Juvenile risk assessment scale (JRAS): A predictive validity study

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A New Jersey Supreme Court decision directed the New Jersey Attorney General's Office to develop a risk assessment scale specific to juvenile sex offenders, to be used to place juvenile sex offenders in risk tiers in accord with New Jersey's community notification law. In light of the court's decision, the scale previously used for both adults and juveniles in New Jersey was modified, creating the JRAS. The present article describes the development of the JRAS, as well as the predictive validity study that was conducted to determine the relationship between JRAS scores and recidivism. The predictive validity study found that the ability of the JRAS to predict both sex offense and non-sex offense recidivism is on the same level as other accepted scales. Factor analysis revealed that the major predictive factor in the JRAS was a general antisocial behavior factor.

AUTHORS' NOTE: *We thank Janet DiGiorgio-Miller, Ph.D. and Gregory DeClue, Ph.D., who served as reviewers of this article. We also thank Krista Jenkins, Ph.D. for her assistance and guidance regarding the data analysis. For additional information about this article contact: Sean P. Hiscox, Ph.D., Associates in Psychological Services, P.A., 25 North Doughty Avenue, Somerville, NJ 08876. Ph: 908-526-1177.*

Sexually abusive youth are a significant social problem. Some estimates indicate that juveniles commit 20% to 30% of reported rapes and 30% to 60% of child molestation (Hunter, 1999; Weinrott, 1996). Retrospective studies have found that many adult sex offenders report an adolescent onset (Abel & Rouleau, 1990; Barbaree, Marshall & Hudson, 1993), suggesting that early detection and treatment could result in reducing re-offense in adulthood.

A trend began many years ago toward more punitive approaches in juvenile court proceedings, and dispositions for sexually abusive youth have been no exception. The court has gradually acquired a formality and adversarial aspect more common previously only in adult criminal court. In many jurisdictions, in New Jersey for example and in over half of the United States, sexually abusive youth are treated little differently than adults with regard to community notification and registration despite there being little empirical support for its reducing recidivism or increasing public safety (Trivits & Repucci, 2002). A recent federal law known as the Adam Walsh Child Protection and Safety Act of 2006 (*H.R. 4472*, United States Federal Law) has continued this trend, requiring lifetime registration of some juveniles convicted of a sex offense.

In step with legislation focusing on managing both adult and juvenile sex offenders, assessing their risk to re-offend has become a necessary component of this process. Sex offenders are a diverse group, with some more likely to relapse than others. However, risk assessment is not as straightforward as may seem. Detecting sexually abusive youth who will re-offend is like trying to find a needle in a haystack given our current state of knowledge. Complicating this matter is that juveniles are in a stage in their lives where they are rapidly changing developmentally. As noted recently by Prescott (2006), "The field has a long way to go before it can claim to understand this most diverse population."

Risk assessment can be contrasted with risk management (Epperson, Ralston, Fowler & DeWitt, 2006), and these concepts complement each other. Risk management refers to the ongoing process of assessing changes in an offender's immediate risk and devising methods for lowering that risk. Well done risk assessments match the level of risk management (e.g., level of supervision, level of community notification) to the person's level of risk (Epperson, et al., 2006). If risk assessments are poorly done it can result in a low-risk offender receiving the same level of supervision as a high-risk offender or vice versa, which is not an effective way of allocating limited resources and may inadvertently increase the risk to the public.

When youth are identified as having problems with abusive and/or criminal sexual behavior, typically either through an arrest or a child protection agency investigation, informal risk assessment begins immediately, as the agency processing the juvenile attempts to determine how best to manage him. Risk assessment affects:

1. The intensity of supervision if the juvenile remains in the community.
2. The extent of treatment interventions.
3. The likelihood of future offenses, which in turn may determine the level of community notification.
4. The level of security the juvenile requires, which could vary from retention in the family home to placement in a therapeutic foster home to inpatient/residential treatment to a secure criminal justice facility.

Risk assessment in general has become less impressionistic and more structured and empirically guided in recent decades (Witt & Dyer, 1997; Weibush, Baird, Krisberg & Onek, 1995), and risk assessment of sexually abusive youth has followed this trend. Most of us would like to think we are good judges of character and can tell when a person before us is dangerous or not. However, given that clinicians make

accurate judgments in this area at a rate only slightly better than chance when using unstructured clinical judgment (Hanson & Bussiere, 1998), the development of structured, empirically based risk assessment methods have been a welcome development.

Risk assessment methods are often classified in terms of the amount of structure involved in and the amount of empirical support for the procedure. Hanson (2000) describes a continuum of risk assessment procedures:

Unstructured clinical

- Clinician determines what questions to ask and what constructs to measure
- Flexible administration
- Potentially multiple data sources
- Heavy reliance on clinical interview
- Intuitive, idiosyncratic algorithm for determining risk
- No validation or reliability data

Structured clinical

- Consistent list of risk factors assessed
- Guided by clinician's intuitive understanding of what characteristics are associated with risk
- Reliable administration, since based on consistent risk factor list
- No validation or reliability data
- Potentially multiple sources of data

Empirically guided clinical

- Consistent list of risk factors assessed
- Risk factors based on review of empirical literature
- Informed by professional literature
- Consistent, reliable process
- Uniform method for determining risk level

- Potentially multiple sources of data
- May or may not have concurrent and predictive validity studies

Actuarial

- Consistent list of risk factors assessed
- Risk factors based on review of empirical literature
- Informed by professional literature
- Specific mathematical algorithm for determining a risk score
- Limited to risk factors found to be related to recidivism in standardization study

Clinically adjusted actuarial

- Administration of multiple actuarial instruments
- Results integrated into composite risk assessment through consideration of the properties of the individual instruments

In terms of specific risk factors, variables are generally divided into two classes (Hanson, 2002):

Static: Historical factors not subject to change, such as:

- Number of prior sexual offenses
- Characteristics of prior sexual offenses
- Prior victim selection
- Prior nonsexual antisocial behavior
- Sexual history
- Family history
- Past psychiatric history
- Past substance use
- Age of victim
- Gender of victim

Dynamic: Factors subject to change over time, either slowly (stable dynamic factors) or rapidly (acute dynamic factors), such as:

- Motivation
- Acceptance of responsibility

- Level of victim empathy
- Quality of peer relationships
- Level of sexual self regulation
- Level of general self regulation
- Current substance abuse
- Current symptoms of mental illness

Static factors have been studied the longest, in part because these are easiest to obtain from archival data. The dynamic factors are complex, difficult to measure constructs that frequently require a clinical interview. Therefore, dynamic factors, frequently requiring a clinical interview, are more expensive to obtain and have associated problems of interrater reliability. It is only in the past few years that research has progressed regarding dynamic risk factors (Hanson & Harris, 2000).

