated in the file. For example, if a JSO had two disciplines, one in the fifth grade and one in the seventh grade, a research assistant assuming the school system employed a middle school approach would score Item 11 as a 0, reflecting one time period with a discipline. Whereas a research assistant assuming a junior high school approach would have scored the item a 1, reflecting two time periods with disciplines. The same problem would also be apparent for disciplines occurring in ninth grade. Because the mean age at the index offense was 15, most JSOs would have been in grades 7 through 9, which would seem to give credence to this explanation for the lower ICC on Item 11. This analysis and interpretation of the data suggests that reliability might be improved on this item by specifying grade ranges (e.g., K through 5, 6 through 8, and 9 through 12) instead of descriptors of educational periods (e.g., elementary school, middle/jr. high school, and high school).

The second possible explanation for the lower reliability for Item 11 pertains to the completeness of the file. Not all files contained official education data obtained directly from schools. Thus, information specific to this item had to be gathered from other sources (e.g., psychological reports, predisposition reports, etc.). Some research assistants reported that when this was the case, the information about disciplines was at times buried among much additional information. Sometimes this meant that education discipline information was stated in only a few sentences in the entire case file. Given that many files were several hundred pages in length, it seems plausible that some of these sentences could be missed by one or two out of the five research assistants. Despite this one potentially problematic item,

the overall reliability of the research assistants' scoring was quite high. In fact, roughly 92% in observed score variance was due to true score variance in the cases.

### ***Item-Level Analysis***

Perhaps one of the most surprising findings of this study was that only five bivariate relations between individual items and juvenile sexual recidivism emerged as significant. Also, the general lack of significant relations did not change when time at risk was accounted for by removing older JSOs from the analyses. Particularly surprising was that Item 1 (Number of Sexual Offense Adjudications) did not significantly predict juvenile sexual recidivism, given that past behavior is often the best predictor of future behavior.

The general lack of significance for many of these items most likely resulted from a higher proportion of recidivists at the lower scoring levels. For example, compared to the distribution of scores on Item 1 in the development sample, the present validation sample had nearly a 200% higher proportion of recidivists scoring zero on this item. In the development sample, 33% of recidivists scored zero on Item 1, and 65% of recidivists in the validation sample scored zero on Item 1. The same pattern was observed on all but the two abuse items, although the magnitude of the difference was not always to the same degree.

### ***Overall Predictive Accuracy and Possible Explanations for the Shrinkage***

Despite the general lack of significant bivariate relations, the JSORRAT-II demonstrated a moderate amount of predictive validity. There was a significant difference in mean JSORRAT-II total scores between recidivists and non-recidivists and the ROC value of .64 represented a significant improvement over chance-level prediction.

Despite these indications of predictive validity, some caution is warranted. The effect size between scores of recidivists and nonrecidivists was moderate-small (Cohen, 1988),

Furthermore, the ROC value found in this study was .25 lower than that found in the development sample. These results suggest that the JSORRAT-II operated at a substantially reduced level of predictive accuracy in this validation attempt compared to that found with development sample.

Several subsamples were formed to investigate this reduced accuracy; however, the analyses of only one of these subsamples seemed to point to differential predictive ability. Specifically, the JSORRAT-II performed at chance levels for JSOs who offended solely against siblings. When this group was removed, the ROC value improved to .66, which was still far below the value reported by Epperson and colleagues (2006) using the development sample. The reduced accuracy was also investigated with respect to the amount of missing data. There was no indication that missing data explained the shrinkage in predictive validity.

Several explanations for the reduced performance of the JSORRAT-II remain possible, though speculative. First, it is possible that juvenile justice service institutional changes may have occurred between the time periods utilized for the development and validation samples. The development sample utilized JSOs adjudicated guilty for a sexual offense from 1990 through 1992, while the validation sample utilized cases from JSOs adjudicated guilty for a sexual offense in 1996 and 1997. Between those two time periods, state and federal governments passed laws (e.g., The Jacob Wetterling Crimes Against Children Act of 1994) requiring states to set up systems to track sexual offenders through registration and community notification.

The passage of state and federal laws may have had one of several impacts on the rate at which JSOs were prosecuted as sexual offenders. First, one might hypothesize that prosecutors and judges were less likely to adjudicate crimes that had sexual elements as

sexual offenses, given newer registration and community notification laws and their applicability to juveniles. Historically, the juvenile court system was rehabilitative instead of punitive (Travitis & Reppucci, 2002). These newer laws may have been viewed as contrary to that original aim, and thus, prosecutors and judges were more hesitant to charge or adjudicate guilt unless the crime was more serious in nature. If this was the case, then it is possible that a significant number of low risk and low scoring non recidivists were screened out of this study by virtue of an unstated policy change on the part of prosecutors and judges in that state. The consequence would be a reduction in the predictive accuracy of the JSORRAT-II due to the exclusion of lower-risk offenders in the sample.

Conversely, the passage of laws actually may have increased the likelihood of sexual crimes being charged and adjudicated. Because of the increased scrutiny and focus on sexual offenders that resulted from these laws, minor offenses that would historically have been handled outside the juvenile justice system may have been charged and adjudicated within that system. This would lower the threshold for both becoming an adjudicated sexual offender and also for becoming a recidivist. The implication of this differential emphasis between the two time periods is that the population sampled for the validation sample may be somewhat different.

This second possible impact of these laws seems more likely, given the number of JSOs in both the development and validation samples. The development sample included 636 JSOs adjudicated guilty of a sexual offense over a three year window. In contrast, the validation sample included 566 JSOs adjudicated guilty over a two year window. If the same trend in offense rates observed for the validation sample had been carried out over an



additional year, the sample size would likely have been closer to 850, nearly 210 more JSOs than in the development sample.

The passage of registration and community notification laws also may have had an effect on the rate of recidivism in another way. Though these laws have not had a demonstrated effect on the reduction of rates of sexual recidivism in other states with adult samples (e.g., Barnoski, 2005; Schram & Milloy, 1995), it is possible that the increased supervision and attention that higher risk JSOs received as a result of having a sexual offense adjudication played a role in reducing the likelihood that higher risk JSOs would reoffend. This may be more likely in juvenile samples, given that they tend to victimize similar-aged peers. If parents of potential victims or school officials are aware that a JSO had prior sexual offense adjudications, they may limit or monitor the amount of interaction the JSO has with potential, similar-aged victims. Furthermore, the laws may also have functioned to increase the level of probation oversight making it more likely to catch JSOs in pre-offense behaviors. If this was the case, then it is possible that some of the higher-scoring (high risk) non-recidivists may have been deterred from recidivating, despite higher risk scores. In the absence of the increased supervision and attention, it is possible that the rate of recidivism for high-scoring non-recidivists would have approximated pre-1994 levels, which would have had the impact of increasing the indices of predictive validity in this sample. Similarly, recidivists may have come disproportionately from the lower risk ranks because of less monitoring and supervision.

A fourth potential explanation is methodological. Prior to the start of this validation study, all files were arranged chronologically. The hope was that this arrangement would facilitate the coding of information from diverse reports and documents that would otherwise

be scattered throughout a several hundred page case file. Consequently, this may allowed research assistants to hone in more accurately on information that was relevant to this study.

In addition, a much abbreviated coding form was used for this study, compared to the one used in the development sample. The coding form used here was two pages. There were two coding forms used for the development sample. One of those coding forms was over 15 pages, and the other was seven pages in length. The brevity of the current form likely required research assistants to keep in mind fewer variables of interest when scoring cases, and as a result, they were better able to focus their attention on finding information relevant to those variables.

Similarly, all research assistants were aware that this was a validation study of the JSORRAT-II, and all of them were given information about the JSORRAT-II during training. During the development study, none of the research assistants were aware of the final items, as they had not been identified. Thus, they were likely to attend equally to all pieces of information on the coding forms. This was not likely the case during the validation study, and research assistants may have been more diligent in looking for details in the case relevant to the JSORRAT-II items. The result of all of these methodological considerations is that information about nonrecidivists on the relevant items was more likely to be found compared to the development sample.

The implications of this additional information for nonrecidivists are two-fold. First, being able to score items at a higher risk level for nonrecidivists may mean that some of the original items do not have predictive ability. In other words, some items may have been significant in the development sample merely as a function of reduced attention to the information pertaining to those items. Second, the additional information served to increase

the number of high-scoring nonrecidivists. Even if the items represented valid predictors of future sexual recidivism, the higher proportion of high-scoring nonrecidivists makes it more difficult to obtain high indices of predictive validity.

On the contrary, the methodology also may have made it less likely that some information relevant to the items may not have been present in case files for recidivists. As mentioned above, after case files were chronologically ordered, the lead researcher removed information based on one of two rules. First, if the JSO was a nonrecidivist, all information after 12/31/1999 was removed, and second, if the JSO was a recidivist, all information from the first mention of the recidivating offense was removed. If the JSO's recidivating sexual offense occurred after 12/31/1999, then all information was removed per the first rule. Though this strategy was essential to keep the research assistants blind to the recidivism status of the JSOs, it may also have resulted in the removal of information that was relevant to the scoring of the JSORRAT-II items. For example, if a JSO was adjudicated for his index offense in December of 1996 and had a recidivating offense in March of 1997, only a few months separated the adjudication and the first mention of the second offense. Typically, information relevant to many background items, as well as some offense-related items, was found in psychological, treatment, and probation reports that originated weeks to months after the adjudication. Given that this information was likely be pulled from the case file if there was any mention of the recidivating offense, that information was lost for that offender, effectively deflating the recidivist's scores on those items. The probability of deflated scores due to missing data was partially supported by the lower proportion of recidivists scoring high on individual items compared to the development sample. However, a similar procedure for removing case file information was used in the development sample, and consequently,

this hypothesis does not appear sufficient to explain the reduced accuracy of the JSORRAT-II alone.

A possibility also exists that a number of low risk JSOs were excluded from the study. In the development sample, all JSO case files were obtained from the Utah juvenile justice system, including several cases that were officially expunged when the JSO turned 18-years-old. Unlike many states, Utah does not officially expunge juvenile case files when they turn 18. Instead, the juvenile must petition the court and demonstrate exemplary behavior throughout their time under court jurisdiction and that they are at a low risk to reoffend in any way.

The present study did not include any expunged cases, as the author was not granted access to these cases. However, some information about these offenders is known. Using the recidivism data base, the author identified approximately 40 JSOs whose cases were officially expunged. None of these JSOs, like in the development sample, sexually recidivated prior to age 18. Given that these cases would likely score low on a tool such as the JSORRAT-II, as was the case for those in the development sample, their inclusion would most likely improve all validity indices.

Finally, the reduced predictive validity indices also may have resulted from excessive capitalization on chance in the development sample. Though the procedures used to develop the items of the JSORRAT-II were employed to minimize the effects of chance characteristics influencing the final pool of items, it is possible that some items may have made the final pool that were not predictive of juvenile sexual recidivism. Similarly, juveniles social, cognitive, and emotional structures are dynamic, more so than adults. Because of developmental and maturational processes may play a role in whether or not a

JSO reoffends sexually, it may be difficult or even impossible to predict future sexual offenses on the basis of objective case file information.

