Comprehensive Recidivism Data from Juvenile Delinquents and Juvenile Sex Offenders

by

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Abstract

Each year in the United States, juveniles commit a significant percentage of the total number of sex offenses. Moreover, available recidivism data examining sexual re-offense rates with juvenile sex offenders vary considerably as reported estimates range between 3% and 70%. Additionally, a considerable proportion of juvenile sex offenders are subsequently rearrested for a non-sex offense. The current study reported the rate at which two groups of juvenile offenders (sex and non-sex offenders) were re-arrested for a subsequent sex or non-sex offense after an average follow-up period of 64.96 months (*SD* = 23.80) for juvenile sex offenders and 55.20 months (*SD* = 20.41) for juvenile non-sex offenders. Additional analyses examined the predictive ability validity of instruments including the Juvenile Sex Offender Protocol, 2nd Edition, and the Psychopathy Checklist, Youth Version, to predict sexual and nonsexual re-arrest. Of the juveniles originally adjudicated for a sex offense, 3.9% were re-arrested for a subsequent sex offense and 35.2% were re-arrested for a subsequent non-sex offense. The majority of juvenile non-sex offenders (74.3%) were rearrested for a subsequent offense with 2.9% re-arrested for a sex offense. Though re-arrests were successfully predicted above the level of chance, the modest levels of successful prediction was not adequate for practical use. Treatment intervention aimed at reducing general delinquency with juvenile sex offenders would appear to be warranted.

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Table of Contents

List of Tables

List of Figures

Introduction

Annual arrest data indicate that male juveniles perpetrate a considerable proportion of the total criminal acts in the United Stated. For example, these individuals are responsible for approximately 16% of all violent offenses, 14% of aggravated assaults, 18% of sexual offenses, and 19% of forcible rapes (Federal Bureau of Investigation, U.S. Department of Justice, 1999). Of those offenses with child victims, juvenile sexual offenders are estimated to perpetrate between 30% and 50% of all sexual offenses each year (Snyder & Sickmund, 1999).

Victimization surveys and arrest databases provide the most reliable information describing prevalence rates; however, actual rates of sexual offending behaviors are estimated to be considerably higher as it is commonly assumed that sex offenses frequently go undetected or are simply not reported to authorities (Barbaree, Hudson, & Seto, 1993; Abbey, 2005). Moreover, the U.S. Department of Justice (2002) estimated three of every four incidents in which juveniles committed a sex offense were never reported to authorities. Several early investigations examining offending behaviors retrospectively reported by adults bolster the assumption that sex offending behaviors by juveniles may be an underrepresentation of "actual" offenses. For example, Abel et al. (1987) reported that 58% of 500 non-incarcerated paraphiliacs reported the onset of deviant sexual interests prior to age 18, but for the majority of these individuals, their deviant interests went undetected by authorities. Furthermore, approximately 50% of

another large sample of adult sex offenders reported their first sexual offense occurred during their teenage years, or younger, with the majority experiencing limited legal consequences (Abel, Mittelman, & Becker, 1985; Becker & Abel, 1985).

A consistent finding with incarcerated adult sex offenders is many individuals reported their sexual deviant beliefs and preferences developed during adolescence (Abel et al., 1988). Furthermore, adult offenders commonly reported first engaging in sexually inappropriate behaviors during adolescence (Abel, Mittelman, & Becker, 1985; Becker & Abel, 1985). Therefore, for some individuals who go on to commit a sex offense as an adult, adolescence, as a developmental stage, can be considered a developmental period of great interest and appropriate for offense-specific intervention.

Results from adult sex offender retrospective studies indicate a subgroup of juveniles continue to offend sexually as adults. In addition to these retrospective investigations, prospective studies following juvenile sex offenders into adulthood also indicate a subgroup go on to commit additional sex during adulthood (e.g., Knight & Prentky, 1993; Sipe, Jensen, & Everett, 1998). Prospective studies are hypothesized to have clinical utility as they provide an estimate of subsequent offense behaviors and aid researchers in identifying and measuring offender-specific variables and risk factors related to subsequent offense behaviors (Caldwell, 2002). With greater awareness and understanding regarding risk factors associated with subsequent sex offense behaviors, meaningful interventions targeting these risk factors may prevent juvenile sex offenders from committing subsequent sex offenses later in life (Caldwell, 2002). Current "best-practice" sex offender treatment guidelines also suggest a comprehensive assessment of overall level of risk for sexual re-offense should be conducted (ATSA, 2001).

Furthermore, an accurate understanding of risk factors associated with subsequent sex offenses by juveniles are hypothesized to be useful in identifying "high-risk" juvenile sex offenders, which may further increase the possibility treatment professionals intervene early with targeted interventions (Abel, Osborn, & Twigg, 1993; Chaffin & Bonner, 1998). However, identifying those "high risk" juvenile offenders and the risk factors associated with subsequent sex offenses has been a less successful endeavor for researchers in comparison to investigations examining risk factors associated with adult sexual recidivism.

Risk Assessment

The empirical literature examining juvenile sex offenders is relatively modest in comparison to adult sex offender literature, with empirical attention increasing since the late 1980s (Fanniff & Becker, 2005). As a result, research attention examining risk factors associated with subsequent sex offenses by juveniles is limited (Worling, 2004), in part due to additional follow-up time and outcome data commonly required to conduct such investigations. Risk assessment instruments with adults have demonstrated validity (e.g., Rice & Harris; Rice, 1997; McNiel, Gregory, Lam, Binder, & Sullivan, 2003) and therefore are commonly used to predict risk of future behaviors including risk of violence (e.g., HCR-20; V-RAG; PCL-R) or risk of a future sex offense (e.g., Static-99; STABLE 2007). As with adults, researchers have attempted to develop valid risk assessment measures for juvenile offenders across numerous behavioral domains, including risk of violent or sex offense behaviors. However, unlike predicting risk of a sex offense with adults, risk assessment instruments with juvenile offenders do not currently share the

same level of empirical support and risk-relevant sex offender predictor variables appear poorly understood. (Prentky, Harris, Frizzell, & Righthand, 2000).

The generally weak level of empirical support for instruments assessing risk of sexual offense behaviors for juveniles may be a function of the relatively few total number of recidivism studies, a low rate of sexual recidivism, or the heterogeneity of juvenile sex offenders (Rich, 2003). For example, Phil Rich (2003) comprised a list over 100 identified risk factors postulated to be associated with juvenile sex offense behaviors given that juvenile sex offenders, as a population, are heterogeneous. Researchers have been only marginally successful in their attempts to empirically determine the contributory influence of many postulated risk factors for juveniles and determine their influence on an overall level of risk for sexual re-offense (Rich, 2003). However, risk assessment has been identified as the most critical and important task when evaluating a juveniles sex offender (Rich, 2003). Moreover, juvenile sex offender risk assessment has been identified as critical as it aims to measure the likelihood of future dangerous sex offending behavior, assists in determining appropriate treatment interventions, and serves as a measure of an individual's treatment motivation (Will, 1999).

As with adult risk assessment instruments, juvenile sex offender risk assessment instruments are comprised of both static and dynamic factors (Rich, 2003). Static risk factors, or those determined to be unaltered over time, are useful in determining a risk estimate as risk is a function of past behavior (Rich, 2003). Commonly identified static risk factors include the number of prior sex offenses, age of first offense, victim gender type, or victim age (Prentky & Righthand, 2003; Rich, 2003). Static risk factors are meaningful as, for example, a history of prior sex offense behavior has been frequently

identified as the “strongest” predictor of future sex offense behavior (Rassmussen, 1999; Worling & Curwen, 2001). Dynamic risk factors, or those that are malleable due to contextual or situational influences, also have clinical utility when estimating risk of sexual re-offense (Rich, 2003; Prentky & Righthand, 2003). Commonly identified dynamic risk factors include deviant sexual interest, social isolation, parent-child relationships, and family environment (Worling & Curwen, 2000; Langstrom & Grann, 2000; Ross & Loss, 1991).

Currently, the Juvenile Sex Offender Assessment Protocol-II (J-SOAP-II; Prentky & Righthand, 2003) and the Estimate of Risk of Adolescent Sexual Offense Recidivism (ERASOR; Worling & Curwen, 2001) are two risk assessment instruments with empirical support in predicting risk of sex offenses with juvenile sex offenders (Fanniff & Becker, 2005). These instruments are comprised of empirically identified factors associated with an increased risk of sexual re-offense and provide a risk estimate, which test developers caution should not be used exclusively in order to measure or determine an overall level risk (Prentky & Righthand, 2003; Worling & Curwen, 2001).

In 1991, Kahn and Chambers stated, “there is no demonstrable or unequivocal empirical basis for assessing which [juvenile] offenders present the most immediate risk of re-offense and no prospect that such data will be forthcoming in the near future (p. 334).” Despite this rather bleak outlook put forth by Kahn and Chambers, meaningful advances with juvenile sex offender risk assessment have occurred as risk factors have been identified through recidivism investigations (e.g., Worling, 2004; Prentky & Righthand, 2003).

Empirical Investigations Examining Recidivism Rates and Risk Factors

Monahan (1981) stressed the knowledge and understanding of the base rate of recidivism is an essential component when determining risk. The review presented below provides reported rates of recidivism as well as identified factors associated with subsequent sex re-offense across diverse samples of juvenile sex offenders, using various methods to define "recidivism." Moreover, these investigations represent studies in the field considered to be most reliable and valid in the area due to either their large sample size or extended follow-up period. As the rate of recidivism is likely a conservative estimate of "actual" sex re-offense rates (e.g., U.S. Department of Justice, 2002), these reported rates likely provide an estimate rate of "minimum risk" (Hagan & Gust-Brey, 1999).

Smith and Monastersky (1986) conducted an early investigation attempting to identify factors related to juvenile sex offender recidivism. Here, recidivism was defined as a subsequent referral to a juvenile court. In their sample of 112 juvenile sex offenders originally treated in an outpatient setting, 14% were measured to commit an additional sex offense while 35% were measured to commit an additional non-sexual offense during a 17-month follow-up period. These researchers developed a linear discrimination model using the postulated factors (e.g., age, family variables, offense type, abuse history, etc.) in an attempt to classify individuals into one of the following offense groups: sexual re-offender, non-sexual re-offender, and non-re-offender. Results indicated age, family variables, and the index offense was associated with additional, post adjudication offense behaviors. Of note, results indicated juvenile sex offenders who offended against male

victims were measured to commit a significantly larger number of subsequent sex offenses compared to those with exclusively female victims.

Kahn and Chambers (1991) reported recidivism rates for 221 juvenile sex offenders who received "specialized sexual deviancy therapy" from one of ten treatment programs located in Washington. Treatment programs included seven juvenile court-sponsored outpatient programs, a university-based outpatient program, and two correctional treatment programs. Offenders ranged in age between 8 to 18 years with a median age of 14.7 years. The majority of the sample was Caucasian (79%), followed by African American (6%), "other" (5%), and "Unknown" (10%). The average follow-up period was 28.1 months. Reconviction data indicated 44.8% of participants were convicted of one or more subsequent criminal offenses with 7.5% convicted for a subsequent sex offense and 6.6% convicted for a violent offense. In regard to risk factors associated with sexual reoffending, few variables were identified. Participation in outpatient treatment was identified as a protective factor as treatment participants were measured to be less likely convicted for an additional sexual offense. Juveniles who offended against a known, non-related child victim were most likely to be convicted of a subsequent sex offense. Results further indicated juveniles with a prior sex offense conviction were more likely than juveniles without a prior sex offense conviction to be subsequently convicted for a new sexual offense (18% versus 7%); however, these rates were measured not to be significantly different. Of note, researchers used reconviction rates and expressed caution in doing so as "reconviction records are a fairly insensitive measure of actual sex offending" (p. 337).

Using both self-report and re-conviction data to determine the rate of sexual recidivism for 193 male juveniles who participated in a residential treatment program, Bremer (1992) measured a 6% re-conviction rate and 11% self-report rate of subsequent sex offense behavior during a median time period of approximately 3 years. Results indicated those who participated in treatment, which consisted of modules that addressed personal accountability, life history, personal victimization, sexual assault cycle, and victim empathy, greater than 15 months, were not measured to self-report or be re-convicted for a subsequent sex offense. Of note, the self-report rate of subsequent sex offense behavior was notably greater than the measured reconviction rate.

Using an extended follow-up time period consisting of 8 years, Rubinstein, Yeager, Goodstein, and Lewis (1993) reported recidivism rates on 19 juvenile sex offenders and 58 juvenile violent, non-sex offenders. Descriptive data including the number of subsequent arrests, nature of the arrest, and duration of subsequent incarceration was reported. By age 27, 37% of the sexual offenders had an adult criminal record for one or more sexual offenses in contrast to 10% of the violent, non-sex offenders. Additionally, as adults, 89% of juvenile sex offenders had arrests for a non-sex offense compared to 69% of the comparison group. Despite the small sample of juvenile sex offenders, comprised of 19 individuals examined in this investigation, the extended follow-up time period of 8 years was a considerable methodological strength. Additionally, arrest data from this study illustrate a subset of juvenile sex offenders committed subsequent sex offenses while others appeared to be at an elevated risk for committing additional non-sexual offenses during the extended follow-up period into

adulthood. Furthermore, these data support the assumption that an extended follow-up time may result in greater recidivism rates for sex and non-sex offenses.