Recidivism

The general public frequently views sexually abusive youth (and adult sex offenders alike) as having close to 100% recidivism rates. The reality is quite different, at least in so far as recidivism is detected. As Zgoba, Sager and Witt (2003) have noted, "Recidivism is variously defined as a new sex offense arrest, a new sex offense conviction, a new arrest of any kind, a new conviction of any kind, or even a new technical violation of parole. Recidivism varies enormously, depending upon which definition is used. (p. 136)" The base rate of detected recidivism—or the amount that re-offending occurs in the population of sex offenders—is actually low. Juvenile recidivism rates (given the above caveat regarding measurement difficulties) vary from approximately 2% to 20% (Juvenile Sex Offender Focus Group, 2001) depending on the population, jurisdiction, and length of follow up (e.g., six months versus seven years). The longer the follow up typically the higher the rate of recidivism observed.

Interestingly, studies outside of North America have typically found higher recidivism rates for juveniles (Nisbet, Wilson & Smallbone, 2004; Langstrom & Grann, 2000). One study by Swedish researchers found that 20% of their sample was reconvicted sexually and 65% was reconvicted nonsexually (Langstrom & Grann, 2000). The sample in this study consisted of 46 adolescent sex offenders that were followed an average of five years. Nisbet et al. (2004) studied 292 adolescent sex offenders from Australia. With a seven year follow up period they found that 25% of the sample were reconvicted of sexual offences as adolescents, 5% were reconvicted of sexual offences as adults, 4% were charged with sexual offences as adults but the charges did not lead to convictions, and 61% were convicted for nonsexual offences as adults.

Perhaps the most comprehensive meta-analysis with adults, conducted by Hanson and Bussiere (1998), found adult sex offender recidivism to be roughly 15% over a large number of pooled follow-up studies. Another recent meta-analysis (Hanson, Gordon, Harris, Marques, Murphy, Quinsey & Seto, 2002), which pooled studies to assess the effectiveness of treatment on adult sex offenders, found a sexual recidivism rate of about 12% for treated adult sex offenders and a 17% sexual recidivism rate for untreated adult sex offenders, again, far below the intuitive estimates of the general public.

In terms of juveniles specifically, in a meta-analysis (Alexander, 1999) with 1,025 juveniles who received some form of treatment, recidivism rates were 5.8% for "rapists," 2.1% for "child molesters," and 7.5% for an "unspecified group." The length of follow up varied across the studies sampled in the meta-analysis and all subjects appear to have received some sort of treatment. Recidivism rates, most frequently measured conservatively by re-arrest, increased with longer follow ups. For the juvenile studies reviewed by Alexander, recidivism ranged from roughly 5% to 21%, with follow up periods of between on and five-plus years.

Juveniles who had received treatment showed low recidivism rates, typically less than 10%.

A recent study (Vandiver, 2006) with 300 registered male sex offenders who were juveniles at time of arrest and followed for three to six years after reaching adulthood found that 13 (4%) re-offended sexually and more than half re-offended nonsexually. In addition, a study of 148 Canadian youth (Worling & Curwen, 2000) followed for approximately six years found that 5% of the juveniles who received sex-offense-specific therapy re-offended, whereas 18% of the juveniles who did not receive sex-offense-specific therapy re-offended. Another study by Prentky, Harris, Frizzell & Righthand (2000) found that only three of 75 juveniles re-offended sexually, although the youth in this sample were only followed for one year.

Another study (Poole, Liedecke & Marbibi, 2001) of adolescent offenders, all 18 years or older but having entered the Texas Youth Authority as juveniles, compared scores on the STATIC-99—a widely used adult sex offender recidivism scale that assesses static risk factors such as prior sex offenses, prior non-sexual violence, and victim characteristics —with rates of sexual offense recidivism. They found that if they used a cut-off score of four points rather than the recommended cut-off score of six points (out of a total possible 12 points), they could correctly identify all four of the juveniles who were arrested for new sexual offenses within the four-year follow-up period. But using a cut score of four identified 17 other youths as high-risk, none of whom were arrested for a new sexual offense within the four-year period. However, the four recidivists (as determined by re-arrest within four years) were only part of the total high-risk group, which included 21 total offenders, indicating a large number of false positives. Although these results suggest that many of the static, historical risk factors useful in predicting sexual offending recidivism with adults may be useful in evaluating juveniles, it also raises the issue of false positives and sensitivity of instruments used to assess risk.

Factors associated with recidivism

With both adult and juveniles that have been convicted of a sex offense, the research is clear that as a group they are significantly more likely to be re-arrested again for a crime other than sex offending, that is, non-sexual criminal behavior that results in further criminal justice attention (Prescott, 2006; Langstrom & Grann, 2000; Hanson & Bussiere, 1998). In addition, with juveniles, as with adults, there are different risk factors for sexual versus other criminal recidivism. The literature identifies two strong predictors of adult sexual and non-sexual recidivism: deviant sexual interest is a predictor of sex offending and general criminality is a predictor of non-sexual offending (Hanson & Bussiere, 1998; Doren, 2002).

The literature is similar (although less well defined than the literature regarding adults) on what the best predictors are with juveniles. With juveniles, Langstrom and Grann (2000) report that previous criminality, early onset conduct disorder, psychopathy[1] and use of threats or weapons in the index crime predict non-sexual recidivism, whereas prior sexually abusive behavior, more than one victim in the index offense, male victim, and poor social skills were associated with sexual recidivism. In addition, Worling and Curwen (2000) found that sexual interest in children predicted sexual re-offense, whereas general criminal factors, such as an antisocial interpersonal orientation, predicted non-sexual recidivism.

Early onset of sexually abusive behavior, persistent sexually abusive behavior (that is, continuing to engage in sexually abusive behavior after being detected and punished), and established deviant sexual preferences[2] are significant juvenile sex offense risk factors according to Prescott (2006) in his review of the literature. Victim penetration has generally not been associated with sexual recidivism, but it has been found predictive of future violence (Langstrom & Grann, 2000).

As mentioned, sexual arousal to children, particularly toward boys, has been shown to be a strong predictor of re-offense in adults (Hanson & Bussiere, 1998, Hanson & Morton-Bourgon, 2004). With juveniles, however, victim gender is less clear and has been subject of considerable debate. However, this item appears in commonly used juvenile sexual risk-assessment scales such as the JSOAP-II (Prentky & Righthand, 2003) and the Estimate of Risk of Adolescent Sex Offender Recidivism (ERASOR) (Worling & Curwen, 2000).