All of the previous explanations are plausible, though speculative. It is probably not the case that one explanation encompasses all of the reasons for the general validity shrinkage. Instead, it is more likely that some combination of two or more of the explanations were at work to in this present study.

Whatever the reason or reasons, the reduced predictive accuracy of the JSORRAT-II has important implications for the prediction of risk with JSO populations. Specifically, although the level of accuracy achieved with the validation sample is significant and may be sufficient to inform a range of placement, programming, and treatment decisions that impact the juvenile for a finite and relatively short period of time, it may be very difficult to achieve the level of predictive accuracy required to inform longer-term actions, such as those mandated by many current laws (e.g., registration and community notification for 15 to 25 years, civil commitment for an indeterminate period of time, etc.). Being subjected to registration and community notification requirements have the potential to carry with them detrimental effects for adults, including loss of opportunity to engage in prosocial activities, personal safety, and hope (Levenson & Cotter, 2005; Tewksbury, 2005). Given the differences in cognitive, emotional, and social structures of juveniles, it is not a far leap to assume that these effects may have a much greater negative impact on juveniles (Caldwell, 2007). As a result, decisions about imposing registration and community notification requirements on juveniles must carry with it a high degree of confidence, so as to minimize the number of false positives and the detrimental effects to those JSOs who are least likely to reoffend sexually. At this time, neither the JSORRAT-II nor any other juvenile risk

assessment tool has demonstrated the level of accuracy required to inform such decisions. Given that only about 12.4% of JSOs reoffend sexually, it seems more prudent to consider all JSOs low risk when informing these types of decisions.

On the other hand, the problem of reduced accuracy has less impact for decisions that carry fewer penalties for making false positive predictions. Decisions about sentencing, programming, supervision, and treatment may not require the same level of predictive accuracy because the consequences of making a false positive prediction are much less than the long-term stigmatization, harassment, and lost opportunity during critical periods of development and maturation that are likely to occur from being subjected to community notification and registration (Levenson & Cotter, 2005; Tewksbury, 2005). This is not to say that false positive predictions for these types of decisions carry no detrimental effects (e.g., increased financial responsibility by the state, possibility for contagion effects, deprivation of freedom), but these effects are somewhat assuaged by the moderate amount of predictive accuracy of tools like the JSORRAT-II.

### ***Factor Structure***

Finally, the four-factor structure found in the development sample did not replicate in the current study when error was not allowed to correlate. However, several fit indices improved when the factors and residuals of several indicators were allowed to correlate. There were logical and theoretical grounds for four of these pairings, but several others were not as easily explained.

Consequently, an exploratory principle components analysis with Varimax rotation was employed to examine the similarities and differences between the four-factor structures found in the two different samples. Three items loaded highest on different factors, but for

two of these items, the cross-loading pattern was similar between development and validation samples. Only Item 6 (Use of Deception and Grooming) did not follow the same pattern of loading. However, the new pattern of loadings in the validation sample actually seems to strengthen and clarify the interpretations of the underlying dimensions proposed in the development study.

The first two factors seem to tap (1) persistence of sexual offending or drive to engage in sexual offending behaviors and (2) anti-social orientation. These two factors are quite similar to the two most predictive factors of adult sexual recidivism found by the Hansen meta-analyses (Hanson & Bussière, 1998; Hanson & Morton-Bourgon, 2005). The third factor seems to reflect a history of trauma and, possibly, specialized treatment needs. The fourth factor probably reflects lack of judgment and poor impulse control.

### ***Strengths, Limitations, and Future Research***

The present study utilized a large, exhaustive study of JSOs adjudicated for a sexual offense in 1996 and 1997. The advantage of using such a sample is that it is likely to be more representative of the full spectrum of JSOs in an entire state than many other samples reported on in the literature. Many other studies used relatively small convenience samples from specific secure facilities or treatment programs. As a consequence, their results are only very narrowly generalizable. On the other hand, the results of this study, though geographically bounded, are more likely to be generalized to the full spectrum of JSOs, as it included JSOs adjudicated for all types of sexual offenses (e.g., exposure, rape), those who did and did not receive secure facility placements, and those that did and did not receive mandates for sexual offender specific treatment.

Yet, some concerns about the generalizability of the results do remain. The study utilized JSOs exclusively from the state of Utah. The sample was predominantly Caucasian/White (76.4%), whereas the U.S. population is approximately 66% Non-Hispanic White (Bernstein, 2007). Although the religious affiliation of JSOs could not be determined in most instances, the sample clearly included a larger proportion of JSOs subscribing to the Mormon/Latter-Day Saints (LDS) religion than found in the remainder of the United States, given that 14.3% of the sample clearly identified as LDS. The American Religious Identification Survey (2001) conducted by the U.S. Census Bureau (United States Census Bureau, 2007) found that approximately 1.34% of Americans self-identify as LDS. Given the geographic and related characteristics of the sample, one cannot be completely confident in the generalizability of the results to samples from other areas with different compositions. Given that the sample included only male JSOs, by design, the results clearly cannot be assumed to be relevant to female JSOs.

A second strength involves the methodology of this particular study. Case files were arranged chronologically and cleaned to keep research assistants blind to the recidivism status of the JSOs. Furthermore, research assistants received extensive training and data entry error was eliminated through a double-entry processes. The result of these methodological conditions was a high level of reliability in scoring the case files. However, the downside of these methodological strategies is that the predictive accuracy of the tool may have been compromised through the elimination of key information for some recidivists.

The time period where JSOs were followed may be viewed as a limitation. Specifically, sexual recidivism was determined only for the time period between the JSO's index sexual offense and his 18<sup>th</sup> birthday. For some this meant that the time at risk for a new



sexual offense was quite minimal, whereas time at risk spanned years for others. Though the ROC values did not seem to indicate an effect for time at risk, one cannot completely rule out this effect without following the JSOs for a longer time period into adulthood.

The last limitation pertains to the generally underreported nature of sexual offenses in general. Results from recidivism studies are often underestimates because of the nature of these types of crimes (Hanson and Bussière, 1998). As such, these results must be interpreted knowing that not all first time offenders were detected initially and not all recidivists were detected after entering the system for their index offense.

With these strengths and limitations in mind, several future directions seem warranted. First, to assess the predictive validity of the JSORRAT-II studies must be conducted in other states that have different geographic locations, racial and ethnic compositions, and dominant religious affiliations. Second, it is possible to follow the JSOs in this study for longer times at risk, into adulthood. Consequently, a future study will seek to assess the performance of the JSORRAT-II for longer predictions of risk. Third, because neither this study nor the development sample used female JSOs future studies should seek to determine the predictive accuracy of the JSORRAT-II with females. Given the relatively smaller number of female JSOs, this is a lower priority.

### ***Conclusions and Recommendations***

Though the JSORRAT-II predicted juvenile sexual recidivism at greater than chance-levels, there was a substantial drop in the predictive accuracy compared to the development sample. There are many possible explanations for this reduction; however, the bottom line is that it did not achieve the level of accuracy needed to inform many important decisions regarding newer sexual offender laws and their longer-term consequences. Therefore, this

author cannot recommend that the JSORRAT-II be used to inform such decisions (e.g., community notification and post-sentence involuntary confinement) at this time. On the other hand, the JSORRAT-II remains a promising juvenile sexual recidivism risk assessment tool that has validated a level of accuracy that is sufficient, along with psychological needs assessments, to inform a range of decisions with shorter-term consequences, such as placement, programming, and treatment decisions. Additional, planned studies will help clarify the predictive accuracy of the JSORRAT-II and potentially expand its usefulness.

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## APPENDIX A

Scoring Guidelines for the Juvenile Sexual Offense Recidivism Risk Assessment Tool: 2 (JSORRAT-II) Validation Scoring Grid.

**Scoring Guidelines for the Juvenile Sexual Offense Recidivism Risk Assessment Tool: 2 (JSORRAT – II) ©**

**Validation Study Scoring Grid**

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### General Instructions

Like the Juvenile Sexual Offense Recidivism Assessment Tool – II (JSORRAT-II), the validation research items were designed to be scored based on a review of case file information for sexual offenders whose index (most recent) sexual offense occurred between the ages of 12.00 and 17.99 years of age.

- It is critical that the entire file is reviewed prior to scoring the validation data collection grid. Use only documented information in the file when scoring all items. Do not use any information gained from sources external to the case file. Score all items unless there is insufficient information to make even a reasonable approximation.
- For research items where insufficient information is available, make a reasonable approximation whenever possible. When a reasonable approximation is not possible, code the item with a “U” for unable to score due to lack of information. When an item is not applicable to an offender, code the item with an “NA.”.
- Sexual offense and victim specific variables are coded on Items 1 – 18, which are listed on the front page of the JSORRAT-II Validation Study Data Collection Grid.
  - Charged sexual offenses are coded on the “lettered” horizontal rows on the front page of the validation data collection grid.
  - Documented, but uncharged, sexual offenses are coded on the “numbered” horizontal rows near the bottom of the front page of the validation data collection grid. Use the same scoring guidelines for items 1 through 4 and 7 through 18 to record information on these documented, but uncharged offenses. However, for items 2 through 4, change the word “charge” to “documented” (e.g., Documented Date, Age at Documentation, If it had been Charged, What Level).

- Documented, but uncharged, sexual offenses include offenses that were not investigated by the juvenile justice system but are clearly documented as founded by another state agency (e.g., child protective services) or are self-reported by the offender. These must be discrete offenses that were not part of an offense cluster for which the offender was charged.

Example 1: An offender was charged for offending against his sister over a period of two years, and he later acknowledged in treatment that the offending occurred over a period of three years instead of two. This would not be coded as an additional documented, but uncharged, sexual offense because he had already been charged for the cluster of offenses that this was part of.

Example 2: Child protective services investigated an allegation that an offender had offended against his sister when the offender was age 11 and determined that the allegation was founded. This offense was never referred to the legal system. At age 13, the offender is charged and adjudicated for offending against a neighbor. No charges were made retroactively for the earlier abuse of his sister. The offense against his sister would be coded as a documented, but uncharged, sexual offense

- **NOTE. From this point forward, instructions will generally reference charged sexual offenses, but the same instructions apply to documented, but uncharged, sexual offenses that are coded on the numbered lines.**
- Use one line for each charged sexual offense or documented, but uncharged, sexual offense.
- In the event that an offender has a single charge against multiple victims, place the date of the charge in the appropriate box on the scoring grid, followed by a description of the offense and victim characteristics for only one victim.  
For each additional victim, use additional lines directly below that entry on the grid.
  - However, do not code Items 2 through 6 for the additional victims.
  - Only record the offense date (Item 1) and the information for items 7 through 18 for each additional victim for that single charge (or documented offense).
- Use a continuation validation data collection grid, if needed. Be sure to list the ID number and your initials on each continuation sheet and staple the sheets together when completed.
- Items 19 through 38 refer to background variables. These variables are coded on the back page of the JSORRAT-II Validation Study Data Collection Grid.