Sipe, Jensen, and Everett (1998) followed 124 juvenile sex offenders and 132 juvenile non-sex offenders from Idaho with an average follow-up period of 6 years (range between 1 and 14 years). Of the 124 non-violent, juvenile sex offenders, 9.7% were rearrested as adults for a sexual offense compared to 3% of the non-sex offender comparison group. In regards to non-sexually based offenses as adults, 6% of juvenile sex offenders committed violent crimes, 16% committed property offenses, and 15% committed "other" offenses. Non-sexual offender rates were 12%, 33%, and 23%, respectively. Overall, juvenile sex offenders were arrested fewer times for any offense as an adult (33%) compared to the non-sex offender group (44%). Moreover, juvenile sex offenders were rearrested for sexual offenses at a greater rate to non-sex offenders, but a subsample of juvenile non-sex offenders (i.e., 3%) were nonetheless rearrested for a sex offense within the follow-up time period. The juvenile sex offender sample size, inclusion of a comparison group consisting of juvenile non-sex offenders, and average follow-up time period are considered strengths of this investigation.

Rasmussen (1999) initially identified 343 youth as possible participants as they were convicted of one or more of 21 possible sex offenses defined by the Utah Criminal Code during 1989. However, incomplete file information and expunged records resulted in a final sample of 170 juvenile sex offenders. Researchers followed these 170 participants for a 5-year period or until they reached the age of 19 years. A recidivism time period was defined by these researchers as the number of days between the date of first conviction in juvenile court during 1989 until the date during the follow-up period

when reconvicted in juvenile court of any criminal act. Offense characteristics, child abuse history (e.g., sexual, physical, neglect) and clinical intervention type (e.g., community based, out-of-home including residential, hospital, secure facility, or group home) served as independent variables. Those individuals who failed to report to treatment, complete treatment, or were relocated to a more restrictive placement were classified as treatment failures. Recidivism results indicated that 58.8% (n=100) committed another offense during the follow-up period with 54.1% (n= 92) convicted on a new nonsexual offense and 14.1% (n= 24) convicted for a new sexual offense. Of these 24 individuals, 11 committed a nonsexual offense prior to committing a new sexual offense. Identified risk factors associated with sexual reconviction included receiving no sex offender treatment, being classified as a treatment failure, and having multiple female victims. The average follow-up time period of five years and total sample size are considered strengths of this investigation.

Worling and Curwen (2000) examined recidivism data for 148 adolescent sexual offenders (139 males and 9 females) who completed a comprehensive assessment at the Sexual Abuse, Family Education and Treatment (SAFE-T) Program between October 1982 and October 1985. Offenders, when first assessed, ranged between 12 and 19 years of age (M = 15.5; SD = 1.5 years). The SAFE-T program was described as a specialized community-based program that provides sexual abuse specific assessment, treatment, consultation, and long-term support to both child/adolescent perpetrators and/or victims of sexual abuse. All participants were convicted of and/or acknowledged committing a sexual offense with the majority (98%) reporting a “hands-on” offense. Of the 148 participants, 58 adolescents were designated to be in the Treatment group either as a

function of being actively involved in group, individual, and/or family treatment (n= 30) or those offenders who dropped out after 12 months of successful treatment (n = 18). The comparison group consisted of 90 adolescent sexual offenders with the largest group (n = 46) only receiving an assessment conducted by SAFE-T Program staff. Of the assessment participants, 30 received treatment elsewhere while 16 were referred for an assessment only. The 3rd portion of the comparison group was comprised of offenders who either refused treatment (n = 17) and offenders who dropped out of treatment before the 12 month period (n=27).

Recidivism data indicated that the three comparison groups (Assessment, Treatment Refusal, and Treatment Dropout) were not significantly different with respect to the frequency of subsequent sex offense charges, violent nonsexual offenses, nonviolent offenses, or any other criminal offense. Therefore, these individuals were combined into one group and compared with those in the Treatment condition. Here, significant differences between groups were measured as the sexual assault recidivism rate for the Comparison group (18%) was 72% higher than the recidivism rate for the Treatment group (5%). For violent nonsexual offenses, the recidivism rate for the Comparison group (32%) was 41% higher than the re-offense rate for the Treatment group (19%). The re-offense rate for nonviolent offenses for the Comparison group (50%) was 59% higher than the rate found for the Treatment group (21%). In regards to general criminal offenses, the Comparison group (54%) was 35% more likely to have been charged with an additional offense in contrast to the Treatment group (35%).

With recidivism as an outcome measure, these results support the efficacy of a specialized treatment program for reducing the risk of adolescent sexual recidivism.

Furthermore, these group differences were based on an average follow-up period of 6 years rather than a more common interval of 2 years or less commonly used in prior recidivism investigations. Next, recidivism was based upon legal charges rather than criminal convictions as conviction data can be considered to represent a more conservative rate of recidivism. Despite using arrest data as a measure of recidivism, group distinctions clearly indicated that by far the majority of treatment completers (95%) did not commit another sexual offense that resulted in arrest during the follow-up period.

Gretton, McBride, Hare, O'Saughnessy, & Kumba (2001) reported recidivism data for 220 Canadian, male juvenile sex offenders who ranged in age between 12 and 18 years old. The participants were court ordered to complete outpatient sex offender treatment. The majority of juvenile offenders selected a victim under the age of 12 (65.6%), a peer-aged or adult victim (21.5%), or mixed-age victim selection type (12.9%) consisting of both child and adolescent/adults. The victims were female (62%), male (16%), or both male and female (22%). Using the Hare Psychopathy Checklist: Youth Version (PCL:YV; Forth, Kosson, & Hare, 2001) as a measure of psychopathy, researchers rated participants based upon available file information. Using either a charge or subsequent conviction as a measure of recidivism, results indicated 51% of the sample committed a subsequent general offense, 30% committed a subsequent violent offense, and 15% committed a subsequent sexual offense. Psychopathy scores indicated those who rated highest were most likely to reoffend sexually while those rated lowest were least likely to reoffend. Moreover, results indicated juvenile sex offenders with high PCL:YV scores were measured to be more likely to escape from custody, violate

probation conditions, and commit both violent and non-violent offenses during a 5-year follow-up period. Results also indicated juvenile sex offenders were at an increased risk for subsequent delinquent behavior as participants were measured to commit a nonsexual offense rather than a sexual offense upon release from custody.

Nisbet, Wilson, and Smallbone (2004) examined 292 Australian, male juvenile sex offenders (average age = 16.05 years; *SD* = 1.61) after an average follow-up period of 7.3 years (*SD* = 1.76 years) with a minimum period of 4 years. The sample was heterogeneous as participants originated from a city or metropolitan area (65%) or rural area (21%). Furthermore, the sample was primarily comprised of those with an Anglo-Australian ethnic background (73%) or Aboriginal background (12%). Participants either pleaded guilty to, or were found guilty of either a contact (e.g., sexual assault) or non-contact (e.g., exhibitionism) sex offense. Researchers defined recidivism to consist of either charges and/or convictions for sexual or non-sexual offenses during the follow-up period. Of this sample, 25% were reconvicted for an additional sex offense prior to their 18th birthday. As adults, 9% were arrested for an additional sex offense where 5% were ultimately convicted for this subsequent sex offense. As adults, 61% of the initial sample was reconvicted for a non-sexual offense. Again, using reconviction as a measure of recidivism is typically considered a more conservative estimate compared to arrest data as a fair number of arrests may not result in conviction or are "pleaded-out" as a lesser charge.

Prentky, Pimental, Cavanaugh, and Righthand (2009) reported the rate of recidivism for 192 juveniles who were previously adjudicated for a "hands-on" offense. Additionally, these researchers examined the predictive validity of J-SOAP-II to predict

subsequent sex offense behaviors. The participants were subdivided into two groups based upon the age of their first hands-on offense; pre-adolescents, who were less than 12 years old (n=123) and adolescents, who ranged in age between 12 and 17 years (n=69). The mean follow-up period for the pre-adolescents was 46.95 months (SD = 19.03 months) and 40.62 months (SD = 19.42) for the adolescents. Results indicate 30.6% of the pre-adolescent offenders and 23% of the adolescent offenders reoffended sexually. Receiver Operating Characteristic (ROC) analyses were used to measure the predictive accuracy of the J-SOAP-II for subsequent sex offenses for pre-adolescent and adolescent participants. The area under the curve (AUC) provides the probability estimate of an instrument's predictive power with an AUC of chance prediction equaling 0.50. Using the J-SOAP-II total score as a predictor of sexual recidivism produced an AUC of 0.824 for pre-adolescents and 0.803 for adolescents. These findings were characterized by Prentky et al. as "remarkable" given the numerous difficulties commonly associated with attempting to measure sexual re-offense risk with juveniles. These findings clearly indicate the J-SOAP-II has clinical utility to better inform decisions made by clinicians regarding future risk of sexual re-offense given the measured predictive accuracy.

When reviewing the limited recidivism data regarding juvenile sex offenders, several trends are evident. Juvenile sex offenders have often been assumed to be at a high risk for subsequent sex offenses into adulthood, in part due to retrospective studies with adult sex offenders (e.g., Abel, Osborn, & Twigg, 1993). However, a review of the recidivism rates measured in the above mentioned prospective studies does not universally support the assumption regarding high risk of future sexual dangerousness of juvenile sex offenders as a relatively small proportion of juvenile sex offenders were

measured to commit subsequent sex offenses. Granted, reported recidivism rates were variable across prospective studies, but these rates do not remotely approximate subsequent sex offense behaviors reported by adult sex offenders in retrospective investigations. Higher rates of sexual recidivism in prospective investigations were generally a function of longer follow-up time periods, subjects who were placed in residential settings, and the use of re-arrest data rather than a more stringent outcome measure (e.g., reconviction data).

The reviewed prospective investigations clearly documented the majority of juveniles sex offenders committed subsequent non-sex offenses and were at high risk for general criminal offending behaviors following release. Juvenile sex offenders who received sex-offender specific treatment were rearrested less frequently for sexually and non-sexually based offenses. Although the specific mechanisms of treatment and the ability for treatment to influence subsequent behaviors associated with recidivism are not clearly understood; results from recidivism investigations suggest treatment participants and treatment completers are less likely to sexually re-offend when compared to treatment "failures" or individuals who do not complete treatment. Juvenile sex offenders have been conceptualized to be a unique population by researchers and legal policy makers, who as a result of their uniqueness, require specialized assessment and treatment (Fanniff & Becker, 2006). However, the current assumption and public perception regarding these individuals to be at "high risk" for subsequent sex offenses does not seem to be supported by available empirical data.

Perception Juvenile Sex Offenders

Prospective investigations following juvenile sex offenders into adulthood are increasingly more commonplace within the empirical literature, in part due to their perceived level of chronic sexual dangerousness (Hendricks & Bijleveld, 2008). The current societal perception of juvenile sex offenders representing chronically dangerous individuals likely to commit additional sex offenses as adults is a significant paradigm shift as sex offenses by male juveniles were previously "tolerated" by society (Chaffin, Letourneau, & Silovsky, 2002). Previous societal beliefs included a greater level of tolerance for these behaviors due to a "boys will be boys" attitude, which commonly classified sex offense behaviors as "harmless experimentation" (Chaffin, Letourneau, & Silovsky, 2002). Furthermore, sex offenses committed by juveniles were often dismissed by others and not reported to legal authorities, especially when the victim was either a sibling or friend (Groth, 1977).

Currently, subgroups of researchers, treatment providers, as well as lawmakers espouse the belief that juvenile sex offenders represent a chronic risk for future sex offense behaviors (Letourneau & Miner, 2005). The perceived epidemic of juvenile sexual offending has been attributed to several factors including the substantial increase in treatment programs and facilities that occurred during the 1980s and 1990s (National Adolescent Perpetrator Network, 1993; Letourneau and Miner, 2005) as well as the assumption that juvenile sex offenders were more similar to adult sex offenders rather than other delinquent juveniles (Letourneau and Miner, 2005). Moreover, juvenile sex offender treatment providers frequently implemented treatment curriculum adopted from adult sex offender programs, including interventions such as developing relapse

prevention strategies or developing victim empathy (Burton & Smith-Darden, 2001; Letourneau and Miner, 2005).

Adult sex offender recidivism rates may warrant a system that protects society given the alarming base rates commonly reported in adult recidivism investigations. For example, one study estimated adult sex offender re-arrest rates over the last 25 years for child molesters and rapists to be 52% and 39%, respectively (Prentky, Lee, Knight, & Cere, 1997). Furthermore, a recent meta-analysis study that examined recidivism data for approximately 45,000 adult offenders reported that 37% of these adult sex offenders returned to the correctional system (Hanson & Morton-Bourgon, 2009). Of those adult recidivists, 11.5% were re-adjudicated for a non-violent sexual offense and 19.5% for either a violent or violent sexual offense. In regard to adult sex offenders, empirical investigations have established paraphilic interest, sexual deviance, and early onset of sex offense behaviors as meaningful predictors for subsequent sex offenses (Hanson & Bussiere, 1998). Thus, adult recidivism data support, to some extent, the concern and perceived danger expressed by state legislators. Additionally, since the mid-1980s there has been a noticeable increase in the media documented horrific accounts of adults kidnapping, sexually abusing, and in certain instances, murdering child victims (Zimring, 2004). These accounts have been documented both in court records and by various media outlets. In turn, legislators have reacted many times on emotion rather than on empirical data as they have enacted punitive policies for dealing with these offenders (Caldwell, 2007). As a result of these beliefs, jurisdictions have extended laws and public policy typically used to manage adult sex offenders and applied them to juvenile sex offenders (Caldwell, 2007). For example, Garfinkle (2003) reported 33 states require

juveniles convicted of a sex offense to be included in their respective state sex offender registry. Furthermore, several states allow for the civil commitment of juvenile sex offenders deemed too dangerous to return to the community upon completion of their period of incarceration (Caldwell, 2007).