According to Hunter (1999), when examining the population of juvenile sex offenders, a minority of them show deviant sexual arousal and interest,[3] and it is possible that this group may be early onset pedophiles. The highest levels of deviant sexual arousal have been found in juveniles who engaged in sexually abusive behavior with boys (Hunter, Goodwin & Becker, 1994). Prescott (2006) and also noted that victim penetration has been correlated with deviant sexual arousal patterns in offenders who target boys. As mentioned, however, due to the dynamic nature of adolescents' sexual arousal there is concern in the literature about its role as a predictor of recidivism in sexually abusive youth (e.g., Prescott, 2006).

Tools

Including New Jersey's Juvenile Risk Assessment Scale (New Jersey Attorney General's Office, 2006) (JRAS) (Appendix 1), at present there are three juvenile sexual recidivism instruments with empirical validity studies—the Juvenile Sex Offender Assessment Protocol (JSOAP; Prentky et al., 2000), now in its second version, the JSOAP-II (Prentky & Righthand, 2003); the Estimate of Adolescent Sex Offense Recidivism (ERASOR; Worling & Curwen, 2001); and the recently developed Juvenile Sexual Offense Recidivism Risk Assessment Tool-II (JSORRAT-II) (Epperson, Ralston, Fowers, DeWitt & Gore, 2006).

The JSOAP-II assesses four factors: sexual/drive preoccupation, impulsive/antisocial behavior, clinical intervention, and community stability/adjustment. The predictive validity study, however, had a small sample size, short follow-up, and a low-recidivism base rate (Prentky et al., 2000). Twelve-month follow-up found a recidivism rate of 11% with three youths committing another sexual offense, four committing a nonsexual victim-involved offense, and one youth committing a non-sexual, victimless crime.[4] Earlier studies with the JSOAP, the original version of this instrument, found sex offense re-arrest rates of 11% (Hecker, Scoular, Righthand & Nangle, 2002) and 4.3% (Waite, Pinkerton, Wieckowski, McGarvey & Brown, 2002), with higher re-arrest rates for nonsexual offenses.

The ERASOR, developed by Worling and Curwen, selects 25 criteria grouped into broad domains:

1. Sexual interests/attitudes and behaviors
2. Historical sexual assaults
3. Psychosocial functioning
4. Family/environmental functioning
5. Treatment (Hanson & Harris, 2000).

In a study of 46 cases with a 10 year follow up, Worling and Curwen (2000), found the ERASOR to have moderate predictive power (ROC = 0.74), generally in the same range as adult-sex-offender risk-assessment instruments.

The JSORAT-II, a newly developed sexual-recidivism risk-assessment tool, was designed for juvenile male sexual offenders between the ages 12 to 17.99 at the time of their index offense (Epperson at al., 2006). The instrument is comprised of 12 variables from seven "families":

1. Sex offending history
2. Offense characteristics
3. Sexual offense treatment history

4. Abuse history (by victim)
5. Special education history
6. School discipline history
7. Non-sexual offending behavior.

The JSORAT-II was validated on a large juvenile sample (N = 636) and proved to be an excellent predictor of sexual recidivism (ROC = .910).

Other tools worth noting that presently do not have validity studies are the Juvenile (Clinical) Risk Assessment Tool of Risk for Sexual Re-Offending (J-RAT) and the Interim Modified Risk Assessment Tool of Risk for Sexual Re-Offending (IM-RAT). These two tools combine to form a wide-ranging assessment package that incorporate both an initial assessment of risk (the J-RAT) and a method of ongoing re-evaluation of progress in treatment and risk of re-offense (the IM-RAT) (Hanson, 2002).

Another tool worth mentioning is the Structured Assessment of Violence Risk in Youth (SAVRY), an empirically based structured assessment tool that assesses risk of general violence, as opposed to sexual violence. The SAVRY divides both static and dynamic factors into three categories: historical risk factors (history of violence, early initiation of violence), social contextual factors (peer delinquency, peer rejection) and individual/clinical risk factors (substance abuse, anger management) (Borum, Bartel & Forth, 2002). In addition, the SAVRY includes protective factors, such as prosocial involvement, strong social support, strong attachment and bonds (to positive figures), and a strong commitment to school.

New Jersey's Megan's Law and the JRAS

In 1994, twice-convicted child molester Jesse Timmendequas raped and murdered Megan Kanka, a 7 year-old who lived on

his block in Hamilton, New Jersey. Megan's parents believe that if they had been aware that a sex offender lived in their neighborhood they could have prevented her death. In response New Jersey enacted a community notification law known as Megan's Law, which involves placing offenders in one of three risk tiers and subjecting them to different levels of community notification consistent with their estimated risk to community.

Under Megan's Law, only registered community organizations that qualify for notification because they directly care for children, women, or other vulnerable groups, schools, daycare centers and summer camps are notified of moderate- (Tier II) and high-risk (Tier III) offenders. In addition, neighbors who reside within 1,000 feet of the offender are notified of high-risk offenders (Tier III). Once the court approves notification to specific groups, schools, etc., staff members at the facilities who have direct contact with children or potential victims are provided with information about the sex offender. If an offender is a Tier I offender, then only law enforcement agencies are notified.

The Registrant Risk Assessment Scale (RRAS) is used to place adult offenders in risk tiers in accord with Megan's Law in New Jersey (Witt, DelRusso, Oppenheim & Ferguson 1996; Ferguson, Eidelson & Witt, 1998). In 1995, New Jersey's attorney general appointed a committee to develop a scale that would allow county prosecutors to assess risk in a reliable manner. The committee surveyed statutory requirements and the empirical literature on sex offender risk assessment, eventually resulting in the RRAS. The RRAS assesses the following broad areas:

1. Seriousness of offense
2. Offense history
3. Characteristics of offender
4. Community support

The RRAS has not been the subject of a predictive validity study, but it was officially adopted by the New Jersey Supreme Court (*In the Matter of Registrant C.A.,* 1996). It has, however, been subjected to a concurrent validity study, which was consistent with previous research. For example, the study conducted an exploratory factor analysis and found two main factors in the RRAS, an antisocial behavior factor and a sexual deviancy factor. Moreover, the same study found among convicted sex offenders that probationers, prison inmates, and civil commitment cases had RRAS scores in ascending order (Ferguson, Eidelson & Witt, 1998), exactly what one would expect if the scale is accurately assessing increasing levels of risk.