## JSORRAT – II VALIDATION RESEARCH ITEM

### ITEM 1

Offense date for each sexual offense

### Scoring Criteria

For each charged (or documented, but uncharged) sexual offense, list the date of the earliest offending behavior. If the JSO offended against multiple victims but only received one sexual offense charge, record the earliest date for the first victim in this column on the first line. For each additional victim beyond the first, use additional lines directly below to record the earliest offense date for each additional victim. Note that for each additional victim you should complete only Item 1 and Items 7 through 18.

**NOTE ON EXPOSURE OFFENSES WITH GROUPS:** Exposure only offenses are often committed against groups. In such cases, only one line is used for each offense incident. In other words, the group is considered the victim in such offenses, so you would not have a line for each person in the group. In addition, Items 11 through 16 (information about victims age, gender, etc) would be left blank, and 17 would be coded “no” for each behavior. If there were separate exposure incidents against groups, then each offense incident would be reported on separate lines, as there were separate “group victims.”

### Examples

1. A JSO has a record of one charged sexual offense, involving two victims. The JSO offended against the first between 10/03/2001 and 12/15/2002. The JSO offended against the second victim on only one occasion, 11/27/2002.. **Record 10/03/2001 in the box corresponding to Row A, Column 1, and record 11/27/2002 in the box corresponding to Row B, Column 1. Because this charge involved two victims, fill in information for all items in Row A for only the first victim. Record the information about the second victim in Row B, using only items 7 through 18.**
2. A JSO’s case file indicates a history of three sexual offenses occurring on 1/01/2002, 6/28/2002, and 11/13/2002. Only the second and third offenses were charged. The first was mentioned in a Department of Human Services report, which indicated that there was sufficient evidence to believe the offense occurred. However, this first offense was never brought to the court’s attention. **Record 6/28/2002 in the box corresponding to Row A, Column 1, and 11/13/2002 in the box corresponding to Row B, Column 1. For the first offense, record 1/01/2002 in the box corresponding to Offense Date in the first row under the Documented but Uncharged section of the Scoring Grid.**

## JSORRAT – II VALIDATION RESEARCH ITEM

### ITEM 2

#### Charge date for each sexual offense

#### Scoring Criteria

For each charged sexual offense, list the date of the official charge. The date required for this item is the date the charge was levied, not the date of the actual offense. It is possible that offenses that occurred on different dates will all be charged together on the same date. For example, a juvenile might be charged with three counts of sexual abuse, with each count referencing separate events that occurred on different days. These would be coded as three separate lines on the grid (because each offense resulted in a separate charge) and the charge date would be the same for all three. All charges, regardless of level (misdemeanor or felony) should be listed and a charge date provided.

If the JSO offended against multiple victims but only received one sexual offense charge, only record one date in this column. For each additional victim beyond one, use additional lines directly below the listed charge date to record information about each victim and the offending behaviors used in the offenses against those victims. For each additional victim, record information **ONLY** for items number 1 and 7 through 18. Do not record additional charge dates for each victim in a single charge.

If a charge is for a simple exposure offense against a group, only one line is used because the group as a whole is considered the victim. In addition, Items 11 through 16 (information about victims age, gender, etc) would be left blank, and 17 would be coded “no” for each behavior. If there were separate exposure incidents, then each incident would have one line as there were separate “group victims.”

#### Examples

1. A JSO has a record of two charged sexual offenses. The first was levied on 9/03/2001, and the second was levied on 6/15/2002. The second charged offense involved three victims. **Record 9/03/2001 in the box corresponding to Row A, Column 2, and record 6/15/2002 in the box corresponding to Row B, Column 2. Because the second offense involved three victims, fill in information for all items in Row B for only one victim. Record the information about the other two victims in Rows C and D, using only items 7 through 18.**
2. A JSO has a record of three charged sexual offenses occurring on 3/01/2002, 5/28/2002, and 8/13/2002. Only the first and second charges were actually adjudicated. **Record 3/01/2002 in the box corresponding to Row A, Column 2, 5/28/2002 in the box corresponding to Row B, Column 2, and 8/13/2002 in the box corresponding to Row C, Column 2 (note that adjudications are not required for this item).**

**JSORRAT – II VALIDATION RESEARCH ITEM**

**ITEM 3**

**Age of the JSO at the date of each charge in years and months**

**Scoring Criteria**

Record the age of the JSO (in years and months) on the date of each sexual offense charge. Simply determine the date that each charge was levied and calculate the offender's age on that date. Do not use fractional months, and do not round months up to the next month. For example, if a JSO was 12 years, 10 months, and 21 days, record 12 years, 10 months in the appropriate boxes on the scoring grid.

**Example**

1. A JSO has two charges for sexual offenses on his record. He received his first charge on 4/17/2002, and he received his second charge on 8/20/2003. His date of birth is 1/15/1990. His exact age at the time of the first charge was 12 years, 3 months, 2 days, and his exact age at the time of the second charge was 13 years, 7 months, 5 days. ***In the box corresponding to Row A, Column 3, record "12" under Years and "3" under Months. In the box corresponding to Row B, Column 3, record "13" under Years and "7" under Months.***

**JSORRAT – II VALIDATION RESEARCH ITEM****ITEM 4****Level of charged sexual offense**

Misdemeanor..... M

Felony..... F

Unknown..... U

**Scoring Criteria**

For this item, record the level of each sexual offense charge. If the charge was a misdemeanor, record the letter “M” in the appropriate box on the scoring grid. If the charge was a felony, record the letter “F” in the appropriate box. If the charge was plead down to a lower level, record the original level of the charge at the time the charge was levied. If there is absolutely no way to ascertain the level of the offense charge, record the letter “U” to designate that the charge level is unknown.

**Examples**

1. A juvenile has a history of two sexual offenses. The first charge was for a misdemeanor exposure offense, and the second charge was for a felony-level sexual assault. ***In the box corresponding to Row A, Column 4, record the letter “M,” and in the box corresponding to Row B, Column 4, record the letter “F.”***
2. A juvenile has a history of two sexual offenses. The first sexual offense was clearly documented as a felony-level sexual offense. The second offense resulted in an official charge, as indicated by a treatment report, but no details were given as to the nature of the offense other than the date of the charge. Additionally, no information was reported about the level of that charge. ***In the box corresponding to Row A, Column 4, record the letter “F,” and in the box corresponding to Row B, Column 4, record the letter “U.”***

**JSORRAT – II VALIDATION RESEARCH ITEM**

**ITEM 5**

**Was the JSO adjudicated for the sexual offense charge?**

No..... N

Yes, Misdemeanor Level.....YM

Yes, Felony Level..... YF

Yes, Level Unknown ..... YU

**Scoring Criteria**

For each charge record whether or not that charge was adjudicated and the level at which it is adjudicated. In the appropriate box on the scoring grid, record the letters “YM” for each charge that was adjudicated guilty at the misdemeanor level, record the letters “YF” for each charge that was adjudicated guilty at the felony level, and record the letters “YU” for each charge that was clearly adjudicated guilty but you cannot determine the level (this should be rare). Record the letter “N” for each charge that was dismissed or resulted in a finding of not guilty (not adjudicated). If there is absolutely no way to ascertain whether or not the JSO was adjudicated for a particular charge, write “unknown” in this box.

**Example**

1. A juvenile has a history of three sexual offenses. The first charge was for a misdemeanor exposure offense, and both the second and third charges were for felony-level sexual assaults. The first charge was not adjudicated. Both the second and third charges were adjudicated, but the third charge was plead down to a misdemeanor adjudication. ***In the box corresponding to Row A, Column 4, record “N,” in the box corresponding to Row B, Column 4, record “YF,” and in the box corresponding to Row C, Column 4, record “YM.”***

**JSORRAT – II VALIDATION RESEARCH ITEM**

**ITEM 6**

**Adjudication date for each sexual offense**

**Scoring Criteria**

For each adjudicated sexual offenses, list the date(s) the JSO was adjudicated guilty for each official charge for a sexual offense. If a charge did not result in an official adjudication, leave this space blank.

**Example**

1. A juvenile has a history of two sexual offenses. The first charge was for a misdemeanor exposure offense, and the second charge was for a felony-level sexual assault. The first charge was not adjudicated, but the second charge was adjudicated on 10/09/2001. ***Leave blank the box corresponding to Row A, Column 6, and in the box corresponding to Row B, Column 6, record 10/09/2001.***

## JSORRAT – II VALIDATION RESEARCH ITEM

### ITEM 7

#### Number of sexual offense event contacts for each victim

One .....	1	Four .....	4
Two .....	2	Five or More.....	5+
Three.....	3		

### Scoring Criteria

For each victim (charged or documented, but uncharged), record the number of sexual offense event contacts. An event contact is defined as the duration of a discrete sexual offense or as the period of time when the victim is continuously under the control of the offender, whichever is longer. Generally, the event contact will be the duration of each sexual offense incident, so if a perpetrator offended against a specific victim three times this will usually constitute three event contacts. The exception is if the victim is tied up or locked up or otherwise under the offender's control for an extended period of time, during which time the perpetrator offends three times against the victim. This would be coded as one contact event. Record the number of event contacts for each victim up to five. If the JSO offended against a single victim on more than five discrete occasions, record "5+" in the appropriate space on the scoring grid. In the event that reports specify that the offending behavior occurred "several" times over some period of time, record "3." If a JSO had multiple victims for a given charge, record the number of sexual event contacts for each victim separately on the line that corresponds to each specific victim.

### Examples

1. A JSO received one charge for sexually abusing a younger sibling, but the sexual behavior occurred on three separate dates. ***In Row A, Column 7 record the number 3.***
2. A JSO received one charge for sexual assault on one victim, but a police report indicated that the JSO sexually assaulted the victim twice on the same day. The first assault occurred on a lunch break during school, and the second assault occurred after school on that same day. ***In Row A, Column 7, record the number 2 (note that both sexual event contacts occurred on the same day but the victim was not continuously under the offender's control, so these are counted as separate event contacts).***
3. A juvenile has two charges for sexual abuse of a child against two separate victims. The first charge involved abuse that occurred on four separate occasions, and the second charge involved abuse that occurred only one time. ***In Row A, Column 7, record the number 4, and in Row B, Column 7 record the number 1.***

**JSORRAT – II VALIDATION RESEARCH ITEM**
**ITEM 8**

**Was the juvenile sexual offender under any form of court-ordered supervision when he committed any sexual offense?**

No..... N

Yes ..... Y

**Scoring Criteria**

For each victim (charged or documented, but uncharged), record the letter “Y” if the JSO committed any part of the sexual offense while under some form of court-ordered supervision, and record the letter “N” if the JSO did not commit any part of the sexual offense while under court-ordered supervision. Supervision includes probation, placement in a detention center or half-way house, or placement in a treatment facility. Note that the court-ordered supervision does not have to be the result of previous sexual offense adjudications.