However, juvenile sex offender recidivism data does not support such powerful and potentially developmentally disruptive interventions, which have been applied to adults. A review of recent empirical investigations reporting sexual recidivism rates for juvenile sex offenders reveals a wide range of findings; ranging between 3% and 70% (Brannon & Troyer, 1995; Kenny, Seidler, Keogh, & Blaszczynski, 2000; Sipe, Jensen, & Everett, 1998). Many contributory factors may account for such a wide range in recidivism rates. Empirical investigations may differ according to sample demographics (e.g., location, age, race, culture, sample characteristics), inpatient versus outpatient setting/treatment, treatment modality/intervention, or follow-up recidivism time period, which all may influence the rate of sexual recidivism (Kahn & Chamber, 1991). Despite this wide range of rate of recidivism, most contemporary research, when controlling for confounding variables consistently measure relatively low base rate of sexual recidivism (Letourneau & Miner, 2005; Worling & Langstrom, 2006). Nonetheless, juvenile sex offenders are frequently conceptualized as "future pedophiles" or "budding rapists" subject to punitive sanctions originally developed for adult sex offenders (Garfinkle, 2003; Caldwell, 2007). However, operating under the universal assumption that juveniles who engage in sexually inappropriate behavior are at high risk for subsequent sex offense behaviors, and subjecting them to comply with legislation originally enacted to manage adult sex offenders may be inappropriate due the limited

body of knowledge regarding juvenile sex offenders, the subsequent rate of recidivism, and the lack of indentified and empirically validated risk factors associated with sexual dangerousness. (Caldwell, 2007).

Limitations of the Literature

As a specific population of interest, examining juvenile sex offenders empirically has only recently begun with significant interest beginning during the 1980s (Fanniff & Becker, 2006). Thus, the body of literature regarding this population is extremely limited. Despite limited empirical data examining juvenile sex offenders, these offenders have been characterized as presenting an inordinate risk of sexually re-offending given their prior offense behaviors (e.g., Hendricks & Bijleveld, 2008). And, given this level of risk, punitive tools such as severe sentencing guidelines, community notification laws, and in some instances, civil commitment, are used (Garfinkle, 2003; Caldwell, 2007; Trivits & Reppucci, 2002). Furthermore, extending legislation downward from adult sex offenders to juvenile sex offenders fails to acknowledge the developmental aspects of adolescence which is assumed to be "in flux" (Prentky & Rightland, 2003).

A considerable degree of empirical attention with juvenile sex offenders is related to indentifying characteristics indicative of additional sex offense behaviors. Despite attempts to classify juvenile sex offenders are in their infancy, one reported typology classifies these individuals as "experimenters" and assumes their offense behavior is unlikely to continue into adulthood (O'Brien & Bera, 1986). Classification systems acknowledge a group of offenders who are believed not to go on to continue offending, but few empirical investigations have specifically examined this group. Thus, from a public safety perspective, it is imperative to delineate between young offenders who will

desist prior to adulthood from those who will continue to sexually offend into adulthood (Vandiver, 2006).

As a whole, juvenile sex offender recidivism literature is limited in several ways and warrants consideration when examining recidivism data. One main limitation includes the manner in which the outcome variable "recidivism" is operationalized by researchers. Hall (1995) defined recidivism as "additional aggressive behavior" that follows some specific period of time, such as following the release from incarceration or the completion of a treatment program. However, "true" or "actual" recidivism, regardless of the offense type, in all empirical investigations is unknown (Becker, Kaplan, & Kavoussi, 1988). Rates of recidivism reported in empirical investigations certainly underestimate the occurrence of true recidivism rates as many sexual offenses are never reported or discovered (Barbaree, Hudson, & Seto, 1993; Abbey, 2005; U.S. Department of Justice, 2002). Furthermore, sexual offenses that are discovered and reported may fail to be adjudicated or are reduced in a legal context given the result of a plea agreement (U.S. Department of Justice, 2002). Thus, empirical descriptions of recidivism are considered "known," but are likely to represent only a minimum rate of reoffending (Kahn & Chambers, 1992). Next, recidivism has been operationalized in various manners further contributing potentially confounding aspects to recidivism studies. These differences occur across several dimensions including operational criterion (e.g., legal charge/arrest, conviction, and incarceration), type of offending behaviors (e.g., any offense, sexual offense), the source of reoffending behavior (e.g., self-report, official record, incident report from state or federal database), and the length of follow-up period.

Although discussion about the most appropriate manner of operationalizing recidivism began early in recidivism prediction research (Maltz, 1984), there is currently no universally agreed upon method of doing so. Rather, it may be argued that different approaches are more appropriate in different contexts. Others have debated the relative utility of using criminal charge, conviction, or some degree of severity (e.g., sentence length) in terms of their construct validity (e.g., Kahn & Chambers, 1992). Although some researchers favor the use of criminal arrest because they are less influenced by aspects of the criminal justice system, including plea-bargains, others researchers note concern about police practices of elevating charges with the full intention of defendants eventually "pleading" to a lesser charge in court (Hood, Shute, Feilzer, & Wilcox, 2002; Kahn & Chambers, 1992). Additionally, using criminal conviction data to define recidivism may be inappropriate due to the latency between time of arrest and final court verdict, especially for significant violent crimes, which artificially increases a follow-up time period. For example, Hood, Shute, Feilzer, and Wilcox (2002) observed a decline in the number of re-convicted sex offenders and attributed the measurement to the difficulty in obtaining a court conviction or guilty verdict rather than a decrease in the rate in sexual reoffending. Thus, re-arrest rates may provide a measure which more closely approximates the rate of additional sex behaviors (Kahn & Chamber, 1991).

Another source of variation in the comparisons of various approaches for predicting offender outcome is the manner by which researchers have operationalized "juvenile sex offender." Recidivism studies commonly report rates for juvenile sex offenders as a single group of offenders rather that specific groups according to their initial offense type and/or victim. Perhaps this lack of offense-type specificity is an

attempt to maintain statistical power and a result of a small sample size commonly reported among juvenile sex offender recidivism studies. Adult literature commonly makes the distinction between "child molesters" and "rapists" (e.g., Groth, 1979) with recidivism rates varying greatly between these group distinctions, 52% vs. 39%, respectively (Prentky, Lee, Knight, & Cere, 1997). Increased specificity describing juvenile sex offenders and subsequent recidivism rates is logical given the measured discrepancies among adult offenders when classified according to victim/offense characteristics.

The length of follow-up time in which offenders are reexamined is also relevant to the purpose of predicting recidivism. Longer follow-up periods allow individuals an increased opportunity to reoffend; thus, a higher base rate of recidivism is commonly measured in studies as the follow-up time period increases (Furby, Weinrott, & Blackshaw, 1989; Kahn & Chamber, 1992). Conversely, empirical studies with relatively brief follow-up time periods (e.g., 12 months) commonly report a lower base rate of recidivism compared to studies using longer follow-up periods (e.g., Prentky, Harris, Frizzell, & Righthand, 2000; Lab, Shields, & Schondel, 1993). Ultimately, these limitations likely contribute, in part, to the wide range of commonly reported recidivism rates, which have been reported to range between 3% and 70% (e.g., Brannon & Troyer, 1995; Kenny, Seidler, Keogh, & Blaszczynski, 2000; Sipe, Jensen, & Everett, 1998).

The Current Investigation

The current investigation will examine the overall recidivism rate for a sample of male, juvenile sex offenders and a comparison group comprised of male juveniles adjudicated for a non-sexually based offense. Many prior studies report recidivism data

from individuals who participated in sex offender specific treatment in a community-based treatment setting (e.g., Lab, Shields, & Schondel, 1993; Borduin & Schaffer, 2001). Additionally, many prior studies present data from relatively small sample sizes and/or non-diverse samples (e.g., Borduin, Henggeler, Blaske, & Stein, 1990; Brannon & Troyer, 1995). The current investigation seeks to extend previous studies examining recidivism rates for juvenile sex offenders by contributing re-arrest data from individuals who participated in community based, residential treatment while incarcerated. Furthermore, the current sample is modest in size and is comprised of nearly a bi-modal split between Caucasian and African American participants.

Additionally, this study will examine pre-treatment assessment variables and compare several groups across these variables including the following: individuals re-arrested for a subsequent sex offense; individuals re-arrested for an additional non-sex offense; and individuals who are not re-arrested. These comparisons will be conducted in order to determine if meaningful group differences are discernable prior to the onset of treatment. Additionally, the ability to predict subsequent sex and non-sex offense arrests for several pre-treatment variables and instruments, such as the J-SOAP-II and Psychopathy Checklist, Youth Version, will be assessed.

Based upon previous literature pertaining to juvenile sex offender rates of recidivism, the following hypotheses are offered.

Hypotheses

1. Juvenile sex offenders will be rearrested for an additional sex offense at or below the 10% recidivism rate for sexual offenses commonly reported in previous recidivism studies.

2. Delinquent, juvenile non-sex offenders will be rearrested for a sexual offense at a rate comparable to the recidivism rate for juvenile sex offenders.
3. Juvenile sex offenders will be rearrested for a non-sexual offense approximating the 35% recidivism rate for non-sexual offenses commonly reported in previous recidivism studies.
4. Juvenile delinquent, non-sex offenders will be rearrested at or above the 50% recidivism rate for non-sexual offenses commonly reported in previous recidivism studies.
5. As the re-arrest rate for an additional sex offense by juvenile sex offenders is estimated to be low (e.g., 10 %), an exploratory examination of pre-treatment variables will be conducted in an attempt to identify defining characteristics of re-arrested youth based on the measures obtained prior to the onset of treatment. Juvenile sex offenders who are re-arrested for a subsequent sex offense will differ significantly on selected pre-treatment variables from juvenile sex offenders who are not rearrested for any additional offense. Additionally, juvenile sex offenders who are rearrested for a subsequent sex offense will differ significantly on pre-treatment variables from those juvenile sex offenders who are rearrested for a subsequent non-sex offense. Juvenile sex offenders rearrested for a subsequent non-sex offense will differ significantly on selected pre-treatment variables from individuals who are not rearrested for an additional offense.
6. A meaningful model capable of predicting re-arrest for juvenile sex offenders based upon predictor variables will be formed. These predictor variables will include scores from a semi-structured clinical interview, Psychopathy Checklist:

Youth Version (PCL:YV), Juvenile Sex Offender Assessment Protocol – 2nd edition (JSOAP-II), Wechsler Abbreviated Scale of Intelligence (WASI), Wide Range Achievement Test (WRAT), and Millon Adolescent Clinical Inventory (MACI).

7. Receiver operating characteristic (ROC) analysis will evaluate the ability of the Juvenile Sex Offender Assessment Protocol (e.g., JSOAP-II), an actuarial measure of adolescent sexual reoffending, and the Psychopathy Checklist, Youth Version (PCL:YV) to predict sexual recidivism. Area under the curve (AUC) probability estimates will be above the level of chance, or greater than 0.50.

Methods

In 1999, Alabama Legislature passed into law a mandate requiring treatment for all juveniles convicted of a sexual offense. However, at the time, insufficient treatment options were available and the Alabama Department of Youth Services (DYS) began to explore new service delivery models in order to comply with the new mandate. The Department of Psychology at Auburn University and the School of Social Work at the University of Alabama were approached by DYS and a public-public partnership was formed aimed at providing treatment for juveniles convicted of a sex offense (Burkhart, Peaton, & Sumrall, 2009). This consortium developed the Accountability Based Sex Offender Program (ABSOP), which was charged with providing treatment for juvenile sex offenders in response to the newly enacted mandate.

A fundamental component of the ABSOP treatment program was the tenet that a comprehensive global assessment for each treatment participant was required in order to adequately inform treatment goals and needs. A comprehensive assessment highlighted individual strengths and weaknesses, thus providing a treatment plan based, in part, on information obtained from the global assessment. Moreover, the data collected at intake also provided the foundation for a comprehensive research protocol.

Participants

A total of 657 incarcerated male juvenile offenders served as participants. Of the 657 participants, 509 (77.5%) were originally adjudicated due to a conviction for a sexual offense while 148 (22.5%) were adjudicated as a result of a non-sex offense

conviction. Participants were incarcerated at the Mt. Meigs correctional facility, in Alabama, between September 2000 and July 2007. The state of Alabama Department of Youth Services designated the Mt. Meigs campus as the state treatment facility for juveniles convicted of a sex offense beginning in 2000. Additionally, it also houses juveniles convicted of non-sex offense crimes. Mt. Meigs has a been identified as a specialized treatment facility by DYS; therefore, juveniles originate from counties in the state ranging in size between rural, less populated counties to urban, densely populated counties. The complex consists of 13 dormitories with a total capacity for 312 male juveniles.

Juvenile Sex Offenders

Of the 509 juvenile sex offenders, 318 individuals were convicted of one sex offense charge, 111 individuals were adjudicated with two sex offense charges, and 80 individuals were adjudicated with three sex offense charges. The majority of juvenile sex offenders were convicted of one of the following sex offenses: Sexual Abuse, 1st Degree (32.3%), Sodomy, 1st Degree (17.7%), Rape, 1st Degree (12.1%), Sexual Misconduct (11.2%), Rape, 2nd Degree (5.4%), Attempted Rape, 1st Degree (2.3%), and Sodomy, 2nd Degree (1.9%).

As the data above indicates, juveniles were convicted of a wide range of index sexual offenses. Of note, the majority (32.3%) were convicted of Sexual Abuse, 1st Degree, defined by the state code of Alabama as one or more of the following behaviors: when a person uses force to touch sexually the body parts of another individual for the purpose of sexual gratification; when an individual subjects a person who is incapacitated (either mentally or physically) to sexual contact; or, if an individual, who is 16 years or

older, subjects a person who is 12 years old or younger to sexual contact. Sodomy, 1st Degree, is defined in Alabama to consist of behaviors of force or threat for the purpose of engaging in sexual contact involving the mouth or anus of an individual who is not the perpetrator's spouse. For juveniles, Rape, 1st Degree, is levied under one of two conditions: when an individual uses force or threat to engage in sexual intercourse; or when a youth engages in sexual intercourse with an individual who is incapable of providing consent due to their age (e.g., individuals less than 12 years of age). Sexual Misconduct is defined as offense behavior consisting of the commission of illicit sexual activity. Rape, 2nd Degree, is levied to individuals when they are between 16 and 19 years of age and engage in sexual intercourse with a member of the opposite sex who is between 12 and 16 years of age. Furthermore, the perpetrator must be at least 2 years older than the victim. Sodomy, 2nd Degree, is applied when an individual who is 16 years or older engages in deviant sexual intercourse with another person less than 16 and more than 12 years old; or an individual engaged in deviate sexual intercourse with a person who is incapable of consent by reason of being mentally defective.