The Juvenile Risk Assessment Scale (JRAS)—a modified version of the RRAS—was adopted on June 1, 2006. It was developed after a July 17, 2001 decision (*In the Matter of Registrant J.G.,* 2001) by the Supreme Court of New Jersey where "concern was expressed that the Attorney General Guidelines and the Registrant Risk Assessment Scale (RRAS) did not adequately distinguish adult and juvenile offenders and did not take into account issues unique to juvenile offenders under the age of 14. (333-334)"

JRAS development was initially based on a rational analysis. That is, the development committee[5] reviewed the RRAS and reached consensus on what criteria needed to be modified or added to make the scale more suitable for juveniles (and to benefit from a decade of experience in using the RRAS). For example, the committee altered the age ranges for age of victim given that juveniles generally offend against younger victims, and the committee also required that at least a four-year age difference between victim and offender be required (unless force or coercion is used), to exclude consensual peer sex play from this criterion. The committee also changed the time criteria for length of time since last offense given that juveniles have relatively limited time to re-offend before they become adults, and are then scored on the RRAS. The

committee also added a new variable—sex of victim. As noted earlier, this variable has been found to relate strongly to risk of a new sex offense in the adult-risk-assessment literature and is included on other accepted sex-offender risk-assessment scales for juveniles; whether it will hold up empirically in the long run with juveniles remains to be seen over time.

The JRAS has a range between zero and 28 points: zero to nine constitutes low-risk, 10 to 19 constitutes moderate risk, and 20 to 28 constitutes high-risk. It is divided into 13 items and sub-divided into three broad areas:

1. *Sex offense history*: The first broad area found among some more persistent juvenile offenders is a high level of sexual deviance. The JRAS captures this area by noting the chronicity and severity of sex-offending. In particular, higher levels of deviant sexual pathology have been found among juvenile offenders who molest young children.
2. *Antisocial behavior*: The second broad area found to be associated with increased risk is general antisocial personality and behavior. Studies (e.g., reviewed by Prescott, 2006) have found juvenile sex offenders to be high-risk for antisocial behavior, in particular those juvenile offenders whose offenses involve force against older victims.
3. *Environmental characteristics*: These can act as moderators of risk. A juvenile who is in a stable, supportive environment, all else equal, can be more effectively managed. Research has found that involvement in, and particular successful completion of, sex offender specific treatment can also act as a moderator.

Methods

Subjects

Subjects consisted of 231 males adjudicated for a sexual offense. The follow up period ranged from 3 years, 5 months to 13 years, 5 months. The mean follow up period was 8 years, 6 months. The sample was from seven counties in New Jersey—Camden (39.8%), Mercer (16%), Middlesex (14.7%), Monmouth (12.1%), Morris (5.2%), Union (8.7%),

and Somerset (3.5%). These counties were chosen both for their receptiveness to participate in the study as well as for their diverse demographic characteristics, generally mirroring the urban/rural county distribution of Megan's Law juvenile sex offenders in New Jersey.

A comparison of all registered juveniles (N=255) in New Jersey and their respective counties at the time of the present study, and the sample in the present study, found that the present sample was generally representative. Sixty percent of all the registered juveniles at that time were from urban settings, such as Passaic, Middlesex, and Camden Counties. In the present study four of the five counties in that urban group were represented, which accounted for 75% of the sample in the present study. In addition, the present sample included two less densely populated counties, again consistent with the overall distribution of registered juvenile sex offenders in the state.

Of the 231 juveniles in the sample, 45% were Black, 43.3% White, 10.4% Hispanic, and 1.3% were classified as other. Age at the time of the index offense ranged from 11 to 19 years old with a mean age of 15. Specifically, 2.2% of the sample were 11 years old, 7.4% were 12 years old, 18.2% were 13 years old, 19% were 14 years old, 23.4% were 15 years old, 15.6% were 16 years old, 10.4% were 17 years old, 3.5% were 18 years old, and .3% were 19 years old. Index sexual offense charges were aggravated sexual assault (39%), sexual assault (34.7%), criminal sexual contact (17.3%), aggravated criminal sexual contact (4.8%), and endangering the welfare of a child (4.2%).

Procedures

Each "Megan's Law" file included relevant court documents and discovery material. In some instances the file also included psychological treatment summaries, mental health assessments, psychosexual evaluations, RRAS score, current Megan's Law tier, and community notification documents. There was variability among the documents in the Megan's law files. When unable to locate information, the item was coded a zero.

Seven research assistants/raters were used for data collection. Four of the assistants were undergraduate psychology majors, one was a clinical psychology doctoral student, one was an undergraduate nursing student, and one was a Master's level elementary school teacher. For training purposes, each assistant was trained in scoring a JRAS, provided with a copy of the JRAS manual, and a file was scored while under supervision. The rater was deemed competent after one file was scored correctly.

Confidentiality was maintained by providing a unique identifying number for each subject. fifty-eight percent of the cases were scored by two raters to determine interrater reliability (IRR).

Recidivism data was gathered through New Jersey's Computerized Criminal History (CCH) records. Sexual recidivism was defined as a charge for any of the following sex offenses: aggravated sexual assault, sexual assault, aggravated criminal sexual contact, criminal sexual contact, and endangering the welfare of a child. Nonsexual recidivism was defined as a charge for nonsexual offenses, including violation of probation.

The JRAS was coded 0, 1, or 2 for the fourteen items included in the scale as well as subtotals and total score. For each item that was unable to be scored due to inadequate information in the file, the item was scored a zero. Item 7 on the JRAS (length of time since last offense) was automatically coded a 0 due to the raters often being unable to determine from the file the exact date of the new offense and/or release back into the community after their index offense.

Results

Interrater Reliability (IRR) of JRAS

A randomly selected group comprising 58% of the files was scored independently by two raters. A Pearson correlation was used to determine consistency, which yielded a

coefficient of .658 ($p < .01$), a generally consistent rating. Rater inconsistency was most prevalent with history of antisocial acts (item 9), substance abuse (item 10), response to sex offender therapy (item 11), sex offender specific therapy (item 12), residential support (item 13), and employment/educational stability (item 14). The amount of clinical data and degree of file organization varied (i.e., psychiatric evaluations, psychosexual evaluations, treatment summaries), which likely led to these items being more inconsistently scored than other items, in addition to these variables being mostly dynamic, changeable variables.