**Examples**

1. A juvenile committed a misdemeanor-level sexual offense while on probation for a previous shop-lifting offense. He was officially charged for the sexual offense. ***In Column 8, record the letter “Y.”***
2. While at a residential treatment facility, a juvenile committed a felony-level sexual offense against another resident and was subsequently charged for that offense. ***In Column 8, record the letter “Y.”***
3. A juvenile was incarcerated in a juvenile detention facility after the adjudication of a felony assault charge. While incarcerated, he sexually assaulted a detention facility worker. ***In Column 8, record the letter “Y.”***



## JSORRAT – II VALIDATION RESEARCH ITEM

### ITEM 9

**What was the JSO's role in the offense against each victim?**

Sole Perpetrator/Alone ..... Yes or No

Leader of a Group ..... Yes or No

Participant in a Group ..... Yes or No

### Scoring Criteria

For each victim (charged or documented, but uncharged), record the JSO's role in all sexual offense event contacts.

- If the JSO ever engaged in offending behavior alone with the victim, record the letter "Y" in the appropriate column. Record the letter "N" if the JSO never engaged in offending behavior as the sole perpetrator of the offense against the victim.
- If the JSO ever engaged in offending behavior with the victim as the leader of a group of perpetrators, record the letter "Y" in the appropriate column. If the JSO was never the leader of a group of perpetrators against the victim, record the letter "N".
- If the JSO ever engaged in offending behavior, but it was clear that he did so as part of a group that he did not lead, record the letter "Y" in the appropriate column. Examples of situations that this may occur include being coerced or pressured into engaging in sexual behavior with a victim by one or more others or willfully agreeing to participate in a sexual offense after a plan was proposed by some other person who also engaged in the offending behavior. If the JSO did not participate as a member of a group in any sexual offense event contact against the victim, record the letter "N" in the appropriate column.

### Examples

1. A JSO has one sexual offense charge, which was based on two discrete events. In the first event the JSO persuaded three friends to forcibly engage in sexual behavior with his younger female sibling. In the second event, the JSO sexually offended against that same sibling alone. ***In column 9, record the letter "Y" under Alone, the letter "Y" under Leader of a Group, and the letter "N" under Participant in a Group (note that, although the first event contact involved multiple offenders, the JSO clearly was the leader of that group).***
2. A JSO has only one sexual offense charge, based upon one event contact. During that offense, the JSO was persuaded by several acquaintances to fondle the genitalia of the victim. ***In column 9, record the letter "N" under Alone, the letter "N" under Leader of a Group, and the letter "Y" under Participant in a Group (note that, although the sexual offense involved multiple offenders, the JSO clearly needed to be persuaded to engage in the offending behavior).***

## JSORRAT – II VALIDATION RESEARCH ITEM

### ITEM 10

#### Where did the sexual activity occur in the offenses against each victim?

Offender or Victim's Home ..... Yes or No

Friend or Relative's (other's) Home ..... Yes or No

Public Place ..... Yes or No

#### Scoring Criteria

For each victim (charged or documented, but uncharged), record whether or not any sexual offending behavior occurred in each of three categories.

- The first category represents the home of either the offender or the victim. This category also includes the intrafamilial home for JSO/sibling offenses. If any sexual offending behavior occurred in the offender's or victim's home, record the letter "Y" in the appropriate column. If no sexual offending behavior occurred in either of these locations, record the letter "N."
- Category two represents sexually offending behavior that occurred in the home of some other person, besides the offender or victim. Examples may include friends', acquaintances', or other relatives' homes. If any sexual offending behavior occurred in some other home, record the letter "Y" in the appropriate column. If no sexual offense event contact occurred in some other person's home, record the letter "N."
- The third category represents any sexually offending behavior that occurred in some public place. A public place is defined as any area designed for public use, accessible to those in the general community, or open to the scrutiny of others. Examples of public places include schools, parks, vacant lots, public restrooms, workplaces, or vehicles parked in or moving through other public places. If any sexual offending behavior occurred in a public place, record the letter "Y," and if no part of any sexual offense with the victim occurred in a public place, record letter "N."

**Note. Code based on where the actual sexual activity occurs.** For example, a victim may be kidnapped of a playground (public place) and driven to the offender's home, where the actual sexual activity occurs. This offense would be coded as occurring in the offender's home.

#### Example

1. A JSO has one sexual offense charge against one victim; however, that charge represented three distinct offending contacts. The first sexual offense contact occurred in the offender's home. The second occurred in the victim's home, and the third occurred in a locker room at school. **In column 10, record the letter "Y" under Offender or Victim's Home, the letter "N" under Friend or Relative's Home, and the letter "Y" under Public Place.**

**JSORRAT – II VALIDATION RESEARCH ITEM**

**ITEM 11**

**Age of the Victim in Years and Months at the First Sexual Contact**

**Scoring Criteria**

Record the age of the victim in years and months at the first sexual contact for the sexual offense (charged or documented, but uncharged). Do not use fractional months, and do not round months up to the next month. For example, if a victim was 6 years, 2 months, and 29 days at the time of the her or his victimization, record 6 years, 2 months in the appropriate boxes on the scoring grid. In the event of no recorded dates from which to calculate an age, use the victim's earliest reasonable approximate age. If no reasonable approximation can be made, leave this item blank.

**Examples**

1. A JSO was charged for sexually abusing one victim. At the time of the charge, the victim's age was 10 years, 4 months. However, the records indicate that the abuse initially started two years prior when the victim's age was 8 years, 6 months. ***In Column 11, record the number 8 under Years and the number 6 under Months.***
2. A JSO was charged for sexually abusing one victim. At the time of the charge, the victim's age was 13 years, 1 month, but the charge was levied three months after the single abuse incident. Thus, the victim's age was 12 years, 10 months at the time of the incident. ***In Column 11, record the number 12 under Years and the number 10 under Months.***

**JSORRAT – II VALIDATION RESEARCH ITEM**

**ITEM 12**

**Age of the Victim in Years and Months at the Last Sexual Contact**

**Scoring Criteria**

Record the age of the victim in years and months at the last sexual contact for the sexual offense (charged or documented, but uncharged). Do not use fractional months, and do not round months up to the next month. For example, if a victim was 8 years, 9 months, and 24 days, record 8 years, 9 months in the appropriate boxes on the scoring grid. In the event of no recorded dates from which to calculate an age, use the victim's latest reasonable approximate age. If no reasonable approximation can be made, leave this item blank.

**Examples**

1. A JSO was charged for sexually abusing one victim. The charge was levied three days after the last event contact. At the time of the last victimization, the victim's age was 10 years, 4 months. The records also indicate that the abuse initially started two years prior when the victim's age was 8 years, 6 months. ***In Column 12, record the number 10 under Years and the number 4 under Months.***
2. A JSO was charged for sexually abusing one victim. At the time of the charge, the victim's age was 13 years, 1 month, but the charge was levied three months after the single abuse incident. Thus, the victim's age was 12 years, 10 months at the time of the incident. ***In Column 12, record the number 12 under Years and the number 10 under Months.***

**JSORRAT – II VALIDATION RESEARCH ITEM**

**ITEM 13**

**What is the victim's gender?**

Male ..... M

Female ..... F

**Scoring Criteria**

For each victim (charged or documented, but uncharged), record the gender of the victim. If the victim was male, record the letter "M" in the appropriate box, and if the victim was female, record the letter "F" in that box on the scoring grid. If there is absolutely no way to determine the gender of the victim, leave the appropriate box empty.

**Example**

1. A JSO has four separate charges, each for offenses against different victims. The first victim was male, the second was female, and the third was male. However, no information was given on the fourth victim, and thus, no gender could be determined. ***In column 13, record the letter "M" for the first victim, the letter "F" for the second victim, and the letter "M" for the third victim. Leave column 13 blank for the fourth victim.***

## JSORRAT – II VALIDATION RESEARCH ITEM

### ITEM 14 (Score only for Hands-on Sexual Offenses)

What was the relationship of the offender to the victim?

Sibling.....	1	Classmate, Friend, Neighbor, or Acquaintance.....	3
Uncle, Cousin, or Other Relative.....	2	Stranger.....	4
Hands-Off Offense .....	NA		

#### Scoring Criteria

For each victim (charged or documented, but uncharged), record the relationship of the JSO to the victim based upon one of four category groups. Record the number one (1) if the JSO was a full-biological, half-biological, step-, or adopted sibling of the victim. Record the number two (2) if the JSO was an uncle, cousin, or some other relative of the victim (Note. Second and third degree relatives would be scored based on the nature of their relationship with the offender. If their interactions are largely in family contexts, then score them as relatives. If their interactions are primarily in school or other settings, then score them as classmates, friends, or acquaintances). Record the number three (3) if the JSO was a classmate, friend, neighbor, or acquaintance of the victim. Record the number four (4) if the JSO was a stranger to the victim. If the offender was unknown to the victim 24 hours prior to the offense, then the offender is a stranger. If the offender is known to the victim 24 hours prior to the offense, then the offender is probably at least an acquaintance, classmate, or friend. However, in cases where the relationship is so distant that the two can't even be called acquaintances, then the offender would be scored as a stranger. Examples in which this scoring rule would apply include situations in which the victim may know the offender's name by virtue of his high profile position in the school or neighborhood, but there has been no interaction and the victim knows little else about the offender.

#### Examples

1. A JSO, the star quarterback on the football team, has a record of three felony-level sexual assaults. The first was against his adopted sibling. The second was against a young girl who lived next door. The third offense was against a freshman from his school, who knew the offender's name from attending football games and rallies, but had had no classes or interactions with the offender. **For the first victim, record a 1 in column 14. For the second victim, record a 3 in column 12. For the third victim, record a 4 in column 14 (note that they cannot even be considered acquaintances).**
2. A JSO has a record of one felony-level sexual offense for a sexual assault that occurred at a party. Prior to that night, the victim and the offender had never met or interacted. The assault occurred after several hours of interacting with the victim. **In column 14, record a 4 (note that, although the victim and offender interacted for several hours prior to the offense, the two had never met prior to that night, and thus, the offender is considered a stranger).**

**JSORRAT – II VALIDATION RESEARCH ITEM**

**ITEM 15**

**Did the offender engage in deception or grooming of the victim prior to any sexual offending event contact?**

No..... N

Yes ..... Y

**Scoring Criteria**

Record whether or not the JSO employed deception or grooming prior to any sexual offense event contact. Deception may include the JSO misrepresenting his identity, the statements of an authority figure, or his responsibilities *vis a vis* the victim. Grooming behavior may include efforts to engage the victim through play activities, verbal enticements, or bribery. Use the letter “Y” to indicate the use of deception or grooming and the letter “N” to denote the absence of deception or grooming for all sexual offense event contacts for each victim.