The offense behaviors comprising these legal charges appear to share similarities and overlap. Furthermore, data about the actual offense often were not available and the adjudicating offense may be the result of a negotiated plea bargain.

Non-Sex Offenders

Of the 148 juvenile non-sex offenders, 73 individuals were adjudicated for one offense, 38 were convicted of two offenses, and 37 were convicted of three offense charges, which resulted in their incarceration. The majority of non-sex offending juveniles were convicted of one of the following charges: Theft of Property, 1st Degree

(18.1%), Violation of Aftercare Order (17.6%), Possession of Drugs (9.5%), Burglary (8.1%), Assault (5.5%), Breaking and Entering an Automobile (5.5%), Possession of Stolen Property (3.4%), Forgery (2.7%), Domestic Violence (2.7%), and Possession of a Deadly Weapon (2.4%).

Sample Demographics

At the time of initial assessment, the mean age of participants was 15.98 years old (*SD* = 1.53 years) with participants ranging between 11 and 19 years of age. Participant mean grade level at the time of initial assessment was 8.66 grade (*SD* = 1.975) with a range between the 5th grade and high school graduate or GED completion. The majority of participants identified themselves as Caucasian (n = 332; 50.7%), followed by African American (n = 303; 46.3%), Hispanic (n = 6; 0.9%), "Bi-racial" (n = 10; 1.5%), or those who identified themselves as "Other" (n = 4; 0.6%).

The mean age of juvenile sex offenders during their initial pre-treatment assessment was 15.65 years (*SD* = 1.55 years) and mean age of juvenile non-sex offenders was 17.09 (*SD* = 0.74 years). The average grade level for juvenile sex offenders was 8.5 (*SD* = 1.81) and 9.03 (*SD* = 2.44) for juvenile non-sex offenders. Juvenile sex offenders were Caucasian (54.8%), African American (41.8%), "Bi-racial" (1.8%), Hispanic (1%), or "Other" (0.6%). Juvenile non-sex offenders were African American (61.5%), Caucasian (36.5%), Hispanic (0.7%), "Bi-racial" (0.7%), or "Other" (0.7%).

Measures/Materials

Comprehensive Clinical Interview. The comprehensive pre-treatment clinical interview is a 111-item, semi-structured questionnaire comprised of both open- and

closed-ended questions, which collects information regarding the behavioral functioning and contextual/environmental factors juvenile offenders experience. The clinical interview was designed to gather information from subjects across the following domains: relevant demographic variables; family history and adjustment issues; health-related issues and interventions; alcohol and substance history and current usage; educational and vocational history and current functioning; abuse and trauma history; current environmental and contextual stressors; in-depth history of previous and current criminal activity and charges; history of psychological and psychiatric issues and treatments; and a detailed collection of information related to previous and/or current sexual offending behaviors. Participants were interviewed and all available file information was reviewed in order to complete and/or verify participant responses.

Checklists and Rating Scales

Hare Psychopathy Checklist: Youth Version. The Hare Psychopathy Checklist: Youth Version (PCL:YV; Forth, Kosson, & Hare, 2003) is a 20-item structured clinical rating scale designed to assess adolescent personality traits or stable dispositions that are representative of a psychopathic personality pattern. A psychopathic personality pattern has been previously linked to an increased likelihood of antisocial behavior, including future criminal activity, and poor social, occupational, and interpersonal functioning in adults (Hare, 1991). The PCL:YV is a measure of youth psychopathy and is designed to be administered to males and females between the age of 12 and 18 years old. PCL:YV items are scored based upon information collected from a semi-structured interview as well as reviewing relevant file information. Hare (2003) reported that the items have been modified yet retain essentially the same 20 items found on the PCL-R, a commonly

used adult measure of psychopathy with over 20 years of empirical support. Item modifications include altering content to reflect juvenile life experiences.

Thus, the PCL-YV has a larger emphasis on family, peers, and school adjustment and a reduced emphasis on work history and prior marriages. Also, items assessing parasitic lifestyle and interpersonal relationships were added. Finally, changes in the scoring system were made to accommodate enduring characteristics of young people across a variety of settings. The PCL:YV remains a 20-item inventory in which individuals are rated on a 3-point scale for each item (0 = no, the item does not apply; 1 = the item may apply; 2 = yes, the item definitely applies). PCL:YV total score may range from 0 to 40. Brandt, Kennedy, Patrick, and Curtin (1997) measured a similar factor structure for the PCL:YV with adolescent samples similar to that of the PCL-R. Results supported a two-factor model in which Factor 1 reflected the interpersonal and affective characteristics while Factor 2 reflected behavioral features and social deviance. Factor 1, commonly referred to as the Selfish, Callous, and Remorseless Use of Others Factor, is composed of items aimed to assess interpersonal and affective traits consistent with the construct of psychopathy in adults (Hare, 1991). Factor 2, the Chronically Unstable and Antisocial Lifestyle Factor aims to measure the degree of aimlessness, irresponsibility, and impulsivity of individuals demonstrated throughout their daily functioning.

Psychometric data suggests the PCL:YV reliably measures psychopathy in adolescents (Forth, Hart, & Hare, 1990). The PCL:YV demonstrates high interrater-reliability (single-rater intra-class correlation of .90 to .96; Forth, Kosson, & Hare, 2003), high internal consistency (Cronbach's alpha coefficients ranging from .85 to .94; Forth et al., 2003; O'Neill, Lidz, & Heilbrun, 2003), high single-rater reliability (.90; Catchpole &

Gretton, 2003), and adequate test-retest reliability (intra-class correlation of.66 for the total score; Skeem & Cauffman, 2003). The PCL:YV has also been shown to be a good predictor of recidivism with a sample comprised of general juvenile delinquents (Gretton, et al., 2001).

J-SOAP and J-SOAP-II. The Juvenile Sex Offender Protocol (J-SOAP) is a 26-item empirically-informed checklist of risk factors used to assess a juvenile's risk of sexual and criminal reoffending (Prentky, Harris, Frizzell, & Righthand, 2000). The instrument was created to use with male juveniles between the ages of 12 and 18 years old with a history of sexually coercive behavior, which may or may not have resulted in adjudication. The J-SOAP items comprise four distinct scales: Sexual Drive/Sexual Preoccupation; Impulsive, Antisocial Behavior; Clinical Intervention; and Community Stability. A list of scale items, and corresponding scales/factors, is found in Table 1A. Historical or static risk factors are assessed by items found on the first two scales while items postulated to be associated with dynamic risk of re-offense comprise the final two scales. Items are scored using a 0 to 2 scale, with a score of "0" indicates the assessed absence of the risk factor described by the item, "1" indicates the presence of some risk factor information on the particular item, and a score of "2" indicates the clear presence of the particular risk factor. Each item is scored using multiple sources of information in order to enhance accuracy and reliability. Sources of information may include, but are not limited to, available records, self-report, interview information, and documentation. Currently, there are no empirically supported "cut-off" scores for determining overall level of risk. Rather, J-SOAP-II scores are presumed to have clinical utility so as to

better inform and guide treatment as well as inform risk management decisions (Prentky & Righthand, 2003).

The J-SOAP was eventually revised and the J-SOAP-II was published in 2003. Revisions included modifying several test items with anchors described in behavioral terms and test item additions and deletions. Due to the revisions, versions of the J-SOAP are not necessarily compatible and scale and total scores not equivalent across instruments (Prentky & Righthand, 2003). Previous researchers have reported moderate to excellent internal consistency, adequate concurrent validity, and good discriminant validity for J-SOAP scales (Righthand et al., 2005).

Millon Adolescent Clinical Inventory. The Millon Adolescent Clinical Inventory (MACI; Millon, 1993) is a 160-item true/false self-report clinical measure that assesses a wide range of psychological problems and traits experienced by 13 to 18-year old adolescents. The MACI consists of 31 scales which comprise three clinical domains and one modifying domain: 3 Validity/Modifying Indices (Disclosure, Desirability, Debasement), a Reliability scale, 7 Clinical Syndromes scales (Eating Dysfunctions, Substance Abuse, Delinquency Predisposition, Impulsive Propensity, Anxious Feelings, Depressive Affect, Suicidal Tendency), 12 Personality Patterns scales (Introversive, Inhibited, Doleful, Submissive, Dramatizing, Egotistic, Unruly, Forceful, Conforming, Oppositional, Self-Demeaning, Borderline Tendencies), and 8 Expressed Concerns scales (Identity Diffusion, Self-Devaluation, Body Disapproval, Sexual Discomfort, Peer Insecurity, Social Insensitivity, Family Discord, Childhood Abuse). The modifying indices are designed to assess and correct for response distortions.

Rather than use standard-score transformations commonly used in other instruments (e.g., T-score), the MACI uses base rate or prevalence data for individual variables in order to determine appropriate cut-off points as a normal distribution of individuals for clinical variables is not an assumption. Epidemiological studies and clinical judgment were used to determine prevalence rate estimates for adolescents who were determined to demonstrate a given clinical characteristic. Thus, it is assumed that psychopathology is not normally distributed in a clinical sample and MACI raw scores are modified in reference to prevalence rates in order to produce scores that are more interpretable (Millon, 1993). Raw scores are converted to base rate scores, which incorporate age, gender, and prevalence data, and range between 0 to 115 for all scales. Base rate scores below 60 suggest no significant problems in the area measured, between 60 and 74 suggest little evidence of a trait if closer to 60 or some aspects of the trait if closer to 74, between 75 and 84 indicate clinically significant presence of the trait, and 85 to 115 suggests the characteristic is clinically prominent.

Normative data were derived from approximately 700 individuals in inpatient, residential, or a mental health setting (Millon, 1993). Empirical investigations indicate the MACI has good internal consistency and test-retest reliability (Millon, 1993). Alpha coefficients range from .73 to .87 for the Validity scales, .74 to .90 for the Personality Patterns scales, .75 to .89 for the Clinical Syndromes scales, and .73 to .91 for the Expressed Concerns scales (Millon, 1993). Studies suggest that the MACI has promising concurrent and predictive validity in non-forensic samples (e.g., Hart, 1993; Hiatt & Cornell, 1999; Millon, 1993; Millon, Green, & Meagher, 1982).

The Wechsler Abbreviated Scale of Intelligence (WASI). The WASI yields a Verbal IQ (VIQ), a Performance IQ (PIQ) and a Full Scale IQ (FSIQ) based upon subtest scores. Subtests presented on the WASI include Vocabulary, Similarities, Matrix Reasoning, and Block Design. These subtests parallel those found in the Wechsler Adult Intelligence Scale – Fourth Edition (WAIS-IV; Wechsler, 2008). The WASI IQ estimates were measured to correlate highly with the WISC-III Verbal IQ (.82), Performance IQ (.76), and Full Scale IQ (.87). Empirical data indicates excellent internal consistency (.92 - .97) and test-retest reliabilities (.88 to .93; average 31-day test interval) for the WASI. Additionally, the WASI has been measured to be a reliable and accurate screening measure of general intelligence and functioning based upon known group comparisons.

Wide Range Achievement Test – 3rd Edition (WRAT-3). The WRAT-3 is an individually administered test comprised of three subtests: Reading, Spelling, and Math. It provides grade equivalency levels in these three achievement areas for individuals ranging in age between 5 and 75 years old. Data reported in the WRAT – 3 manual indicate high internal consistency (.91) and test-retest reliability (.98 with an average 37.4-day test-retest interval) as well as moderate to high correlations (.55 - .71) with the Verbal, Performance, and Full Scale IQs of the WISC-III.

Procedure

Study participants originated from all counties throughout the state of Alabama and had been adjudicated by their respective county court and committed to Mt. Meigs to serve their sentence. Once adjudicated for their initial index offense (e.g., sex offense or general offense) individuals were transferred to the Mt. Meigs campus and placed in

dormitories specific to their offense and age group. Juvenile sex offenders were typically housed within one of two dormitories based largely in part by admission age or victim type. Non-sex offending juveniles were housed mostly according to their age at admission and available bed space. All juvenile sex offenders at Mt. Meigs completed a comprehensive global pre-treatment assessment given the State's treatment mandate while a random selection of non-sex offending juveniles, approximating every fifth individual assessed, completed the comprehensive assessment.

Each juvenile was provided with a detailed assent form outlining the nature of the assessment and subsequent manner in which their individual data would be used. Juveniles were informed of efforts to preserve confidentiality including assigning identification numbers on all assessment materials and the secure storage and protection of all assessment materials. Potential participates were informed of their ability to withdraw from the research component of the pre-treatment assessment at any time and suffer no consequences for withdrawing their assent. Prior to each interview, juveniles were encouraged to respond in an open and honest manner while assessors were instructed to highlight any inconsistent information in a non-confrontational manner between a juveniles' self-report and available file information.

Advanced clinical psychology graduate students conducted the pre-treatment comprehensive assessment interviews, which included a thorough examination of all available records. Undergraduate research assistants commonly administered all self-report instruments in either a group or individual testing environment. Prior to conducting clinical and diagnostic pre-treatment interviews, advanced graduate students completed a comprehensive training program conducted by a licensed, board certified

clinical psychologist as well as advanced graduate students who previously completed the training requirements. Training program modules included the following: basic clinical interviewing skills; diagnostic skill development; psychometric measure administration and scoring; reliability scoring and coding exercises; and data entry. Undergraduate research assistants received training in proper administration and scoring procedures for all self-report measures. Additionally, graduate students and previously trained graduate students completed calibration exercises consisting of scoring and coding mock protocols independently and discussing each scoring decision. Calibration exercises were scheduled regularly in order to maintain scoring consistency among interviewers.