Recidivism

Of the 231 subjects, 38 (16%) were arrested for a new sexual charge, 119 (52%) were arrested for a new nonsexual charge, and 74 (32%) were not arrested during the follow-up period.[6] Of the 38 who re-offended sexually, 10 were from Camden County, 8 from Union, 6 from Monmouth, 4 from Mercer, 4 from Middlesex, 3 from Morris, and 3 from Somerset. Age at first arrest was as follows: 12 years = 4, 13 years = 9, 14 years = 7, 15 years = 7, 16 years = 7, 17 years = 2, and 18 years = 2.

JRAS Tier

51% of the sample was rated a low-risk for sexual re-offense (Tier 1), 42% were rated a moderate risk (Tier 2), and 7% a high-risk (Tier 3). The distribution of tiers by offense characteristics follows.

TABLE 1

	No recidivism	*Re-offended sexually*	*Re-offended nonsexually*
Tier 1 (N=118)	55 (42%)	14 (11%)	49 (47%)
Tier 2 (N=98)	23 (24%)	20 (19%)	55 (57%)
Tier 3 (N=15)	2 (18%)	4 (25%)	9 (57%)

The Chi Squared is significant ($x^2 = 16.51$, df = 4, $p < .01$).

JRAS\RRAS Tier Comparisons

JRAS and RRAS tiers were compared for 136 cases. Tiering differences were found in 41% of the cases. Thirty-seven percent cases with a RRAS tier of 2 dropped to a JRAS tier of 1. One with a RRAS tier of 3 went down to a JRAS tier of 2. Nine cases with a RRAS tier of 1 went up to a JRAS tier of 2. Nine cases with a RRAS of 2 went up to a JRAS of 3. Chi-square test results indicated a significant difference between JRAS and RRAS tiers ($x^2 = 32.27$, df = 4, $n = 136$, $p < .05$). Pearson correlations indicated that JRAS tier (0.42, $p < .01$) and total score (.71, $p < .01$) were associated with RRAS tier and total score.

Since the JRAS has been adopted by New Jersey and as of October 2006, 29 juveniles who had previously been scored on the RRAS have been scored on the JRAS. Of those, 11 had their tier level changed, all from moderate risk (tier 2) on the RRAS to low-risk (tier 1) on the JRAS. Consequently, in practice so far, using the JRAS resulted in 38% new tiers and all so far resulted in lower tiers.

Correlations between JRAS and Recidivism

A Pearson correlation was used to determine the relationship between both JRAS total score and JRAS tier rating and nonsexual and sexual recidivism. JRAS score (0.15, $p < .01$) did not correlate strongly with sexual recidivism and there was no correlation between tier and sexual recidivism. Although the correlations were statistically significant, JRAS score (0.24, $p < .01$) and tier rating (0.21, $p < .01$) also did not correlate strongly with nonsexual recidivism. These statistically significant but weak correlation results are not surprising given the low base rate in the sample, which tends to depress correlation coefficients (leading most researchers in this area, as we do below, to rely on receiver operator characteristic analysis).

Factor analysis

The factor structure of the JRAS was examined using Principal Component Analysis (PCA) to determine the patterns of common variation among the 14 JRAS items. PCA also enables one to better understand the underlying constructs reflected by these items. The rotation method utilized was a Varimax with Kaiser Normalization.

First, a four-factor model was analyzed, which accounted for 57% of the variance with eigen values of 3.08, 1.90, 1.34, and 1.16, respectively. Factor 1, accounting for 24% of the variance, included six items, which all loaded positively: 9. History of Antisocial Acts; 10. Substance Abuse; 11. Response to Sex Offender Treatment; 12. Sex Offender Specific Therapy; 13. Residential Support; and 14. Employment/Educational Stability. Factor 2, accounting for 15% of the variance, included items: 1. Degree of Force (loaded positively); 3. Age of Victim (loaded negatively) and 4. Victim selection (loaded positively). Factor 3, accounting for 10% of the variance, included items associated with sexual deviance which both loaded positively: 5. Number of Offenses/Victims; and 8. Victim Gender. Factor 4, accounting for 9% of the variance and appearing meaningless, included items which both loaded positively: 2. Degree of Contact; and 6. Duration of Offensive Behavior.

We re-analyzed the data with a three factor model, hoping to find a more coherent structure than that afforded by the four factor model, and we found that a three factor model did indeed provide a more meaningful structure. The three factor model accounted for 49% of the variance and is shown in Table 2.

Factor 1 (accounting for 24% of the variance), or "antisocial factor," was the first factor associated with sexual recidivism. Six items were included in this factor which all loaded positively: 9. History of Antisocial Acts; 10. Substance Abuse; 11. Response to Sex Offender Treatment; 12. Sex Offender Specific Therapy; 13. Residential Support; and 14. Employment/Educational Stability. That is, a higher or more pathological score on each of these JRAS criteria is associated with a higher score on this factor. These items focus on issues such as antisocial orientation, treatment failures and substance abuse. Although these are factors that have traditionally been associated with general recidivism, the JRAS loaded these items for both sexual and nonsexual recidivism.

Factor 2 (accounting for 15% of the variance), or "sexual deviance factor," was the second factor associated with sexual recidivism. Four items were included: 2. Degree of Contact; 5. Number of Offenses/Victims; 6. Duration of Offensive Behavior; and 8. Victim Gender (loaded highly for offenders with both male and female victims and loaded moderately for offenders with a female victim). All four items clearly tap both sexual offending behavior and sexual deviance.

Factor 3 (accounting for 10% of the variance), or "adult rapist factor," was the third factor associated with sexual recidivism. Three items were included: 1. Degree of Force; 3. Age of Victim (loaded negatively); and 4. Victim Selection (loaded positively) —that is, use of force on an older stranger victim. These items suggest both a violent element and sexual offending behavior.

TABLE 2 **Rotated Three Factor Structure for JRAS Items**

	JRAS Item	*Factor 1*	*Factor 2*	*Factor 3*
1.	Degree of Force	.212	.139	**.664**
2.	Degree of Contact	.117	**.284**	-.245
3.	Age of Victim	-.197	.289	**-.654**
4.	Victim Selection	-.015	-.048	**-.791**
5.	Number of Offenses/ Victims	.058	**.850**	.032
6.	Duration of Offensive Behavior	.054	**.461**	-.204
8.	Victim Gender	-.049	.742	.093
9.	History of Antisocial Acts	**.705**	-.016	.122
10.	Substance Abuse	**.594**	-.106	.058
11.	Response to Sex Offender Treatment	**.673**	.210	.107
12.	Sex Offender Specific Therapy	**.693**	.131	.090
13.	Residential Support	**.660**	.083	-.096
14.	Employment/ Educational Stability	**.762**	-.039	.084

NOTE: Principal Component Analysis was the extraction method. Varimax rotation with Kaiser normalization was utilized.