**Examples**

1. A juvenile was charged with felony sexual abuse of a child after persuading a victim that they had permission from a parent figure to engage in a sexual act. ***In column 15, record the letter “Y.”***
2. A juvenile was charged with misdemeanor exposure after exposing his genitals to a younger child. The offense occurred after the perpetrator had invited the victim to play video games for several consecutive days in order to establish a relationship. ***In column 15, record the letter “Y.”***
3. A juvenile was charged with felony sexual abuse of a child after promising to give his victim some gift in exchange for engaging in sexual acts. ***In column 15, record the letter “Y.”***
4. A juvenile was charged with felony sexual assault after forcibly assaulting a stranger at a party. ***In column 15, record the letter “N” (note that although this is clearly a forcible assault, there is no indication of deception or grooming).***

**JSORRAT – II VALIDATION RESEARCH ITEM**

**ITEM 16**

**Did the JSO ever use force or threats to gain the compliance of the victim?**

No..... N

Yes ..... Y

**Scoring Criteria**

Record whether or not the JSO ever used force or threats to gain compliance during any sexual offense event contact. Force includes the use of any physical coercion to gain victim compliance with the sexual acts during an offense. Threats include any verbal statement that includes either direct explicit or implicit threat of harm to either the victim, any of the victim’s family members, or any of the victim’s friends. Do not code misdemeanor exposure offenses as using force unless the JSO either physically restrained the victim in order to expose himself or explicitly threatened adverse consequences for not observing his exposing behavior. Use the letter “Y” to indicate any use of force or threat during any sexual offense event contact and the letter “N” to indicate no force or threat for any event contact for each victim.

**Examples**

1. A juvenile was charged with felony sexual abuse of a child after persuading a victim that they had permission from a parent figure to engage in a sexual act. ***In column 16, record the letter “N” (note that no force was used and no threat was implied to gain compliance).***
2. A juvenile was charged with misdemeanor exposure after exposing his genitals to a several cars passing him by on a busy street. ***In column 16, record the letter “N” (note that no force or threat was used to gain compliance).***
3. A juvenile was charged with felony sexual abuse. Prior to the offense perpetration, the JSO stated that he would beat up the victim if she did not comply with the sexual behavior. ***In column 16, record the letter “Y.”***
4. A juvenile was charged with felony sexual assault after assaulting a stranger at a party. During the act, the JSO had to physically restrain the victim in order to engage in the sexual behavior. ***In column 16, record the letter “Y.”***



**JSORRAT – II VALIDATION RESEARCH ITEM**

**ITEM 17**  
**(Score for “hands-on” offenses only)**

**What types of offending behaviors were employed against the victim?**

Anal Penetration..... Yes or No	Victim Forced to Perform Oral Sex..... Yes or No
Vaginal Penetration..... Yes or No	Fondling of the Victim ..... Yes or No
Oral Sex on the Victim ..... Yes or No	Victim Forced to Fondle or masturbate the Offender..... Yes or No

**Scoring Criteria**

For each victim of a “hands-on” sexual offense (charged or documented, but uncharged), record the sexual offending behaviors the JSO employed against each victim. For each category, record the letter “Y” if any sexual offense event contact included the behavior and the letter “N” if none of the sexual event contacts included the behavior. The behavior categories include: 1) anal penetration of the victim with any body part or object, 2) vaginal penetration of the victim with any body part or object, 3) performing oral sex on the victim, 4) forcing the victim to perform oral sex on the JSO, 5) fondling the victim, and 6) forcing the victim to fondle or masturbate the JSO.

**Examples**

1. A JSO has a record of only one sexual offense against one victim. However, the JSO offended against that victim on three separate occasions. During the first event contact, the JSO fondled the victim. During the second event contact, the JSO fondled and performed oral sex on the victim. During the third event contact, the JSO fondled the victim and penetrated the victim’s anus with his penis. ***In column 17, record the letter “Y” for Anal Penetration, Oral Sex on the Victim, and Fondling of Victim. Record the letter “N” for all other behavior categories.***
2. A JSO has a record of two sexual offense charges against two separate victims. On three separate occasions, the JSO forced the first victim to perform oral sex on him, and on two separate occasions, the JSO digitally penetrated the vagina of the second victim. ***For the first victim, record the letter “Y” for Forced Oral Sex on Offender and the letter “N” for all other behavior categories. For the second victim, record the letter “Y” for Vaginal Penetration and the letter “N” for all other behavior categories.***

**JSORRAT – II VALIDATION RESEARCH ITEM**

**ITEM 18**

**How many event contacts did the offender employ two or more offending behaviors?**

None..... 0

One ..... 1

Two or More ..... 2

**Scoring Criteria**

Record the number of event contacts for each victim in which the JSO engaged in two or more of the behaviors listed in Item 17 during any single event contact. Score a zero (0) if the JSO never used two or more offending behaviors during any one sexual offense event contact. Score a one (1), if there was only one sexual offending event contact with two or more offending behaviors. Score a two (2) if there were two or more sexual offending event contacts with multiple behaviors employed. Note that this item is not concerned with the number of event contacts where the JSO employed only one sexual offending behavior.

**Examples**

1. A JSO has a record of one sexual offense charge involving one victim. The victim was offended against on two occasions. During the first sexual offending contact, the JSO fondled the victim, and during the second offending contact, the JSO fondled the victim's penis and penetrated the victim's anus. ***In column 18, record the number 1 (note that, although the JSO offended against the victim multiple times, he only engaged in multiple behaviors during one sexual offending event contact).***
3. A JSO has a record of two sexual offense charges against two separate victims. On three separate occasions, the JSO forced the first victim to perform oral sex on him, and on two separate occasions, the JSO both fondled the breasts and penetrated the vagina of the second victim. ***For the first victim, record the number 0 in column 18. For the second victim, record the number 2 in column 18.***

**JSORRAT – II VALIDATION RESEARCH ITEM**

**ITEM 19**

**Number of Discrete Victims in Charged Sexual Offenses**

**Number of Discrete Victims in Documented, but Uncharged Sexual Offenses**

**Scoring Criteria**

In the first space provided for Item 19, record the number of discrete victims in charged sexual offenses. The offense does not need to be adjudicated in order to count victim(s) for that offense. Do not double count victims, if the victim was offended against in more than one charged sexual offense. Only record the number of discrete victims.

In the second space provided for Item 19, record the number of discrete victims in sexual offenses that are documented, but uncharged. Do not count victims in for this space if the victim was also offended against in a charged sexual offense.

**Examples**

1. A JSO has a record of one sexual offense charge involving two victims. Both victims were offended against on two occasions. There are no documented, but uncharged victims in the file. *In the space provided for Item 19, record the number 2 for Number of Discrete Victims in Charged Sexual Offenses, and record the number 0 for Number of Discrete Victims in Documented, but Uncharged Sexual Offenses.*
2. A JSO has a record of one sexual offense charge involving two victims. Elsewhere in the file, a case worker report indicated that the JSO had one previous sexual offense against one of the two victims in the charged sexual offense. It further stated that a petition was denied by the county attorney for this offense, despite the JSOs admission that the offense did occur. *In the space provided for Item 19, record the number 2 for Number of Discrete Victims in Charged Sexual Offenses, and record the number 0 for Number of Discrete Victims in Documented, but Uncharged Sexual Offenses (note that, although the JSO has a Documented, but Uncharged offense, the victim of that offense was also the victim of a charged offense).*

**JSORRAT – II VALIDATION RESEARCH ITEM****ITEM 20****History of mental health diagnosis**

Self-Regulatory ..... Yes or No

Affective ..... Yes or No

Other ..... Yes or No

**Scoring Criteria**

Record whether or not the JSO has ever received an official mental health diagnosis in each of three categories. Diagnoses must have been given by a licensed mental health professional. Mental health professionals may include psychiatrists, clinical or counseling psychologists, clinical social workers, or mental health counselors.

- The first category represents self-regulatory types of diagnoses. Self-regulatory diagnoses include Attention-Deficit/Hyperactivity Disorder (including all subtypes), Impulse-Control Disorder, Conduct Disorder, and Oppositional-Defiant Disorder. If the JSO has any record of any of these diagnoses, record the letter “Y” in the appropriate column. If the JSO has no record of a self-regulatory diagnosis, record the letter “N.”
- The second category represents affective-types of diagnoses. Affective diagnoses include Major Depressive Disorder, Dysthymic Disorder, Bipolar Disorder (Type I and Type II), Cyclothymic Disorder, Generalized Anxiety Disorder, Panic Disorder (with or without Agoraphobia), Specific Phobia, Social Phobia, Obsessive-Compulsive Disorder, Posttraumatic Stress Disorder, and Acute Stress Disorder. If the JSO has any record of any of these diagnoses, record the letter “Y” in the appropriate column. If the JSO has no record of an affective-type diagnosis, record the letter “N.”
- The third category represents other diagnoses not specified in the previous categories (e.g., mental retardation, schizophrenia). If the JSO received any such diagnosis, record the letter “Y” in the appropriate column and specify the name of that diagnosis. If the JSO has no record an additional diagnosis, record the letter “N.”

**Examples**

1. While receiving inpatient mental health treatment, a JSO was given two diagnoses: Moderate Mental Retardation and Major Depressive Disorder. ***In column 20, record the letter “N” under Self-Regulatory and the letter “Y” under Affective. Also record the letter “Y” and write “Moderate Mental Retardation” under Other.***
2. While receiving sexual offender specific treatment, a JSO received the diagnosis of Oppositional-Defiant Disorder. ***In column 20, record the letter “Y” under Self-Regulatory and the letter “N” under both Affective and Other.***

**JSORRAT – II VALIDATION RESEARCH ITEM****ITEM 21****Prior Mental health treatment history**

Number Mandated .....	Specify	Number Terminated	
Number Entered .....	Specify	by Treatment Staff .....	Specify
Number Refused or Quit .....	Specify	Number Completed.....	Specify
		Highest Level of Treatment	
		Inpatient or Day Treatment .....	"I"
		Outpatient .....	"O"
		No Treatment .....	"NA"

**Scoring Criteria**

Item 21 reflects the JSO's mental health treatment (MHT) record prior to the index sexual offense charge. Do not include information about MHT's that occurred after the JSO's index offense charge unless that treatment was initiated prior to the offense and continued after that offense was charged.

- **Number Mandated:** Record the number of MHT's that the JSO was mandated to enter prior to his index offense. MHT's may include individual or group therapy in both inpatient and outpatient settings where the primary focus is some mental health issue. Do not include treatments where the exclusive focus is either substance abuse or sexual offending attitudes or behaviors. MHT's may be mandated only by official representatives of the Juvenile Justice System, Child Protective Services, or similar state agency. Do not count assessment or evaluations as treatment. If the JSO has no history of MHT's, record a zero.
- **Number Entered:** Record the sum of voluntary and mandated MHT's that the JSO entered prior to his index offense. If the JSO has no history of MHT, record a zero.
- **Number Refused or Quit:** Record the sum of the number of times that the JSO refused to enter a mandated MHT and the number of times the JSO quit either mandated or voluntary MHT. Also include in this item the total times that the parents either failed to submit a juvenile for mandated treatment or pulled the juvenile out of treatment prior to successful completion.
- **Number Terminated by Treatment Staff:** Record the number of prior MHT's (mandated or voluntary) that resulted in treatment being terminated by staff due to misbehavior, lack or progress or motivation, failure to comply with MHT, or other similar problem. Do not code successful completions of treatment.
- **Number Completed:** Record the number of prior MHT's that resulted in successful completion as determined by the treatment provider or mutually between the offender and the provider.
- **Highest Level of Treatment:** Record the highest intensity level of MHT the JSO entered prior to his index offense charge. The two options are outpatient and inpatient, with inpatient treatment regarded as the more intense level. If the JSO received any inpatient treatment, record the letter "I." If the JSO received only outpatient treatment, record the letter "O."