The comprehensive pre-treatment clinical assessment included the following measures: a clinical interview, which requires a thorough review of available records/information; Psychopathy Checklist: Youth Version (PCL:YV); Juvenile Sex Offender Assessment Protocol (J-SOAP-I or II); Schedule for Affective Disorders and Schizophrenia for School Aged Children, Present and Lifetime Version (K-SADS-PL); Weschler Abbreviated Scale of Intelligence (WASI); Wide Range Achievement Test, 3rd Edition (WRAT-3); the Delis-Kaplan Executive Function System (D-KEFS). Self-report measures include the following instruments: Adolescent Cognitions Scale; Inventory of Parent and Peer Attachment; Parental Bonding Inventory; Millon Adolescent Clinical Inventory; Jessness Inventory; Multiphasic Sex Inventory, Juvenile version; Reynolds Adolescent Depression Scale; Substance Abuse Subtle Screen Inventory- Adolescent Version; and the Screen for Violent Adolescent Violence Exposure.

Upon completion of the pre-treatment assessment clinical interview, graduate student clinicians coded participant responses and entered variable codes into a computer

database. Additionally, graduate students collected self-report materials from undergraduate research assistants and entered responses into a computer data base.

Re-arrest data used in the current investigation consisted of arrest information collected by the Alabama Crime Information Center, recorded by the National Crime Information Center (NCIC) and the Automation Fingerprint Identification System (AFIS). Recidivism data reported was obtained on July 29, 2009.

Logistic Regression

Logistic regression was employed to predict the discrete outcome of recidivism group membership based on the variables selected for analysis. With this analytic technique, group membership may be determined by using a combination of variables that may be continuous, discrete, dichotomous, or a mix. Logistic regression is well suited for determining group outcome in this investigation as the distribution of responses on the dependent variable (e.g., recidivism) was expected to be nonlinear with one or more of the independent variables (e.g., IQ, psychopathy score) (Hanson, 2002). Variables and their ability to accurately predict recidivism outcome was examined by a logistic regression analysis. Predictor variables included number of victims, sex of victims, victim age, IQ standard scores, Achievement standard scores, JSOAP-II total score, PCL:YV total score, prior arrests, and MACI mean scale scores.

Area Under the Curve

Measuring the area under the curve (AUC) is an established technique associated with receiver operating characteristic curve analysis (Rice & Harris, 1995). This technique provides a probability estimate of a selected variable in accurately predicting who is subsequently rearrested (Rice & Harris, 1995). The AUC statistic ranges from a

value of 0.5 (indicating no predictive power for recidivism) to a value of 1.0 (indicating 100 percent accuracy in predicting recidivism. The greater the AUC value, the better the predictive power of the variable selected to predict re-arrest.

This technique is well established for measuring the predictive power of a measurement instrument and has particular relevance for determining the likelihood of recidivism (Rice & Harris, 1995). If the test accurately predicts recidivism, this is a "true positive" result. However, how often recidivism is predicted when it did not occur is known as a "false positive" result. The best prediction tool maximizes true positives and minimizes false positives. The technique that analyzes prediction accuracy uses a graph that maps the true positive rate against the false positives. The curve of this graph is called the receiver operating characteristic (ROC) curve. The area under the curve provides a measure of the predictive power of the prediction instrument. The J-SOAP total score, J-SOAP-II total score, and the PCL:YV total score was used to predict re-arrest for sex and non-sex offenses and the area under the receiver-operating-characteristic (ROC) curve (Lusted, 1971) was generated. A ROC curve is the plot of the true-positive rate ("hit rate") as a function of the false positive rate at specific intervals of the variable in question. For a variable that is positively correlated with recidivism, the ROC value can be interpreted as the probability that a randomly selected recidivist will have a higher score than a randomly selected non-recidivist (Rice & Harris, 1995). Mossman (1994) and Rice and Harris (1995) have recommended that ROC curve estimates be used when examining the accuracy of recidivism prediction as the ROC statistic is not significantly influenced by either selection ratio or base rate. This in an important consideration given the low base rate for sexual recidivism in this project. To

date, few empirical investigations using juveniles as subjects have been conducted examining the predictive validity of standard measures on predicting subsequent behaviors, such as violent offenses or sex offenses (Prentky, Pimental, Cavanaugh, and Righthand, 2009).

Results

Juvenile Sex Offender Recidivism

The mean period of incarceration for juvenile sex offenders was 434 days (*SD* = 195). The average follow-up period for juvenile sex offenders was 64.96 months (*SD* = 23.80) following release from Mt. Meigs. Of the 509 juveniles originally adjudicated for a sex offense, 199 (39.1%) were re-arrested for a subsequent offense, of any type, following completion of juvenile sex offender treatment and release from their initial incarceration. Of the 509 original juvenile sex offenders, 20 individuals (3.9%) were re-arrested for an additional, "hands-on" sex offense, while 27 (5.3%) were re-arrested for a sexual probation violation. Individuals who were re-arrested for a subsequent "hands-on" sexual offense did so 25.49 months (*SD* = 14.13), on average, following release. Of note, one individual was re-arrested for a sex offense 143 days following release from treatment. Individuals who committed subsequent sex offenses were charged with one of the following offenses: Sexual Abuse, 1st Degree (7 individuals); Rape (Completed), 1st Degree (5 individuals); Sodomy (5 individuals); Rape (Completed), 2nd Degree (2 individuals); and Sexual Misconduct (1 individual). The 27 individuals who committed a sexual probation violation did so by failing to register as a convicted sex offender in their respective county of residence. This legal requirement to register as a convicted sex offender is a result of their prior juvenile sex offense conviction.

In regard to non sexual recidivism or a non-sexual parole violation, 152 (29.9%) of the original 509 juvenile sex offenders committed a subsequent non-sexual offense. These offenders committed a non-sex offense 29.26 months (*SD* = 13.29), on average, following release from treatment. Of these non-sexual recidivists, the majority of offense behaviors consisted of property-related offenses (26.3%), violent offenses (21.7%), or drug-related offenses (19.1%).

Juvenile Non-Sex Offender Recidivism

The mean period of incarceration for juvenile non-sex offenders was approximately 165 days (*SD* = 74). The average follow-up period for juvenile non-sex offenders was 55.20 months (*SD* = 20.41) following release from Mt. Meigs. Of the 148 juveniles originally convicted for a non-sex offense, 110 (74.3%) were re-arrested for an additional offense following their period of incarceration at the Mt. Meigs correctional facility. Juvenile non-sex offenders committed a subsequent offense 16.89 months (*SD* = 6.21), on average, following release from Mt. Meigs. Of those individuals who were re-arrested for a subsequent offense, four individuals (2.7%) committed a "hands-on" sexual offense. Three individuals were re-arrested for Rape (Completed), 1st Degree, while one individual was arrested for Rape (Completed), 2nd Degree. The majority of subsequent offense behaviors consisted of drug-related offenses (25.5%; e.g., Possession of Marijuana, Possession of Cocaine, Possession with Intent to Distribute), property offenses (23.6%; e.g., Theft of Property, Breaking and Entering, Burglary), or violent offenses (14.6%; e.g., Assault).

Juvenile sex offenders were frequently sentenced to "complete sex offender treatment," which differed from juvenile non-sex offenders who were typically

adjudicated for a predetermined time period informed by state sentencing guidelines. Juvenile non-sex offenders commonly completed educational courses and/or substance abuse treatment modules when initially incarcerated at Mt. Meigs.

Examining Juvenile Sex Offenders Following the Completion of Treatment: A Comparison of Sexual Recidivists, General Recidivists, and Non-Recidivists

Of those initially incarcerated as a juvenile sex offender, recidivism data indicates that 307 (60.7%) individuals were not rearrested for a subsequent offense of any type, 179 (35.4%) were rearrested for a non-sex offense or violation of probation, and 20 (3.9%) were rearrested for a subsequent "hands-on" contact sexual offense. An exploratory analysis of pre-treatment variables for those initially incarcerated as a juvenile sex offender was conducted contrasting three groups: those who were subsequently arrested for an additional contact sex offense (sexual recidivist), those who were re-arrested for a non-sex offense (general recidivist), and those who were not subsequently re-arrested for any subsequent offense behavior (non-recidivist). Groups were compared on the following variables: demographic characteristics, abuse history, mental health history, delinquency history, original sex offense specifics, intelligence and academic functioning, psychopathy, sexual risk factor checklist, and personality characteristics.

Demographic Information.

A one-way analysis of variance (ANOVA) examining differences between ages across recidivism groups was significant; $F(2, 504) = 5.307$, $p = .005$. At the time of the initial pre-treatment assessment, the average age for non-recidivists was 185.77 months ($SD = 18.59$), the average age for general recidivists was 190.87 months ($SD = 18.35$),

and the average age for sexual recidivists was 193.55 months (*SD* = 17.38). Post-hoc analyses indicated juvenile sex offenders who recidivated non-sexually were significantly older at the time of initial assessment compared to juvenile sex offenders who did not recidivate. Despite the measured age differences between groups at the time of initial assessment, no significant difference in grade level across groups was measured; $F(2, 504) = 0.928$; $p = 0.396$. As previously reported, the majority of juvenile sex offenders, at the time of their initial pre-treatment assessment, were measured to be Caucasian (54.8%), or African American (41.8%). Upon follow-up, non-recidivists were predominately Caucasian (60.7%), followed by African American (35.4%), followed by "Bi-racial" (1.6%), Hispanic American (1.3%), and "other" (1.0%). Of the sexual recidivists, the majority of individuals were Caucasian (70%), followed by African Americans (25%), and Hispanic Americans (5%). Of the general recidivists, the majority were African American (56.9%), followed by Caucasian individuals (43%).

Sexual and Physical Abuse History

In regard to sexual abuse history, meaningful group differences were observed as 50% of sexual recidivists reported a history of sexual abuse compared to 37.1% of non-recidivists and 22.9% of general recidivists; X^2 (2, N = 509) = 13.025, $p = .001$. In regard to physical abuse history, no meaningful group differences were observed as 40.4% of non-recidivists, 42.9% of sexual recidivists, and 32.8% of general recidivists, reported a history of physical abuse prior to the onset of treatment; X^2 (2, N = 509) = 3.825, $p = .148$.

Prior Psychological/PsychiatricTreatment

No group differences in regard to previous psychological treatment history reported prior to the onset of treatment across recidivism groups were observed; X^2 (2, N = 509) = 5.092, p = .078. In regard to previous treatment with psychiatric hospitalizations, no group differences recidivism groups were observed; X^2 (2, N = 509) = 2.214, p = .331. Also, no group differences were observed in regard to a history of psychotropic medication; X^2 (2, N = 509) = 3.470, p = .176.

Prior Arrest/Incarceration History

In regard to arrests reported prior to treatment, differences across recidivism groups were observed; F(2, 502) = 21.92; p < .001. Non-recidivists reported an average of 2.39 arrests prior to the onset of treatment (SD = 2.34); sexual recidivists reported an average of 3.00 prior arrests (SD = 2.92); and general recidivists reported an average of 4.66 prior arrests (SD = 5.20). A similar trend is evident in regard to prior incarcerations across recidivism groups; F(2, 502) = 12.329, p < .001. Non-recidivists following treatment had an average of 1.58 prior incarcerations (SD = 1.63), while sexual recidivists averaged 2.25 prior incarcerations (SD = 2.15), and general recidivists averaged 2.84 prior incarcerations (SD = 3.95). Post-hoc comparisons indicated significant differences between prior arrest histories and incarcerations for non-recidivists and general recidivists.

Initial Sex Offender Offense Specifics

No significant differences in total number of victims reported across recidivism groups was observed; F(2, 504) = 0.339; p = .712. Victim gender information was available for 498 of the original juvenile sex offenders. Chi-square analysis indicated no

significant differences in regard to victim gender selection (e.g., male victim, female victim, mixed pattern) were observed across recidivism groups; X^2 (4, N = 498) = 8.53, p = .074. Non-recidivists reported engaging in sexual abusive behaviors for an average of 10.64 months (*SD* = 19.74 months), sexual recidivists reported engaging in sexually abusive behaviors for an average of 15.28 months (*SD* = 34.79 months), while general recidivists reported engaging in sexually abusive behaviors for an average of 9.28 months (*SD* = 20.67 months); however, no significant differences between abuse time periods across recidivism groups were observed; F(2, 501) = 0.824, p = .439.

In terms of victim age, significant differences were observed across recidivism groups; X^2 (4, N = 496) = 18.112, p = .001. Non-recidivists primarily offended against victims who were four or more years their junior at the time of offense (66%), peer-aged or older victims (21.7%) or a mixed-age pattern consisting of both younger and peer aged victims (12.3%). Sexual recidivists offended against victims four years or younger to their age at the time of offense (75%), or peer-aged or older victims (25%). General recidivists initially offended against victims four years or more their junior (51%), peer aged or older victims (38%), or against a mixed age pattern (10.8%).

Intelligence and Achievement Results

Intelligence testing, as measured by the Wechsler Abbreviated Scale of Intelligence (WASI), and academic achievement, as measured by the Wide Range Achievement Test (WRAT), was completed as a standard component of the pre-treatment assessment battery.