Area under the Receiver Operating Characteristic (ROC) Curve

The area under the receiver operator characteristics (ROC) curve appears to be the best measure of the overall accuracy of a risk assessment tool (Quinsey, Harris, Rice & Cormier, 1998). The ROC curve plots sensitivity (hit rate) on the Y-axis against 1 minus specificity (false alarm rate) on the X-axis for all possible cut-scores on the risk assessment tool being evaluated. The area under the resulting curve reflects the overall accuracy of the risk assessment tool. This value can range from 0 to 1.0, with a value of .50 being equal to a chance-level of accuracy. Values significantly greater than .50 reflect a significant improvement over chance, and a value of 1.0 reflects perfect predictive accuracy (Epperson et al., 2006, p 27). Unlike correlation coefficients, the area under and ROC curve is not affected by the relatively low base rates found in sex offender recidivism studies.[7]

JRAS tier proved to be a moderate predictor of sexual recidivism [ROC (area under the curve) = .656]. Hence, using a measure less confounded by a low base rate (as a correlation coefficient is), JRAS tier did indeed predict recidivism.

Factor 1, the "Antisocial Factor," was most predictive of sexual recidivism [ROC (area under the curve) = .669]. The ability of Factor 2, the "Sexual Deviance Factor," to predict sexual recidivism was only slightly better than chance [ROC (area under the curve) = .542].

Factor 1, the "Antisocial Factor" (shown in Table 2) also moderately predicted nonsexual recidivism [ROC (area under the curve) = .699]. In addition, JRAS tier was moderately predictive of nonsexual recidivism [ROC (area under the curve) = .605].

Classification efficiency

To determine how effective the JRAS is in classifying juvenile sex offenders we conducted a classification efficiency analysis. This analysis is based on constructing a table of those the scale predicts would and would not recidivate sexually against those who in fact do or do not

actually recidivate sexually, resulting in determination of True Positive (TP), True Negative (TN), False Positive (FP), and False Negative (FN) cases. From these items, and the marginal totals in the table, one can compute the operating characteristics of the scale.

One faces the immediate difficulty of determining what to use as a cutting score on the test in determining which cases to select for predictions of recidivism. Our number of subjects and relatively low base rate of sexual recidivism combined did not allow us to conduct a logistic regression, so we do not know the point at which a juvenile is more than 50% likely to re-offend. We have chosen to solve this problem by constructing two tables, each with a slightly different analysis.

For the first table, shown in Table 3, we split the distribution above and below (or at) the median JRAS score. We predicted that those above the median score would be recidivists and those below non-recidivists.

TABLE 3

	At or below median	Above median
Sexual recidivism	14 (12%) FN	24 (21%) TP
No sexual recidivism	102 (88%) TN	91 (79%) FP

TP (True Positive), TN (True Negative), FP (False Positive), FN (False Negative).

The Chi Square value for Table 3 was significant at the .10 level, although not at the .05 level ($x^2 = 3.25$, df = 1, $n = 231$, $p = .071$). This weak result is not surprising given that the cutting point we chose was artificial and not based on a true prediction of greater than or less than 50% likelihood of re-offending. Consequently, one would expect little real difference between those juveniles just above and just below this artificial cutting point. We then examined the operating

characteristics derived from Table 2, which are good and shown below.

- Sensitivity = TP/(TP+FN) = 0.632
- Specificity = TN/(TN+FP) = 0.528
- Positive Predictive Power (PPP) = TP/(TP+FP) = 0.208
- Negative Predictive Power (NPP) = TN/(TN+FN) = 0.879
- Base Rate (BR) = (TP+FN)/N = 0.164
- Efficiency = TP+TN/(TP+TN+FP+FN) = 0.545
- Positive Predictive Ratio (PPR) = PPP/BR = 1.27

We then conducted an extreme group analysis. For this table, as shown in Table 4, we selected high-risk (Tier 3) cases as those for whom recidivism is predicted and low-risk (Tier 1) cases as those for whom recidivism is not predicted. One would expect stronger results with this table, given that it is possible to make a strong statement that those found to be Tier 3 (high-risk) are at substantially greater risk of re-offending than those found to be Tier 1 (low-risk).

TABLE 4

	Tier 1	Tier 3
Sexual recidivism	14 (22%) FN	4 (67%) TP
No sexual recidivism	49 (78%) TN	2 (33%) FP

TP (True Positive), TN (True Negative), FP (False Positive), FN (False Negative).

The Chi square value for Table 4 is significant ($x^2 = 5.61$, df = 1, $n = 69$, $p < .05$).

From this table, it follows that the classification efficiency characteristics using Tier 1 and Tier 3 cases is:

- Sensitivity = TP/(TP+FN) = 0.222
- Specificity = TN/(TN+FP) = 0.96

- Positive Predictive Power (PPP) = TP/(TP+FP) = 0.666
- Negative Predictive Power (NPP) = TN/(TN+FN) = 0.777
- Base Rate (BR) = (TP+FN)/N = 0.26
- Efficiency = TP+TN/(TP+TN+FP+FN) = 0.768
- Positive Predictive Ratio (PPR) = PPP/BR = 2.56

Discussion

The JRAS is a tool for prosecutors to assist them in placing juveniles into risk tiers in accord with Megan's Law, New Jersey's community notification law. Consisting of 14 items and scored through a file review, the JRAS is relatively brief and easy to use.

The purpose of this study was to determine the ability of the JRAS to adequately predict sexual recidivism. The study's sample included 231 males adjudicated for a sexual offense. Age at time of index offense ranged from 11 to 19 years-old with an average age of 15. Seven New Jersey counties, both urban and suburban, were represented.

Recidivism data was gathered through New Jersey's Computerized Criminal History (CCH) records. Follow up length varied between 3 years, 5 months and 13 years, 5 months. Average follow up was 8 years, 6 months. The follow up length was intentionally long, in fact longer than many comparable studies. All else equal, the longer the follow up period the more opportunity the individual has to re-offend, and the more accurate recidivism rates are likely to be in the study.

Recidivism was assessed through a new charge (that is, a re-arrest), sexual or nonsexual. In short, of the 231 subjects 38 re-offended sexually (16%), 119 re-offended nonsexually (52%), and 74 (32%) did not re-offend at the time of follow up. Re-arrest is a relatively broad measure of recidivism; had

the study used a narrower measure, such as reconviction, the recidivism rate would likely have been lower.