**Example**

1. A JSO has two historical MHT's. The first included individual therapy with an independent clinical psychologist that ended in a mutually agreed upon termination. The second MHT resulted from a judicial mandate to enter inpatient MHT. After two weeks, the JSO

absconded from the facility and refused to return. ***In column 21, record the a 1 under Number Mandated, a 2 under Number Entered, a 1 under Refused or Quit, a zero under Terminated by Treatment Staff, a 1 under Completed, and record the letter "I" under Highest Level.***



### Example

1. A JSO was mandated to enter inpatient sexual offender treatment after a prior sexual offense. While at the treatment facility the JSO's parents pulled their son out of treatment after a disagreeing with the treatment goals. ***In column 22, record the number 1 under Number Mandated, a 1 under Number Entered, a 1 under Refused or Quit, the number 0 under Number Terminated by Treatment Staff, and the number 0 under Number Completed (note that guardian refusal to comply with court mandated treatment constitutes a Refusal).***



## JSORRAT – II VALIDATION RESEARCH ITEM

### ITEM 23

#### Sexual offender specific treatment for the index offense

Mandated .....	Yes or No	Reason for Incompletion
Entered.....	Yes or No	No Opportunity .....
Completed.....	Yes or No	Still in Treatment .....
		Refused .....
		Quit.....
		Terminated .....
		No treatment failures.....

### Scoring Criteria

Item 23 reflects the JSO's sexual offender specific (SO) treatment status for treatments initiated following adjudication for his index sexual offense. Do not consider information about SO treatments that occurred prior to the JSO's adjudication for his index sexual offense.

- **Mandated:** Record the letter "Y" if the JSO was mandated to enter SO treatment by the Juvenile Justice System in conjunction with his index sexual offense adjudication. Any recommendation for SO treatment by an official representative of the juvenile justice system during the term of the sentence for the index offense constitutes a treatment mandate. If the JSO was not mandated to enter such treatment, record the letter "N." SO treatment may include individual or group therapy in either an inpatient or outpatient setting where the primary focus of the treatment was on the behavioral, cognitive, affective, social, and/or physiological aspects of sexual offending.
- **Entered:** Record the letter "Y" if the JSO entered the mandated SO treatment and the letter "N" if the JSO never entered SO treatment. If the JSO was not mandated to enter treatment, leave this space blank.
- **Completed:** Record the letter "Y" for successful completion of the mandated treatment and "N" if the JSO did not complete the treatment. Successful completion is deemed such by the treatment provider and indicates that treatment goals were completed.
- **Reason for Incompletion:** If the JSO did not successfully complete treatment, record the code corresponding to the reason for incompletion. Record the letters "NO" if there was no opportunity for treatment for reasons beyond the offender's control. Record the letter "I" if the JSO was productively engaged in SO treatment at the time he was released from juvenile court jurisdiction. Record the letter "R" if the JSO or his guardians refused to enter the treatment. Record the letter "Q" if the JSO quit or absconded from the treatment. Record the letter "T" if the JSO was terminated from the treatment by treatment staff for rule violations, lack or progress/motivation, failure to comply with treatment, or other similar problems. Record the letters "NA" if no treatment was mandated or treatment was completed.

### Example

1. A JSO was mandated to enter inpatient sexual offender treatment after his index sexual offense. While at a state-run treatment facility the JSO was removed from the treatment facility after he was found destroying state property. ***In column 23, record the letter "Y"***

*under Mandated, the letter “Y” under Entered, the letter “N” under Completed, and the letter “T” under Incompletion.*

## JSORRAT – II VALIDATION RESEARCH ITEM

### ITEM 24

**At the time of the JSO's discharge from sexual offender specific treatment for his most recent sexual offense, does the JSO either deny his sexual offense, minimize his role in that offense, or claim that the act was consensual when it was not?**

No..... N                      Not Applicable..... NA  
 (No SO treatment)

Yes ..... Y

### Scoring Criteria

Record whether or not the JSO denied, minimized his role in, or claimed that his most index sexual offense was consensual (when it was not) at the time of his discharge from sexual offender specific treatment. Denial, minimization, and claims of consensual behaviors may be documented in psychological reports, court documents, or probation reports at or near the end of the JSO's sexual offender specific treatment or near the release of the JSO from the juvenile court's supervision. Document only the JSO's level of denial for his role in his index sexual offense at the time of his discharge from sexual offender specific treatment for that offense. If present, record the letter "Y," and if the JSO fully admitted and assumed responsibility for his index offense, record the letter "N." If the JSO did not enter sexual offender specific treatment as part of his sentence, record "NA."

### Examples

1. A termination note from a sexual offender treatment program reported that treatment was terminated by the JSO. In that report, the treatment professional noted that the JSO had admitted to engaging in sexual behavior with the victim, but refused to admit any wrongdoing. ***In column 24, record the letter "Y."***
2. During a court-ordered psychological assessment of a JSO that occurred prior to his entry into a sexual offender specific treatment program, a clinical psychologist reported that the JSO had engaged in pervasive denial of any role in his adjudicated sexual offense. ***This information is irrelevant to Item 23 because the denial occurred prior to admission into a treatment program during court supervision for the index sexual offense. Information on outcomes for his subsequent SO treatment would have to be consulted to score this item.***
3. In a report to the court at the time of his release from court supervision, a probation officer reported that the JSO still maintained that he was seduced by his victim. As part of his sentence, the JSO was ordered to complete sexual offender treatment, but no treatment documents were available to address the JSO's level of denial. ***In column 24, record the letter "Y."***
4. In a treatment summary for an inpatient, sexual offender specific treatment, a clinical psychologist reported that the JSO had fully admitted to his role in his most recent sexual offense, but claimed that previous sexual offenses were consensual. ***In column 24, record the letter "N" (note that this item only counts denial of the index offense).***

## JSORRAT – II VALIDATION RESEARCH ITEM

### ITEM 25

Number of officially documented “hands-on” sexual abuse incidents where the JSO was the victim:

None.....	0	Three .....	3
One .....	1	Four .....	4
Two .....	2	Five or More.....	5+

### Scoring Criteria

Record the number of officially documented “hands-on” sexual abuse incidents where the JSO was the victim. Official documentation may include police, court, child protective services, or medical reports. Do not include self-reported victimization incidents that are not also officially documented. “Hands-on” sexual abuse includes direct contact with the victim (incidents of exhibitionism would be excluded). Such acts may include fondling of the victim, forcing the victim to fondle the abuser, oral sex performed on the victim, forcing the victim to perform oral sex on the abuser, penetration of the victim’s anus, or forcing the victim to penetrate the abuser’s vagina or anus.

### Examples

1. A JSO was the victim of an officially charged and adjudicated sexual violation by an adult relative. Though the perpetrator was charged with only one count, a police report indicated that the abuse had occurred on two occasions and involved oral sex on the victim. ***In column 25, record the number 2.***
2. A JSO was the victim of several founded sexual abuse incidents. A child protective services report of the incidents indicated the perpetrator sodomized the JSO at least five times over the course of one year. ***In column 25, record the number 5+.***
3. A JSO was the victim of a single sexual abuse incident that was officially reported to child protective services. Though the incident was founded, it did not result in an official charge. ***In column 25, record the number 1 (note that criminal charges are not required for the event to be considered to be officially documented).***
4. A JSO was the victim of an officially charged sexual abuse incident, in which his uncle exposed his genitalia to the JSO on at least four occasions. ***In column 25, record the number 0 (note that all offenses involved non-contact sexual abuse).***

## JSORRAT – II VALIDATION RESEARCH ITEM

### ITEM 26

**Number of officially documented physical abuse incidents where the JSO was the victim:**

None.....	0	Three .....	3
One .....	1	Four .....	4
Two .....	2	Five or More .....	5+

### Scoring Criteria

Record the number of all officially documented physical abuse incidents where the JSO was the victim. Official documentation may include police, court, child protective services, or medical reports. Do not include self-reported victimization incidents that are not also officially documented. Physical abuse must involve direct contact with the victim, but the severity of injury sustained by the JSO is irrelevant.

### Examples

1. A JSO was the victim of physical abuse committed by his father for which the father was officially charged. Though the father was charged with only one count, a police report indicated that the abuse had occurred on two occasions and had resulted in several bruises to the JSO's arms and back. ***In column 26, record the number 2.***
2. A JSO was the victim of several founded physical abuse incidents. A child protective services report of the incidents indicated the JSO's mother had used a leather belt to severely punish her child on at least one dozen occasions. ***In column 26, record the number 5+.***
3. A JSO was the victim of a single physical abuse incident perpetrated at a foster home that was officially reported to child protective services. Though the incident was founded, it did not result in an official charge. ***In column 26, record the number 1 (note that criminal charges are not required for the event to be considered to be officially documented).***
4. There is no mention of child abuse anywhere in the file. ***In column 26, record the number 0.***
5. Although the JSO alleged that physical abuse had occurred, such abuse was not documented through official reports in the file. ***In column 26, record the number 0.***

## JSORRAT – II VALIDATION RESEARCH ITEM

### ITEM 27

**Specify the number of distinct instances the JSO lived separately from his parents or legal guardians for a period of three months or longer prior to the age of 16.**

#### Scoring Criteria

For this item record the number of distinct instances when the JSO lived away from either his parents or legal guardians for three or more consecutive months. Examples of separate living arrangements may include being removed from the home by child protective services, the JSO living with a friend of the family or relative other than his parents, the JSO living in an inpatient treatment facility, juvenile detention facility, half-way house, or foster home. Physical separations must result in some disruption to the normal living arrangements of the JSO and his family. Do not include extended vacations, such as living with grandparents for two-weeks, as living separately if the intent was to visit a different place for enjoyment. Also, do not count the adoption of the JSO by another family as physical separation, unless the JSO was older than the age of five at the time of the adoption. Lastly, do not count moving from one parent or legal guardian to another parent or legal guardian, such as in the case partial custody after a divorce. Separations may be temporary resulting in the return of the JSO to his original living arrangement, but they should last longer than three months.