No significant differences between pre-treatment IQ scores (e.g., Full Scale, Verbal, Performance) across recidivism groups was observed; Wilks' Λ = 0.970, F(6,

782) = 1.972, p = .067. Non-recidivists were measured to have an average full scale IQ 86.23 (*SD* = 14.78), average Verbal IQ score of 84.90 (*SD* = 14.91), and average Performance IQ score of 89.94 (*SD* = 15.22); sexual recidivists were measured to have an average pre-treatment full scale IQ of 83.24 (*SD* = 12.35), average Verbal IQ score of 82.88 (*SD* = 13.27), and average Performance IQ score of 87.24 (*SD* = 14.93); and general recidivists were measured to have an average full scale IQ of 81.22 (*SD* = 14.15), average Verbal IQ score of 80.48 (*SD* = 12.37), and average Performance IQ score of 85.26 (*SD* = 14.96).

No significant differences between pre-treatment academic achievement scores (e.g., Reading Standard Score, Reading Standard Score, Math Standard Score) across recidivism groups was observed; Wilks' Λ = 0.983, $F(6, 478) = 0.673$, p = .0672. Non-recidivists were measured to have an average reading standard score of 85.57 (*SD* = 18.12), an average spelling standard score of 84.68 (*SD* = 17.65), and an average math standard score of 84.79 (*SD* = 17.41). Sexual recidivists were measured to have an average reading standard score of 84.25 (*SD* = 20.41), and average spelling standard score of 83.13 (*SD* = 17.59), and average math standard score of 81.88 (*SD* = 13.62). General recidivists were measured to have an average reading standard score of 84.41 (*SD* = 17.88), an average spelling standard score of 83.61 (*SD* = 17.23), and an average math standard score of 83.76 (*SD* = 16.62).

PCL: YV

Four hundred ninety-two juveniles originally incarcerated due to a sex offense were assessed with the Psychopathy Checklist, Youth Version (PCL:YV) as a component of their initial assessment. Significant differences according to recidivism groups was

measured on the PCL:YV according to a multiple analysis of variance (MANOVA); Wilks' Λ = 0.904, F(6 974) = 8.367, p < 0.001. Subsequent univariate analyses indicated significant group differences were observed on the PCL:YV Factor two score; F(2, 489) = 12.16, p < .001; and PCL:YV Total Score; F(2, 489) = 8.23, p < .001. No significant differences on the PCL:YV Factor one scores were observed across recidivism groups; F(2, 489) = 0.562, p = .571.

Non-recidivists had an average pre-treatment PCL:YV Factor one score of 5.26 (*SD* = 3.70), average PCL:YV Factor two score of 7.13 (*SD* = 4.05), and average PCL:YV total score of 14.95 (*SD* = 8.15). Sexual recidivists had an average pre-treatment PCL:YV Factor one score of 5.26 (*SD* = 2.83), average PCL:YV Factor two score of 8.53 (*SD* = 4.05), and average PCL:YV total score of 15.84 (*SD* = 6.52). General recidivists had an average pre-treatment PCL:YV Factor one score of 6.16 (*SD* = 3.63), average PCL:YV Factor two score of 9.05 (*SD* = 4.27), and average PCL:YV total score of 18.12 (*SD* = 8.42). Bonferroni corrected post-hoc comparisons indicated significant differences in pre-treatment PCL:YV total scores and Factor two scores were measured between non-recidivists and general recidivists.

J-SOAP

Three hundred juveniles originally arrested for a sex offense were assessed with the Juvenile Sex Offender Assessment Protocol as a component of their initial assessment battery. Results of the MANOVA examining differences between J-SOAP scores across recidivism groups were not significant; Wilks' Λ = .994; F(10, 586) = 1.78, p = 0.074. Juvenile sex offenders who were not subsequently rearrested averaged 2.50 (*SD* = 1.76) on Factor one, 12.97 (*SD* = 5.17) on Factor two, 6.14 (*SD* = 2.43) on Factor three, 4.59

(*SD* = 2.46) on Factor four, and 26.24 (*SD* = 8.32) on the J-SOAP total score. Sexual recidivists averaged 2.75 (*SD* = 2.34) on Factor one, 15.42 (*SD* = 3.23) on Factor two, 6.08 (*SD* = 2.23) on Factor three, 6.25 (*SD* = 1.86), and 30.33 (*SD* = 5.87) on the J-SOAP total score. General recidivists averaged 2.24 (*SD* = 1.77) on Factor one, 14.47 (*SD* = 4.76) on Factor two, 6.68 (*SD* = 2.41) on Factor three, 5.10 (*SD* = 2.66), and 28.20 (*SD* = 8.66) on the JSOAP total score.

J-SOAP-II

One hundred ninety-two individuals completed the Juvenile Sex Offender Assessment Protocol, 2nd Edition (J-SOAP-II), as a standard component of their intake battery. Results of the MANOVA examining differences between J-SOAP-II scores across recidivism groups were not significant; Wilks' Λ = .909; $F(10, 370) = 1.80$, p = 0.059. Non-recidivists averaged 4.06 (*SD* = 2.95) on Factor one, 7.52 (*SD* = 3.89) on Factor two, 8.40 (*SD* = 3.09) on Factor three, 6.69 (*SD* = 2.39) on Factor four, and 23.63 (*SD* = 8.47) on the J-SOAP-II total score. Sexual recidivists averaged 5.33 (*SD* = 4.08) on Factor one, 7.17 (*SD* = 4.79) on Factor two, 7.00 (*SD* = 2.28) on Factor three, 2.50 (*SD* = 2.51), and 22.00 (*SD* = 8.67) on the J-SOAP-II total score. General recidivists averaged 3.56 (*SD* = 2.79) on Factor one, 9.79 (*SD* = 3.23) on Factor two, 8.97 (*SD* = 3.01) on Factor three, 4.33 (*SD* = 2.49), and 26.62 (*SD* = 7.13) on the JSOAP total score.

Millon Adolescent Clinical Inventory

Four hundred ninety-two individuals completed the Millon Adolescent Clinical Inventory (MACI), as a standard component of their intake battery. Results of the MANOVA examining differences between MACI mean scale scores across recidivism groups were significant; Wilks' Λ = ..814; $F(60, 902) = 1.624$, p = 0.002.

Modifying Indices

Results of a multivariate analysis of variance (MANOVA) examining differences between MACI validity mean subscale scores between JSO recidivism groups were not significant; Wilks' $\Lambda = .975$; $F(6, 956) = 1.995$, $p = .064$. Table 5 contains mean scale scores, standard deviations, univariate analysis results. No group differences were observed on the Disclosure, Desirability, and Debasement scales.

Table 1. MACI Modifying Indices between Re-arrest Groups

Modifying	**Sexual**		**General**		**Non-Recidivist**			
Indices	**M**	***SD***	**M**	***SD***	**M**	***SD***	***F***	**Sig.**
Disclosure	45.65	23.88	52.43	19.85	53.06	22.49	0.95	0.39
Desirability	64.94	13.67	67.16	16.97	63.26	17.2	2.84	0.06
Debasement	53.94	13.87	56.87	17.4	59.84	19.6	1.92	0.15

Note. * $p < .05$, ** $p < .001$

Personality Patterns

Results of the MANOVA examining differences between personality pattern scales across recidivism groups was significant; Wilks' $\Lambda = .887$; $F(12, 938) = 2.413$, $p < .001$. Table 6 contains personality patterns mean scale scores, standard deviations, and univariate analysis results. Those juvenile sex offenders with no additional history of arrest were measured to be more likely to keep to themselves, appear quiet, and less emotional (Introversion; $F(2, 480) = 11.80$, $p < .001$) as well as to report more frequent feelings of shyness and discomfort around others (Inhibited $F(2, 480) = 11.80$, $p < .001$). Those individuals arrested for a subsequent sex offense were measured to report greater level of passivity in relationships and clinginess to that of general recidivists; Submissive $F(2, 480) = 3.509$, $p = .031$. Those juvenile offenders who were subsequently arrested for a non-sex offense were measured to report a greater degree of being emotionally

expressive, an increase in intense yet brief relationships with others, and an increase of feelings of boredom related to routine patterns and long-standing relationships when compared to individuals with no arrest history; Dramatizing, $F(2, 480) = 8.93$, $p < .001$. Additionally, those with subsequent general arrests were measured to reports traits associated with narcissism and less empathy toward others when compared to individuals with no additional arrest history; Egotistic, $F(2, 480) = 7.65$, $p = .001$. Finally, general recidivists, when compared to non-recidivists, reported more frequent behavioral problems resulting from defying rules of society and general oppositionality; Unruly, $F(2, 480) = 5.25$, $p = .006$.

Table 2. Personality Pattern Scales Between Re-arrest Groups

	Sexual		**General**		**Non-Recidivist**			
Scale	**M**	***SD***	**M**	***SD***	**M**	***SD***	***F***	**Sig.**
Introversive	50.94	14.39	50.17	18.81	58.6	18.43	11.8	0.001**
Inhibited	55.82	19.38	50.25	21.42	57.4	20.47	6.43	0.01*
Doleful	51.76	17.69	54.65	23.58	51.98	23.97	0.71	0.49
Submissive	66.82	13.87	59.31	14.7	62.46	15.18	3.51	0.03*
Dramatizing	60.71	12.39	57.11	17.74	50.58	17.91	8.93	0.001**
Egotistic	54.94	11.55	53.06	15.4	47.25	17.31	7.65	0.01*
Unruly	58.71	17.99	60.77	19.06	54.77	19.66	5.25	0.01*
Forceful	33.94	24.83	34.92	23.15	31.75	22.6	1.06	0.35
Conforming	61.24	18.69	53.35	15.49	53.6	17.14	1.79	0.17
Oppositional	55.82	18.08	58.85	16.71	56.88	19.04	0.71	0.49
Self-Demeaning	47.12	25.18	43.05	20.22	44.95	22.5	0.55	0.58
Borderline	37.82	26.29	38.58	20.72	38.98	22.39	0.04	0.97

Note. * $p < .05$, ** $p < .001$

Expressed Concerns

Results of the MANOVA examining differences between expressed concern scales across recidivism groups was significant; Wilks' $\Lambda = .936$; $F(16, 946) = 1.99$, $p = .012$. Table 7 contains expressed concerns mean scale scores, standard deviations, and

univariate analysis results. Those individuals with no additional arrest history were measured to report greater concerns related to physical appearance and development (Body Disapproval $F(2, 480) = 5.750$, $p = .003$), greater feelings of discomfort related to their sexual impulses (Sexual Discomfort $F(2, 480) = 5.240$, $p = .006$), greater feelings of sadness regarding social rejection and social isolation (Peer Insecurity $F(2, 480) = 6.772$, $p = .001$), and greater feelings associated with negative emotions stemming from a history of child maltreatment including physical, sexual, and/or emotional abuse (Childhood Abuse $F(2, 480) = 3.767$, $p = .024$). Those individual with a subsequent arrest were measured to report a greater indifference toward others when compared to those with no additional arrest history; Social Insensitivity, $F(2, 480) = 5.450$, $p = .005$.

Table 3. Expressed Concerns Scales Between Re-arrest Groups

	Sexual		**General**		**Non-Recidivist**			
Scale	**M**	**SD**	**M**	**SD**	**M**	**SD**	***F***	**Sig.**
Identity Diffusion	43.82	19.98	46.32	26.70	48.13	20.42	0.55	0.58
Self-Devaluation	45.76	23.80	48.27	25.72	53.19	28.10	2.13	0.12
Body Disapproval	25.76	20.78	25.12	22.92	34.81	34.41	5.75	0.01*
Sexual Discomfort	59.53	20.26	54.11	15.45	59.41	18.02	5.24	0.01*
Peer Insecurity	51.59	19.37	50.47	25.28	58.99	24.34	6.77	0.01*
Social Insensitivity	58.76	10.12	59.5	16.33	54.41	16.61	5.45	0.01*
Family Discord	57.65	19.98	61.08	19.03	58.65	20.49	0.87	0.42
Childhood Abuse	43.00	28.34	40.58	24.91	47.76	28.67	3.77	0.02*

Note. * $p < .05$, ** $p < .001$

Clinical Syndromes

Results of the MANOVA examining differences between expressed concern scales across recidivism groups was significant; Wilks' $\Lambda = .940$; $F(14, 948) = 2.140$, $p = .008$. Table 8 contains clinical syndromes mean scale scores, standard deviations,

univariate analysis results. Those individuals who were subsequently arrested for a general offense reported more a history of greater distress related to alcohol and/or drug use (Substance Abuse Proneness, $F(2, 480) = 3.145$, $p = .044$), a history of violating the rights of others more frequently (Delinquent Predisposition, $F(2, 480) = 4.293$, $p = .014$), and an increased likelihood to act out feelings with minimal provocation (Impulsive Propensity, $F(2, 480) = 3.540$, $p = .030$). Those individuals with no additional history of arrest were measured to report more frequent symptoms of anxiety, worry and tension (Anxious Feelings $F(2, 480) = 5.301$, $p = .005$), as well as greater thoughts and ideation related to suicide (Suicidal Tendency, $F(2, 480) = 3.902$, $p = .021$) when compared to individuals with a subsequent arrest for a general offense.

Table 4. Clinical Syndrome Scales Between Re-arrest Groups

	Sexual		**General**		**Non-Recidivist**			
Scale	**M**	***SD***	**M**	***SD***	**M**	***SD***	***F***	**Sig.**
Eating Dysfunctions	21.06	20.14	22.54	19.87	25.03	20.19	1.02	0.36
Substance Abuse	46.94	36.25	49.33	28.50	42.46	28.35	3.15	0.04*
Delinquent Predisposition	61.35	15.19	63.18	18.71	58.12	17.79	4.29	0.01*
Impulsive Propensity	49.53	25.60	56.36	22.79	50.39	24.27	3.54	0.03*
Anxious Feelings	65.35	19.57	62.66	20.56	69.23	21.46	5.30	0.01*
Depressive Affect	59.65	23.33	61.38	26.84	66.73	26.10	2.55	0.08
Suicidal Tendency	26.47	13.78	30.89	20.76	36.53	26.08	3.90	0.02*

Note. * $p < .05$, ** $p < .001$

Predicting subsequent Sex Offense Arrests

J-SOAP

A binomial logistic regression was used to predict sexual re-offense using the total J-SOAP total score. Results revealed a non-significant overall effect (-2*Log

Likelihood = 100.85), χ^2 (280) = 1.75, p = .187. Thus, the predictor variable, the J-SOAP total score did not produce a significant reduction in the log likelihood function. Results indicate that the total J-SOAP score as a single variable did not contribute to a significant rating of a subsequent arrest for a sex offense (Wald = 1.63, p = .20).