Tier differences between the JRAS and RRAS—which is used to place adult offenders in risk tiers in accord with Megan's Law in New Jersey—tended to be minor and typically included RRAS scores that were originally near the border of tiers, such as an offender being just over the threshold for Tier 2. In practice, tier levels generally dropped from the RRAS to the JRAS, which was one goal of the development committee. Nonetheless, the overall correlation between JRAS and RRAS score and tier is positive. This general consistency between the RRAS and the JRAS indicates that both scales are measuring similar factors; yet their minor differences indicate that using a separate scale for juveniles is worthwhile.

A factor analysis—a method of determining the patterns of common variation among the 14 JRAS items—revealed a three factor model consistent with the literature. Factor 1 ("Antisocial Factor"), accounting for 24% of the variance, tapped antisocial orientation, substance abuse, and a generally unstable lifestyle. Factor 2 ("Sexual Deviance Factor"), accounting for 15% of the variance, tapped both sexual offending behavior and sexual deviancy. Factor 3 ("Adult Rapist"), accounting for 10% of the variance, suggested both a violent element and sexual offending behavior.

One might question why the JRAS sexual deviance factor did not predict sexual recidivism, whereas in adult studies, sexual deviance has strongly predicted sexual recidivism. Although further research is needed on this point, given present information, we suggest that juveniles' sexual identities are not as fully formed as those of adults. Consequently, although some juveniles may commit sex offenses due to truly paraphilic sexual orientations, resulting in a stable sexual deviance factor to emerge in factor analysis, most do not. Our findings are consistent with Hunter's (1999) suggestion that it

is only a minority of juvenile sex offenders that are early onset pedophiles, directed by deviant sexual interest. The primary predictive factor in our sample was a generally impulsive, antisocial orientation, indicating that at least among juveniles in New Jersey, sex offending is generally part of a broader pattern of antisocial behavior, perhaps consistent with the general control explanation of crime and delinquency of Gottfredson and Hirischi (1990).

Consistent with the literature, the results of the present study indicate that juvenile sex offenders commit new nonsexual offenses at a far higher rate than they do new sex offenses. This, again, is consistent with the proposition that with many juveniles, sex offending is part of a broader pattern of antisocial behavior, and it is also consistent with the findings in the present study that an antisocial factor accounted for the most variance.

An ROC analysis was performed, also known as the area under the receiver operator characteristics curve, and is used when base rates are low, which was the case in the present study. ROC analysis is simply a measure of the instrument's accuracy, and this form of analysis is widely used when assessing the accuracy of risk assessment scales. Results indicated that JRAS tier was a moderate predictor of sexual recidivism (ROC=.66). The antisocial factor was found to be a moderate predictor of both nonsexual (ROC=.70) and sexual recidivism (ROC=.67). The sexual deviance factor was not found to predict sexual or nonsexual recidivism in this study, although its inclusion is consistent with both the factor analysis of the instrument and with the general literature. The ROC numbers are generally consistent with commonly used adult risk assessment instruments (e.g., STATIC-99 ROC's: sexual recidivism = .71; Rapid Risk Assessment for Sex Offence Recidivism (RRASOR) ROC's: sexual recidivism = .68; Minnesota Sex Offender Screening Tool—Revised (MnSOST-R) = .77 - .73 [Hanson & Thornton, 2000; Epperson, Kaul, Huot, Goldman & Alexander, 2001, 2003]).

Regarding the JRAS's predictive accuracy, a classification efficiency analysis was also conducted, as shown in Tables 3 and 4. Perhaps the most critical classification characteristic is Positive Predictive Power (PPP). Although sensitivity is the most frequently cited characteristic in the literature, for a forensic evaluator, PPP is far more relevant. PPP is the likelihood that an individual with a positive test score (in this case, a high-risk rating) does in fact meet some criterion (in this case recidivating). This is, after all, exactly what one is attempting to determine when classifying individuals with the JRAS—that is, how accurate a prediction of recidivism does the JRAS make? Looking at Table 4, in which we conducted an extreme group analysis using Tier 1 and Tier 3, one can see that PPP is 0.666. In simple terms, two-thirds of those juveniles who are classified high-risk will recidivate sexually (or the JRAS can be said to be accurate in predicting recidivism two-thirds of the time).

At first glance, this PPP figure seems good, but not great. After all, 0.66 is an improvement over flipping a coin, or 0.50 likelihood, but not a dramatic improvement. However, although comparing the PPP to flipping a coin has intuitive appeal, it is an erroneous comparison; a chance level of recidivism is not 50%, but in this case significantly lower. In determining how much of an improvement over chance a scale provides, one must consider the positive predictive ratio (PPR)—that is, the improvement over chance is the amount of improvement over the base rate (or prevalence rate) of the criterion, in this case sexual recidivism. The best analogy in this case is not flipping a coin (50% likelihood), but rather rolling a four sided die on which the correct number is on only one side (25% likelihood). So with the JRAS, a PPP of 0.66 is 2.56 times as good as the recidivism base rate of 0.26 in this sample composed of extreme groups. Hence, using the extremes on the JRAS—that is, comparing high-risk and low-risk juveniles—results in predictions that are roughly two-and-one-half times as good as chance.

Given these results, the risk of a false negative, if a juvenile is rated high-risk, is low.

The question also arises: What are the risks of a false positive? The defense bar, in particular, might well be concerned that the JRAS will mistakenly classify a juvenile as a likely recidivist when he is not. To consider this issue, we look at specificity and NPP. Specificity is the probability that a juvenile who is not going to recidivate will be accurately identified as low-risk. One can see that specificity is 0.96—almost 100%. Consequently, the likelihood of a juvenile who is not a recidivist receiving a Tier 1 rating is almost 100%. However, if one already knew whether a juvenile was going to be a non-recidivist, one wouldn't need a scale.

Consequently, one can examine the NPP, which, conversely, is the likelihood that an individual who receives a Tier 1 rating on the JRAS is really a non-recidivist. This is analogous to what is done in actual practice—that is, examining a scale score to determine whether a juvenile is likely to be a non-recidivist. The NPP for the JRAS using an extreme group analysis is 0.777, again, high.

However, the NPP is not substantially different from the base rate of non-recidivism, which is 0.74. Consequently, the scale is not much better than chance at identifying low-risk individuals. In simple terms, if a juvenile is Tier 1, either using the scale or just using the prevalence rate (or base rate), one would do equally well in predicting non-recidivism. The JRAS does improve substantially on chance, however, when selecting high-risk juveniles.