#### Examples

1. A JSO was adopted at birth, and there is no record of the JSO having any other living arrangements. ***In column 27, record a zero (note that, although the JSO was physically separated from his birth parents, adoptions that occur prior to the age of 5 are not considered to be living separately from parents).***
2. A JSO was placed in a residential treatment facility after being adjudicated for a second sexual offense. He was 16 years, 6 months old at the time of that placement. He does not have a record of any other separation from his parents. ***In column 27, record a zero (note that, although the JSO was physically separated from his parents, the separation occurred after the age of 16-years-old).***
3. A child protective service report indicated that the JSO was placed in foster care for six months at the age of 8-years-old after his sole guardian, his mother, was detained for trafficking drugs. ***In column 27, record “1.”***
4. A JSO received a one-month sentence in a detention facility at the age of 14-years-old after being adjudicated for a series of sexual assaults. ***In column 27, record a zero (note the separation did not last at least three months).***

**JSORRAT – II VALIDATION RESEARCH ITEM****ITEM 28**

**Record the duration in months of the longest physical separation of the JSO from either his parents or legal guardians prior to age 16.**

**Scoring Criteria**

If the JSO was separated from his parents or legal guardians for at least one period of three months or more on the previous item (#27), record the length of the longest period of separation for the current item. Record the length of the longest separation in full months. Do not round up, so if the JSO's longest separation from his parents or legal guardians prior to age 16 was 10 months and 11 days, this would be coded as 10 months. If the previous item (#27) was scored as zero, then the current item will automatically be scored as zero.

**JSORRAT – II VALIDATION RESEARCH ITEM**
**ITEM 29**

**Did the JSO have severe difficulty relating to his parents during the twelve months prior to the charge for the index sexual offense?**

No..... N

Yes ..... Y

No Parental Relationship ..... NA

**Scoring Criteria**

For this item, record whether or not the JSO had severe difficulty relating to his parents during the twelve months prior to the index sexual offense charge. Record the letter “Y” if the JSO exhibited severe difficulty relating to parents during the specified period, and record the letter “N” if he did not. This item focuses on the child’s difficulty relating to parents, not the reverse. Consequently, abuse directed at the JSO would not constitute severe difficulty relating to parents in and of itself unless the JSO also exhibited other behavioral signs described below. Severe difficulty relating to parents may manifest in persistent arguments, physical altercations, or the JSO running away. The level of severity must be noteworthy and go beyond what is typical of adolescent/teen and parent relationships. If one or both of the JSO’s parents have been absent for the majority of his life, do not count that parent for this item. Count only the parent that the JSO has the most contact with. If the JSO has been adopted, code this item using the adoptive parent-child relationship, and if the JSO has lived in foster care, a group home, or with relatives for the 12 months prior to the index offense, code this item using the parental figure in those environments. If the JSO lived in a secure facility, such as juvenile detention or an inpatient treatment facility, for the 12 months prior to the index offense, record the letters “NA.” If the JSO has a history of severe difficulty relating to his parent or parents,

**Examples**

1. A psychological report indicated that the JSO and his father have a tumultuous relationship. In the past, the JSO reported being the victim of physical abuse by his father when he was younger, and more recently the two frequently argue and engage in physical altercations. Lastly, the report indicated that the JSO reported “hating” his father. ***In column 29, record the letter “Y.”***
2. A psychological report indicated that during an interview, the JSO reported occasional arguments with his parents over his curfew. ***In column 29, record the letter “N” (note that, although the parents and JSO occasionally argue, it is clear that the arguments do not go beyond what is typical of an adolescent and parent relationship.)***



**JSORRAT – II VALIDATION RESEARCH ITEM****ITEM 30****Did the JSO have severe difficulty relating to his siblings in the past year?**

No..... N

Yes ..... Y

No Siblings in Last 12 Months..... NA

**Scoring Criteria**

For this item, record whether or not the JSO had severe difficulty relating to his siblings during the twelve months prior to his index sexual offense charge. Record the letter “Y” if the JSO exhibited severe difficulty relating to siblings during the specified period, and record the letter “N” if he did not. This item focuses on the child’s difficulty relating to siblings, not the reverse. Consequently, abuse directed at the JSO from siblings would not constitute severe difficulty relating to siblings in and of itself unless the JSO also exhibited other behavioral signs described below. Severe difficulty relating to siblings goes beyond typical sibling rivalries or conflicts and may manifest in persistent arguments, severe or chronic physical altercations, or severe lack of any communication between the JSO and one or more siblings. Do not code sexual abuse of a sibling as evidence of severe difficulty on this item. In order to score this item as “Yes,” the severe difficulty only needs to be between the JSO and one other sibling. If the JSO has been adopted, code this item using the adoptive sibling relationship, and if the JSO has lived in foster care or a group home for the 12 months prior to the index offense, code this item using the sibling relationships in those environments. If the JSO lived in a secure facility, such as juvenile detention or an inpatient treatment facility, for the 12 months prior to the index offense, record the letters “NA.” Also, if the JSO has no siblings or those siblings he has do not presently live with him, record the letters “NA.”

**Examples**

1. A clinical psychologist wrote a report after an interview with the JSO and his family. The report indicated that the parents had concerns about the relationship between the JSO and his older brother. From their report, the two siblings have been unable to speak to each other for the past two years without an argument or physical fight ensuing. ***In column 30, record the letter “Y.”***
2. A psychological report indicated that during an interview, the JSO reported occasional arguments with his younger siblings over the use of the television set and video game system. ***In column 30, record the letter “N” (note that, although the siblings and JSO occasionally argue, it is clear that the arguments to do not go beyond what is typical of sibling relationship).***
3. The case file does not indicate anywhere that the JSO has siblings. ***In column 30, record the letters “NA”.***

## JSORRAT – II VALIDATION RESEARCH ITEM

### ITEM 31

**Does the JSO have a history of special education placement?**

None..... N	Behaviorally Disabled .....BD
Mentally Disabled ..... MD	Emotionally Disabled .....ED
Learning Disabled ..... LD	Other or Classification Unclear ..... O

### Scoring Criteria

For this item, record all of the types of historical special education placements the JSO has received. Special education placement results in special assistance provided by the school system related to an identified disability (mental retardation, learning disability, behavioral disability, emotional disability). Do not include tutoring or special assistance sought by the JSO or his family outside of the school system as evidence of special education placement. Special education placement in the school system must be clearly documented, though the exact reason may be unspecified. If the JSO has no history of special education placements, record the letter “N.” If the special education program was for a mental retardation, record the letters “MD.” Record the letters “LD” for learning disability classifications, “BD” for behavioral disability classifications, and “ED” for emotional disability classifications. Record the letter “O,” if the JSO clearly participated in some form of special education, but the classification was unclear.

### Examples

1. A JSO was officially placed in a special education classroom for students with learning disabilities involving reading. *In column 31, record the letters “LD.”*
2. A JSO received official special education assistance in the resource room for several hours per week as a result of an identified mathematical learning disability. *In column 31, record the letter “LD.”*
3. A JSO was officially classified as behaviorally disordered. *In column 31, record the letter “BD.”*
4. A JSO received tutoring at home that was requested by the parents. These services were paid for by the JSO’s family, and there was no evidence of special education placement at school. *In column 31, record the letter “N.”*

**JSORRAT – II VALIDATION RESEARCH ITEM****ITEM 32****Number of School Disciplines:**

Elementary School .....0, 1, 2+

Middle School or Junior High .....0, 1, 2+

High School.....0, 1, 2+

**Scoring Criteria**

Record the number of school disciplines for problematic behavior that the JSO received during each of three education, time periods. The three time periods include elementary school, middle school or junior high, and high school. Behaviors that may result in formal school discipline include non-sexual violence, sexual violence, property offenses, oppositional behavior, verbal harassment, truancy, and other serious behavior problems noted, but not specified. If a specific number of disciplines cannot be determined, but it is clear that the JSO was disciplined, record the number 1 for the time period that the JSO received the discipline unless the record clearly indicated a persistent pattern of school disciplines. If a persistent pattern was evident, record “2+.” If the JSO is not old enough for high school, record the number 0.

**Examples**

1. In a probation report, the probation officer reported that the JSO had been suspended from high school for participating in a physical assault on another student. In a separate report of education progress provided to the court, a school attendance official reported that the JSO was frequently truant in middle school. ***In column 32, record the number 0 for elementary school, 2+ for middle school or junior high, and 1 for high school.***
2. In an education summary report, a school official reported that the JSO had been sent to the principal’s office after verbally harassing another student during his sixth-grade year. In that school district, sixth-grade is considered middle school. The report also indicated that this event was an isolated incident. ***In column 32, record the number 0 for elementary school, 1 for middle school or junior high, and 0 for high school.***
3. In a psychological assessment report, a psychiatrist reported communicating with school officials with regard to behavior problems a 17-year-old JSO had exhibited over the course of his schooling. The psychiatrist reported that school officials had disclosed that the JSO had pervasive oppositional problems that resulted in frequent disciplinary problems starting in the second grade and continuing to the present. ***In column 32, record the number 2+ for elementary school, 2+ for middle school or junior high, and 2+ for high school.***

**JSORRAT – II VALIDATION RESEARCH ITEM**

**ITEM 33**

**Number of adjudications for non-sexual, VIOLENT offenses against persons prior to or concurrent with the index sexual offense adjudication:**

**Scoring Criteria**

Count all adjudications for non-sexual, violent offenses against persons for which the JSO was adjudicated prior to or concurrently with index sexual offense adjudication. Some examples of non-sexual, violent offenses against person would include assault, battery, robbery, kidnapping, attempted murder, murder, arson involving residences or businesses, and weapons charges. Do not count the index or prior sexual offenses, even if the sexual offense was violent in nature.

**Examples**

1. A JSO had one petty theft adjudication that occurred six months prior to his current sexual offense adjudication. *In column 33, record the number 0 (note that this prior offense was not violent in nature).*
2. A JSO was adjudicated for two felony assault charges one year prior to his current sexual offense adjudication. *In column 33, record the number 2.*
3. The only adjudications that the JSO has on his record are for sexual offenses. *In column 33, record the number 0.*
4. A JSO has two adjudications on his record. The first was a simple assault against a classmate, and the second, occurring two days later, is his index sexual offense. Both offenses were charged and adjudicated on the same days. *In column 33, record the number 1 (note that non-sexual, violent offense charged and/or adjudicated at the same time as the index sexual offense are counted on this item).*

**JSORRAT – II VALIDATION RESEARCH ITEM**

**ITEM 34**

**Number of adjudications for non-sexual, PROPERTY offenses prior to or concurrent with the index sexual offense adjudication:**

**Scoring Criteria**

Count all adjudications for non-sexual, property offenses for which the JSO was adjudicated prior to or concurrent with the index sexual offense adjudication. Non-sexual, property offenses may include both misdemeanor and felony-level offenses that were not sexual offenses by statute. Some examples of property offenses include burglary, theft, shoplifting, vandalism, destruction of property, and possession of stolen property.