J-SOAP-II

A binomial logistic regression was used to predict sexual re-offense using the total J-SOAP-II total score. Results revealed a non-significant overall effect (-2*Log Likelihood = 60.76), χ^2 (201) = 0.58, p = .45. Thus, the predictor variable, the J-SOAP-II total score did not produce a significant reduction in the log likelihood function. Results indicate that the total J-SOAP-II score as a single variable did not contribute to a significant rating of a subsequent arrest for a sex offense (Wald = 0.56, p = .45).

PCL:YV

A binomial logistic regression was used to predict sexual re-offense using the total PCL:YV total score. Results revealed a non-significant overall effect (-2*Log Likelihood = 161.38), χ^2 (498) = 0.25, p = .86. Thus, the predictor variable, the PCL:YV total score did not produce a significant reduction in the log likelihood function. Results indicate that the total PCL:YV score, as a single variable, did not contribute to a significant rating of a subsequent arrest for a sex offense (Wald = 0.03, p = .88).

Multiple Variables

A logistic regression was used to predict a subsequent arrest for a sex offense using multiple independent variables. The predictors of a subsequent sex offense arrest used for this analysis were selected, in part, due to their hypothesized contributory relationship to sex offense behaviors. The predictors included physical abuse history, sex

abuse history, PCL:YV total score, J-SOAP-II total score, total number victims, total number arrests, and deviant sexual arousal.

Results revealed a significant overall effect (-2*Log Likelihood = 92.45), χ^2 (7, N = 276) = 28.08, $p < .001$. Thus, the predictor variables produced a significant reduction in the log likelihood function. Results indicate that with the aforementioned variables entered into the logistic regression equation, a reported history of physical abuse (Wald = 4.19, $p = .04$) contributed to a significant rating of subsequent arrest for a sex offense. The Hosmer and Lemeshow goodness of fit test indicated that the model fits the data and that 96.7% of cases were correctly classified, χ^2 (8) = 4.31, $p = .83$. However, only two of the nine individuals who subsequently were re-arrested for a sex offense (18.2%) were correctly classified using this model. Therefore, the report of being physically abused decreased the odds of being classified as a sexual recidivist by 90.4%.

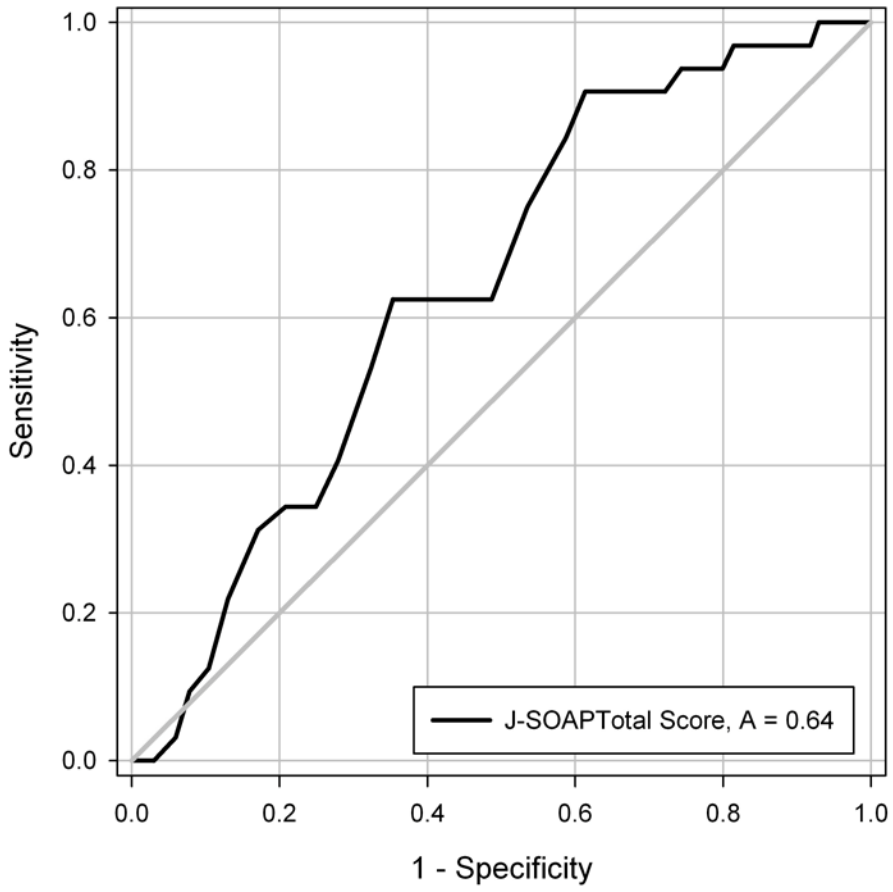
Prediction Accuracy

J-SOAP

A Receiver Operating Characteristics (ROC) curve was used to estimate the predictive accuracy of J-SOAP total scores to predict an arrest for a subsequent hands-on sex offense. The ROC estimates predictive accuracy by graphically plotting sensitivity by 1-specificity. The true positive rate of prediction, or in this case, the likelihood an individual will be predicted to be arrested for a subsequent sex offense when they actually are arrested, is referred to as sensitivity. In contrast, specificity consists of the actual negative prediction rate, or in this case, the prediction a person will not be arrested for a subsequent hands-on sex offense when the person actually is not rearrested. The area under the curve (AUC) is statistical probability which measures the accuracy of

predicting that an individual arrested for a subsequent sex offense is more likely to be arrested when compared to an individual who is not subsequently rearrested for a contact sex offense. An AUC of .50 is indicative of chance prediction. The J-SOAP total score produced an AUC of .64 (S.E. = .05; 95% C.I. = 0.56 to 0.73). See Figure 1.

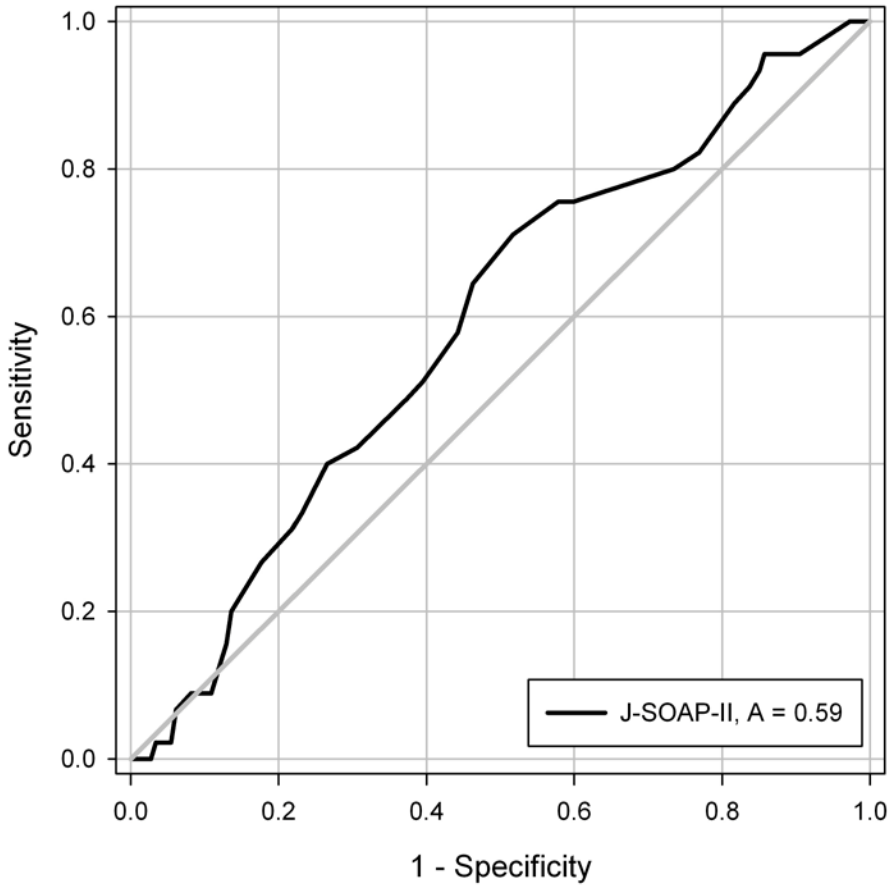
Figure 1. J-SOAP and Sexual Re-Arrest ROC Curve



J-SOAP-II

A Receiver Operating Characteristics (ROC) curve was used to estimate the predictive accuracy of J-SOAP-II total scores to predict a subsequent arrest for a sex offense. The J-SOAP-II total score produced an AUC of 0.59 (S.E. = .047; 95% C.I. = 0..50 to 0.68). See Figure 2.

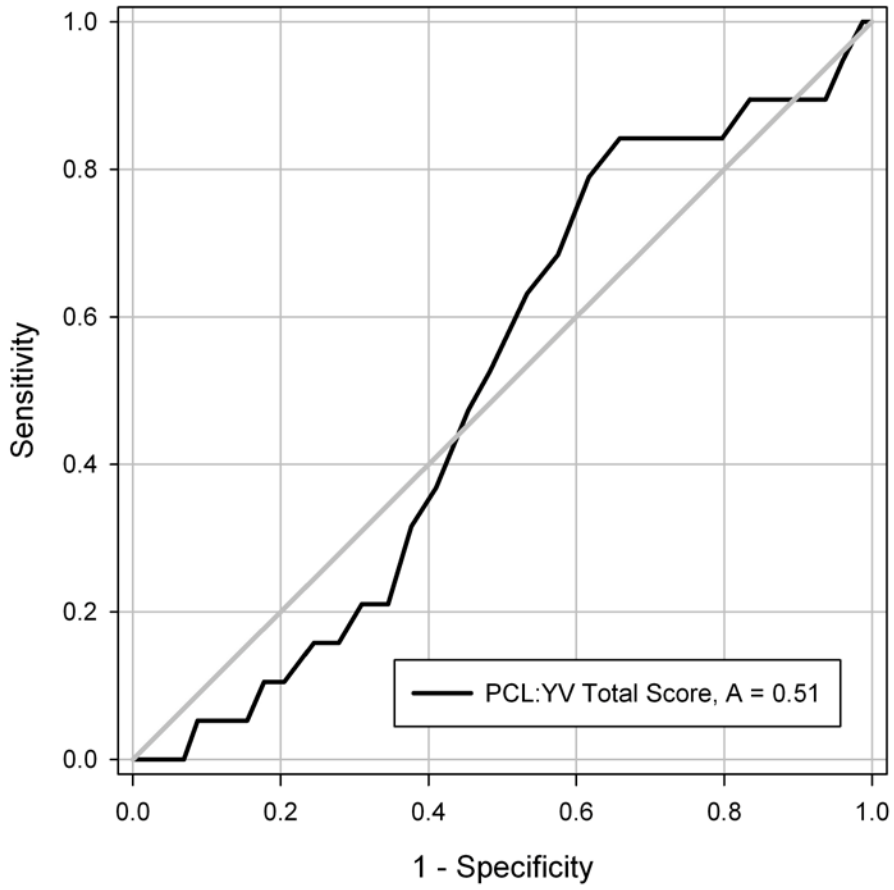
Figure 2. J-SOAP-II and Sexual Re-Arrest ROC Curve



PCL:YV

A Receiver Operating Characteristics (ROC) curve was used to estimate the predictive accuracy of PCL:YV total scores to predict a subsequent hands-on sex offense. The PCL:YV total score produced an AUC of 0.51 (S.E. = .056; 95% C.I. = 0.40 to 0.62). See Figure 3.

Figure 3. PCL:YV and Sexual Re-Arrest ROC Curve



Prediction of Non-sex offense arrest

PCL:YV

A binomial logistic regression was used to predict non-sexual re-offense using the total PCL:YV total score. Results revealed a significant overall effect (-2*Log Likelihood = 651.29), χ^2 (1, N= 485) = 16.77, p <.001. Thus, the predictor variable, the PCL:YV total score did produce a significant reduction in the log likelihood function. Results indicate that the total PCL:YV score, as a single variable, did contribute to a significant rating of a subsequent arrest for a non-sex offense (Wald = 16.29, p < .001). The Hosmer and Lemeshow goodness of fit test indicated that the model fits the data and

that 62.9% of cases were correctly classified, χ^2 (8) = 3.84, p = .87. Therefore, for each additional PCL:YV total score point, the odds ratio of being classified as a non-sexual recidivist increased by 4.8%.

Personality Characteristics

A binomial logistic regression was used to predict non-sexual re-offense using selected scales from the MACI. The following scales were selected as they were hypothesized, based upon scale content, to meaningfully predict subsequent arrests for a non-sex offense: Delinquent Predisposition, Oppositional, Unruly, Conforming, Social Insensitivity, Substance Abuse Proneness, Forceful, and Childhood Abuse. Results revealed a significant overall effect (-2*Log Likelihood = 593.15), χ^2 (8, N= 471) = 29.40, p <.001. Thus, the selected MACI scale predictor variables did produce a significant reduction in the log likelihood function. Results indicate that the Substance Abuse Proneness scale (Wald = 4.49, p = .03), and Childhood Abuse scale (Wald = 10.27, p = .001) contributed to a significant rating of a subsequent arrest for a non-sex offense. The Hosmer and Lemeshow goodness of fit test indicated that the model fits the data and that 64.1% of cases were correctly classified, χ^2 (8) = 10.97, p = .20. Therefore, for each additional Substance Abuse Proneness base rate point, the odds ratio of being classified as a non-sexual recidivist increased by 1.3%. Furthermore, for each additional increase in Childhood Abuse base rate point, the odds ratio of being classified as a non-sexual recidivist decreased by 1.5%.