The second analysis of predictive accuracy, shown in Table 3, used a median split, rather than an extreme group analysis. One would expect the median split to predict recidivism less well than the extreme group analysis, given that there is, in reality, little or no difference between a juvenile at the median and a juvenile just a few points above. In fact, the

results of the median split were less robust than those of the extreme group analysis, as predicted. PPP with the median split analysis is only 0.208, just slightly better than the base rate of 0.164. However, NPP is still robust at 0.879, so the likelihood of a false positive—of considerable interest to the defense bar—is low.

Overall, the classification efficiency analysis tells us that the JRAS will be quite accurate when considering high and low-risk individuals, as measured by a score within Tier 3 or Tier 1, respectively. It is not surprising to find that individuals who cluster around the median JRAS score are harder to differentiate in terms of whether such individuals are likely to recidivate.

The results of this study support the use of the JRAS. First, the total JRAS score correlates strongly with the total RRAS score. It should, since presumably both instruments are measuring similar factors. Yet, it showed some differences, with JRAS tiers usually being lower in practice. This minor lowering of tier in practice indicates that development of the JRAS was useful, given that there had been concern that New Jersey's adult scale, the RRAS, was not appropriate for use with juveniles, especially those below age 14.

The changes made to the RRAS in constructing the JRAS appear to have achieved the dual goals of keeping the two instruments consistent, which they should be if measuring similar constructs, but making specific allowances for issues unique to juveniles. For example, on the JRAS, age of victim has been lowered and a four year age difference requirement inserted to prevent peer sex play from being scored. In addition, given that scoring weights have been removed, each item has no more weight than any other item, resulting in an item such as age of victim not being given the heavy weight that it is on the RRAS, thus preventing over reliance on this factor if, on occasion, a case involving what some might consider peer sex play slips through the scoring checks.

Despite the positive findings outlined above, the study has several limitations. First, length of time since last offense (item 7) was not scored due to an inability to determine the exact release from incarceration date which possibly resulting in tiering differences and negatively affecting statistical analyses. Second, the results of this study need to be cross validated. Such replication on another sample of juvenile sex offenders, either within New Jersey or in another jurisdiction, would broaden the generalizability of the results. Third, the JRAS is a work in progress. More studies are needed, such as assessing concurrent and construct validity, as well as reliability. Fourth, in the files we reviewed, we were unable to distinguish between relatively trivial nonsexual re-offenses, such as probation violations, and more serious nonsexual re-offenses, such as new violent offenses. Future research should clarify this point.

Another limitation of the JRAS is how to score offenses that have ambiguous intent. For instance, if an act involves a peculiar quasi-sexual behavior, such as giving a younger sibling an enema but no other clearly sexual acts, how should that act be scored on the JRAS? This issue is not specific to the JRAS alone or to New Jersey alone, but can arise in any jurisdiction and with any risk assessment scale or method. We suggest that in such cases the JRAS be scored as usual, but that the range of less tangible factors, such as information regarding intent, be considered by the court in determining whether the particular case falls outside the range of typical cases, allowing for individual exceptions to be made in assigning a risk tier. No risk assessment scale can capture intent; it can only categorize risk factors related to recidivism.

In summary, the JRAS was developed using a two stage procedure. The first stage was a rational analysis in which the development committee examined the RRAS and reviewed the juvenile sex offense literature to determine what changes would make the JRAS suitable for evaluating juveniles. This

procedure is the standard method of creating an instrument involving empirically guided structured professional judgment. The second stage was an empirical analysis to determine whether the JRAS score was significantly related to actual recidivism. The results of the validation study indicate that the JRAS score is in fact significantly related to recidivism at about the same strength of prediction as commonly used adult scales. Moreover, the first two major predictive factors that emerged from a structural analysis of the JRAS were consistent with those generally found in the risk assessment literature—those being general antisocial orientation and sexual deviance. Finally, the study found that the most predictive factor with juvenile sex offenders is, in fact, a general antisocial orientation, again consistent with the literature in this area. The results of the study led the development committee to have confidence that the JRAS could be implemented.

Notes

1. The use of the term "psychopathy" is of some dispute when applied to juveniles.

2. In this chapter, Prescott does not define how deviant sexual preference in juveniles was measured, indicating only that it was determined through a review of the relevant literature. In adults, it is most commonly measured either by self-report or by physiological assessment, such as penile plethysmography.

3. Hunter's position is based on a review of the literature, in which deviant sexual arousal was determined variously through clinical interview, psychological tests that focus on sexual interests, and phallometric assessment.

4. There is no indication in the original article or the JSOAP-II manual whether new offenses were measured by re-arrest or reconviction.

5. The development committee consisted of attorneys and mental health professionals appointed by the New Jersey Attorney General's Office, and included the two senior authors of this article.

6. New non-sex offenses included some technical parole or probation violations. In our data set, it was not possible to distinguish between such technical violations and new serious non-sexual offenses.

7. The relatively low correlation coefficients, noted previously, are, we believe, an artifact of the low base rate of sexual recidivism in the study. Consequently, we chose (as have many other researchers in this specialty) to use an ROC analysis.

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APPENDIX 1

Juvenile Risk Assessment Scale

Criteria	Low Risk	0	Moderate Risk	1	High Risk	2	Comments	Total
Sex Offense History								
1. Degree of force	no physical force; no threats		threats; minor physical force		violent; use of weapon; significant victim harm			
2. Degree of contact	no contact; fondling over clothing		fondling under clothing		penetration			
3. Age of victim (4 years or more age difference)	16 or over		11-15		under 11			
4. Victim selection	household / family member		acquaintance		stranger			
5. Number of offenses/victims	first known offense / victim		two known offenses / victims		three or more offenses / victims			
6. Duration of offensive behavior	less than 1 year		1 to 2 years		over 2 years			
7. Length of time since last offense	4 or more years		1 to 3 years		Less than 1 year			
8. Victim gender	Female		Male		Male and Female			
							Subtotal:	
Antisocial Behavior								
9. History of anti-social acts	no history or very limited history		limited history		extensive history			
10. Substance abuse	no history		in remission		not in remission			
							Subtotal:	
Environment Characteristics								
11. Response to sex offender treatment	good progress		limited progress		prior unsuccessful treatment or no progress in current treatment			
12. Sex offender specific therapy	current / continued involvement in therapy		intermittent		no involvement			
13. Residential support	supportive / supervised setting / appropriate location		stable and appropriate location but no external support system		problematic location and/or unstable; isolated			
14. Educational stability	stable; no serious academic or discipline problems		some academic or discipline problems		severe academic or discipline problems			
							Subtotal:	
							Total:	

Low Risk: 0 to 9; Moderate Risk: 10 to 19; High Risk: 20 to 28