**Examples**

1. A JSO had one petty theft adjudication that occurred six months prior to his current sexual offense adjudication. ***In column 34, record the number 1.***
2. A JSO was adjudicated for two felony assault charges one year prior to his current sexual offense adjudication. ***In column 34, record the number 0 (note that both of these prior offenses were not property offenses).***
3. The only adjudications that the JSO has on his record are for sexual offenses. ***In column 34, record the number 0.***

**JSORRAT – II VALIDATION RESEARCH ITEM**

**ITEM 35**

**Number of adjudications for other non-sexual offenses prior to or concurrent with the index sexual offense adjudication:**

**Scoring Criteria**

Count all other non-sexual offense adjudications not counted as violent or property adjudications on the previous two items. These adjudications must have occurred prior to or concurrent with the index sexual offense adjudication. The most common types of adjudications that will be coded on this item will be drug offenses (such as possession of paraphernalia, possession of illegal or controlled substances, and trafficking) and status offenses. Status offenses most often include possession of substances that are not illegal for adults (e.g., tobacco and alcohol). Other more minor adjudications will also be counted on this item, such as driving without a license, trespassing, curfew violations, habitual truancy, etc. **All adjudications for non-sexual offenses that were not counted as a violent or property offense adjudications should be counted on this item if the adjudication occurred prior to or concurrent with the index sexual offense adjudication.**

**Examples**

1. A JSO had one adjudication for possession of tobacco that occurred six months prior to his current sexual offense adjudication. ***In column 35, record the number 1.***
2. A JSO was adjudicated for two felony assault charges one year prior to his current sexual offense adjudication. ***In column 35, record the number 0 (note that prior non-sexual, violent offenses are counted in item 33).***
3. A JSO was arrested for possession of a large quantity of marijuana one year prior to his sexual offense. This event resulted in one charge and adjudication: possession of marijuana with intent to deliver. ***In column 35, record the number 1.***
4. The only adjudications that the JSO has on his record are for sexual offenses. ***In column 34, record the number 0.***

**JSORRAT – II VALIDATION RESEARCH ITEM****ITEM 36****What is the JSO's recorded religious affiliation?**

Mormon .....Mor

Other Christian .....OC

Jewish ..... J

Muslim ..... Mu

Other ..... O

None..... N

**Scoring Criteria**

For this item, record the JSO's religious affiliation. In the appropriate box on the scoring grid, record the letters "Mor" if the JSO is Mormon, "OC" if the JSO reports another Christian denomination as his religion, "J" if the JSO is Jewish, "Mu" if the JSO is Muslim, "O" if the JSO subscribes to some other religion, and "N" if the JSO does not subscribe to any religion. If the file does not indicate the JSO's religion, leave this item blank.

**JSORRAT – II VALIDATION RESEARCH ITEM****ITEM 37****What is the JSO's recorded ethnic background?**

Caucasian American/White ..... C

African American/Black ..... AA

Latino/Hispanic..... L

Asian/Pacific Islander ..... AP

Multi-Racial ..... MR

Other ..... O

**Scoring Criteria**

For this item, record the JSO's race/ethnicity. In the appropriate box on the scoring grid, record the letters "C" if the JSO is Caucasian/White, "AA" if the JSO is African American/Black, "L" if the JSO is Latino/Hispanic, "AP" if the JSO is Asian/Pacific Islander, "MR" if the JSO is Multi-Racial, and "O" if the JSO is from some other ethnic background. If the file does not indicate the JSO's ethnic background, leave this item blank.



**JSORRAT – II VALIDATION RESEARCH ITEM**

**ITEM 38**

**What is the JSO's highest grade-level completed prior to the index sexual offense adjudication?**

**Scoring Criteria**

For this item, record the JSO's highest grade-level completed prior his index sexual offense adjudication. Record only the highest completed grade not that which the JSO has started, but had not yet completed. For JSO's who are home-schooled, record the highest grade-level equivalent documented in the case file.

**Examples**

1. A JSO was in the second month of his 9<sup>th</sup> grade school year when he was adjudicated for his only sexual offense. ***In column 38, record the number 8 to indicate the JSO had completed the 8<sup>th</sup> grade (note that the JSO had not yet completed the 9<sup>th</sup> grade when the offense occurred).***
2. A JSO was charged for felony-level sexual abuse of his youngest sibling. Although the abuse spanned the offender's 10<sup>th</sup> and 11<sup>th</sup> grade years, he was not detected and adjudicated until December of his 11<sup>th</sup> grad year. ***In column 38, record the number 10 to indicate the JSO had completed the 10<sup>th</sup> grade (note that the key date is the date of the adjudication).***
3. A JSO was charged for felony-level sexual abuse of his younger brother when the JSO was 15-years-old. The offense occurred in July of 2001. The JSO and his younger brother were both home-schooled, and other case file information indicated that the JSO's school-level equivalent was the 10<sup>th</sup> grade. ***In column 38, record the number 10 to indicate the JSO had completed the 10<sup>th</sup> grade (note that though the JSO was home-schooled, other records indicated a school-level equivalent).***

**JSORRAT – II VALIDATION RESEARCH ITEM**

**ITEM 39**

**The JSO's officially documented IQ score from a standardized test:**

**Scoring Criteria**

For this item, record the JSO's most recent, officially documented IQ score from a standardized intelligence test (e.g., WISC-III, Stanford-Binet Intelligence Scale, Kaufman Assessment Battery for Children). Do not record approximations of intelligence, unless aided by the results of a standardized test or test battery. Scores are most likely to be found in psychological assessment reports, but may be recorded in other official documents, if they are citing an official psychological assessment report. If the JSO has not recorded IQ score, leave this item blank.

**Examples**

1. A JSO received a psychological assessment as part of a court ordered treatment. The report from this assessment reported that the JSO had a Full-Scale WISC-III IQ score of 105. ***In column 39, record the number 105.***
2. A psychological report of the JSO's treatment progress indicated that the JSO's intelligence level was in the "borderline" range. However, no IQ score from a standardized intelligence test was reported to supplement this assertion. ***In column 39, leave this item blank (note that though a psychologist made an assessment of the JSO's intelligence level, there was no corresponding IQ score reported from a standardized test).***

**JSORRAT – II VALIDATION RESEARCH ITEM**

**ITEM 40**

**Date the JSO entered a secure facility placement as the result of his index sexual offense adjudication:**

**Scoring Criteria**

For this item, record the date the JSO entered a secure facility placement as the result of his index sexual offense adjudication. Secure facility placements include residence in juvenile detention or an inpatient treatment facility where the JSO has limited freedom of movement both within and outside of that facility. If the JSO never received a secure facility placement for the index sexual offense, leave this item blank.

**Example**

1. A juvenile has a history of two sexual offenses. The first was adjudicated on 01/08/1999 and resulted in a sentence of mandatory inpatient sexual offender specific therapy. The second was adjudicated on 06/18/2000 and resulted in a fine and two years of probation. ***Leave the space corresponding to Question 40 blank (note that the index offense did not result in a secure facility placement).***
2. A juvenile has a history of two sexual offenses. The first was adjudicated on 08/25/1999 and resulted in both mandatory outpatient sexual offender specific and two years of probation. The second was adjudicated on 03/12/2000 and resulted in a 30-day stay in juvenile detention, starting from the date of the adjudication. ***In the blank space corresponding to Question 40, record the letter 03/12/2000.***

**JSORRAT – II VALIDATION RESEARCH ITEM**

**ITEM 41**

**Release date from a secure facility placement for the index sexual offense adjudication:**

**Scoring Criteria**

For this item, record the date the JSO was released from a secure facility placement for his index sexual offense adjudication. If the JSO did not receive a secure facility placement, as indicated in Item 39, leave this item blank.

**Example**

1. A juvenile has a history of two sexual offenses. The first was adjudicated on 01/08/1999 and resulted in a sentence of mandatory outpatient sexual offender specific therapy. The second was adjudicated on 06/18/2000. This adjudication resulted in a 30-day incarceration in juvenile detention, and a fine. He was subsequently released from detention on 7/18/2000. ***In the blank space corresponding to Question 41, record 7/18/2000.***

**JSORRAT – II VALIDATION RESEARCH ITEM**

**ITEM 42**

**What is the JSO's Substance Abuse Involvement for the 12-months Prior to the Index Sexual Offense?**

None ..... N

Experimental.....Ex

Moderate .....M

Severe ..... S

**Scoring Criteria**

For this item, record the JSO's degree of substance abuse for the 12-months prior to his index sexual offense. Substances include both alcohol and illegal drugs. Substances may also include prescription drugs when the prescription was not intended for the JSO or if the JSO takes drugs prescribed to him in an attempt to alter his mood or state of consciousness in a way not intended by the prescribing physician.

If the JSO did not take any substance in at least an experimental manner during the 12-months prior to his index offense, record the letter "N." If the JSO did take a substance on one or two occasions, record the letters "Ex" to denote experimental use. If the JSO took a substance on three or more occasions with no clear pattern and no disruption to social, cognitive, physical, educational, or occupational functioning, record the letter "M." If the JSO used substances in a habitual manner or experiences any disruption to social, cognitive, physical, educational, or occupational functioning as the result of the substance use, record the letter "S."

**Example**

1. A psychological evaluation of the JSO upon intake for sexual offender specific treatment for his index offense noted that the JSO reported he has drunk alcohol on four occasions over the past year. He further reported that each of these times he had between one and two alcoholic drinks. ***In the blank space corresponding to Question 42, the letter "M."***
2. A psychological evaluation of the JSO upon intake for sexual offender specific treatment for his index offense noted that the JSO reported he has "experimented" with alcohol and marijuana. Upon further questioning, the JSO revealed that he drinks alcohol to intoxication on a weekly basis and smokes marijuana on a monthly basis. ***In the blank space corresponding to Question 42, the letter "S" (note that a pattern of use or abuse qualifies as Severe).***

**JSORRAT – II VALIDATION RESEARCH ITEM**

**ITEM 43**

**Has the JSO received a major disciplinary infraction while under some form of supervision (does not include disciplines for failure to follow directives to successfully complete treatment)?**

Yes ..... Y

No ..... N

**Scoring Criteria**

This item measures whether or not the JSO has ever received a major disciplinary infraction while under some form of court-ordered supervision. The supervision does not have to be the result of a sexual offense. Major disciplinary infractions include (1) revocation or restructuring of probation resulting from the JSO engaging in some form of prohibited behavior or (2) being cited for violence, sexual behavior, or using drugs or alcohol within some secure facility. Secure facilities include residence in juvenile detention or an inpatient treatment facility where the JSO has limited freedom of movement both within and outside of that facility. Do not count major disciplinary infractions that result in a new charge.

**Example**

1. While on probation for the theft of a bicycle, a JSO commits an assault on a classmate. The assault resulted in a new charge. ***In the blank space corresponding to Question 43, record the letter “N” (note that behavior resulting in a new charge does not constitute a disciplinary infraction).***
2. A JSO received inpatient sexual offender specific treatment as part of his sentence for a previous sexual offense. While in this treatment facility, the JSO is found with cigarettes. The JSO is cited for possession of tobacco and loses privileges within the treatment facility. No charges are levied. ***In the blank space corresponding to Question 43, record the letter “Y”.***