Multiple Variables

A logistic regression was used to predict a subsequent arrest for a non-sex offense. The predictors of subsequent sex offense arrest used for this analysis were

selected, in part, due to their hypothesized contributory relationship to non-sex offense behaviors. The predictors included race, age in months at time of pre-treatment interview, WASI Full Scale IQ score, total number of prior arrests, report of prior psychological treatment, and the MACI substance abuse and childhood abuse scales.

Results revealed a significant overall effect (-2*Log Likelihood = 414.84), χ^2 (7, N = 370) = 66.10, $p < .001$. Thus, the predictor variables produced a significant reduction in the log likelihood function. Results indicate that race (Wald = 4.94, p = .03), age in months at time of pre-treatment interview (Wald = 7.56, p < .01), WASI Full Scale IQ score (Wald = 4.08, p = .04), total number of prior arrests (Wald = 15.24, p < .001), MACI substance abuse proneness scale (Wald = 4.43, p = .04), and MACI childhood abuse scale (Wald = 7.07, p < .01) contributed to a significant rating of subsequent arrest for a non-sex offense. The Hosmer and Lemeshow goodness of fit test indicated that the model fits the data and that 72.4% of cases were correctly classified, χ^2 (8) = 6.37, p = .60.

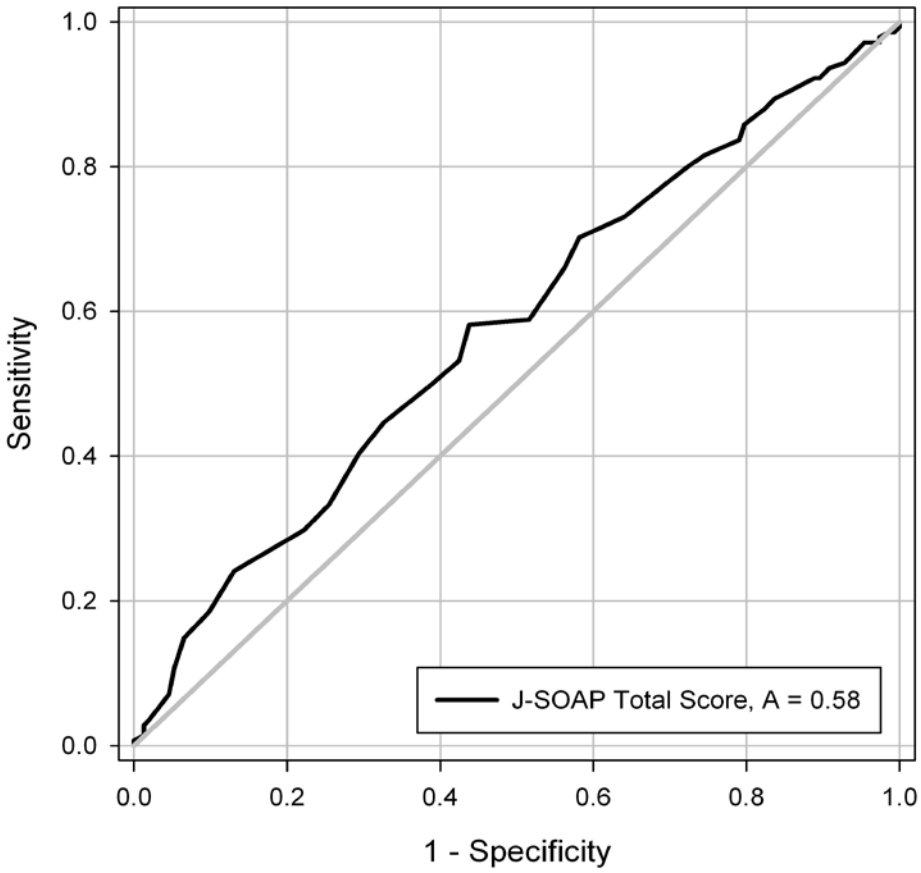
Therefore, the odds ratio of being classified as a general recidivist increased by 44.5% for non-Caucasian individuals. An additional prior arrest resulted in the odds ratio of being classified as a general recidivist increasing by 17%. For each additional month in age, the odds ratio of being classified as a general recidivist increased by 2.0% while each additional full scale IQ point resulted in the odds ratio of being classified as a general recidivist decreasing by 1.8%. An increase in one base rate point on the MACI substance abuse proneness and childhood abuse scales resulted in the odds ratio of being classified as a general recidivist to increase by 1% and decreased by 1.4%, respectively.

Prediction Accuracy of Non-Sex Re-offense

J-SOAP

A Receiver Operating Characteristics (ROC) curve was used to estimate the predictive accuracy of JSOAP total score to predict a subsequent non-sex offense arrest. The J-SOAP total score produced an AUC of 0.58 (S.E. = .03; 95% C.I. = 0.51 to 0.64). See Figure 4.

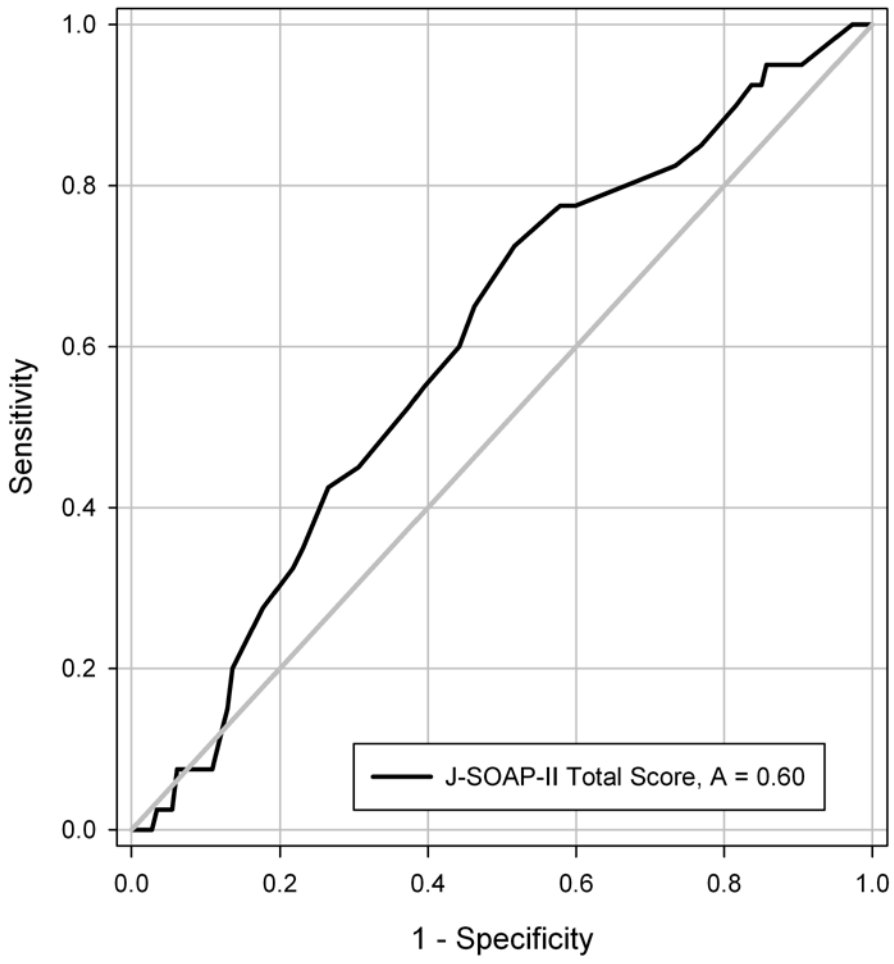
Figure 4. J-SOAP Total Score and General Re-Arrest ROC Curve



J-SOAP-II

A Receiver Operating Characteristics (ROC) curve was used to estimate the predictive accuracy of J-SOAP-II total score to predict a subsequent non-sex offense arrest. The J-SOAP-II total score produced an AUC of 0.60 (S.E. = .05; 95% C.I. = 0.51 to 0.70). See Figure 5.

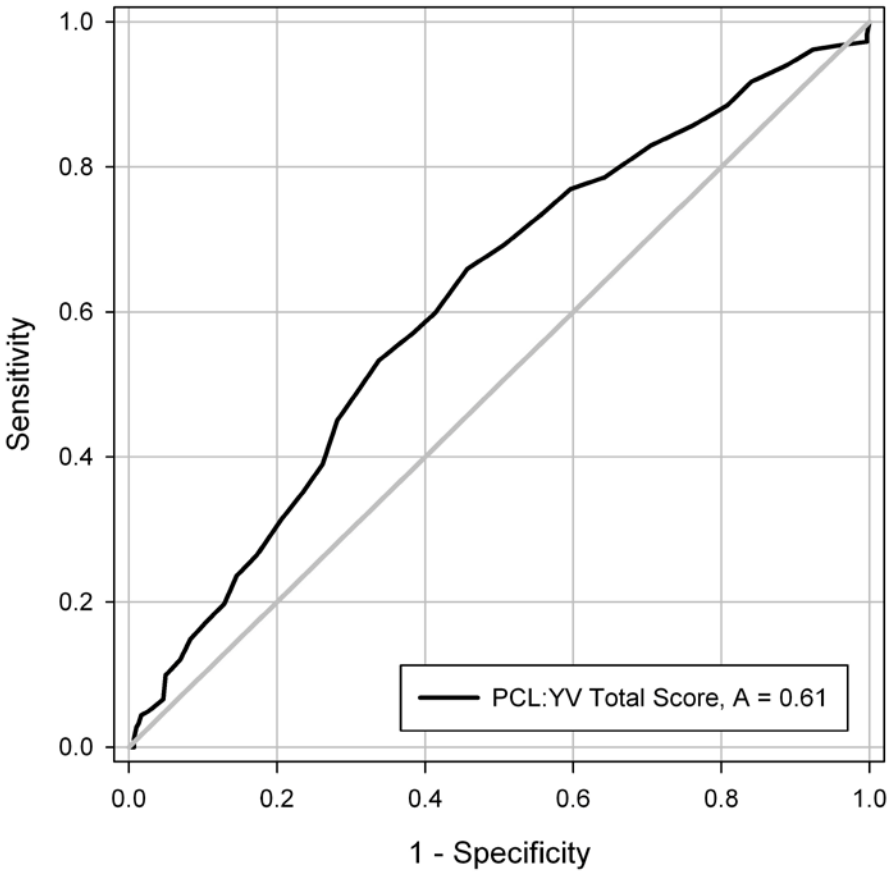
Figure 5. J-SOAP-II Total Score and General Re-Arrest ROC Curve



PCL:YV

A Receiver Operating Characteristics (ROC) curve was used to estimate the predictive accuracy of PCL:YV total scores to predict a subsequent non-sex offense arrest. The PCL:YV total score produced an AUC of 0.61 (S.E. = .03; 95% C.I. = 0.56 to 0.67). See Figure 6.

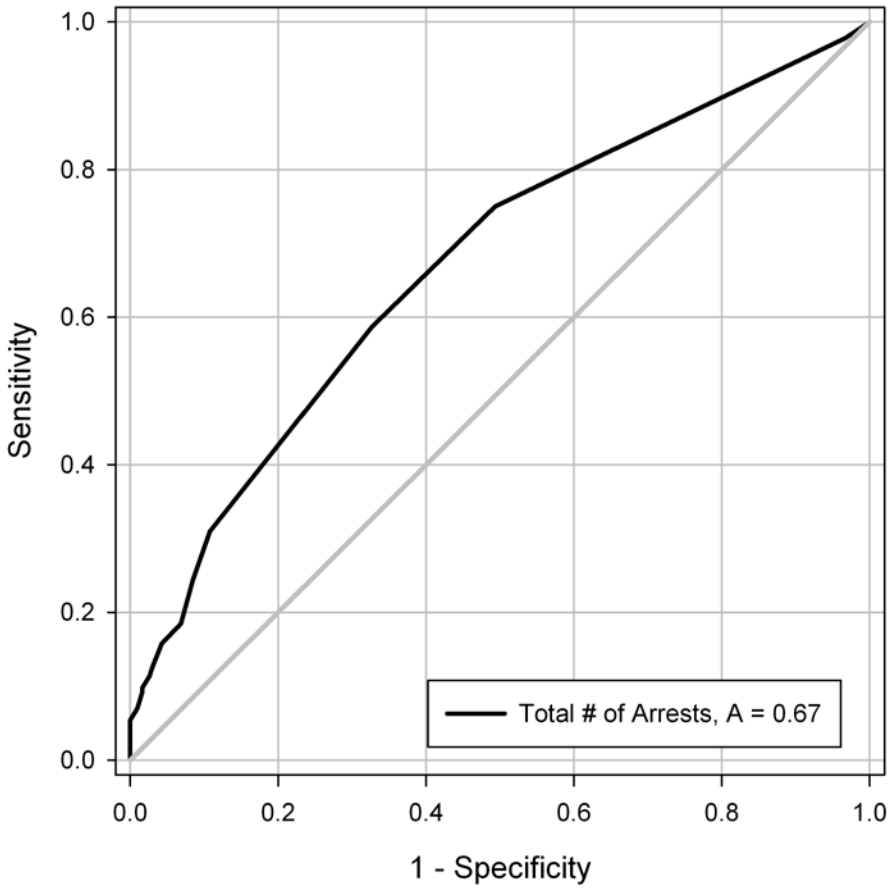
Figure 6. PCL:YV Total Score and General Re-Arrest ROC Curve



Total Number of Prior Arrests

A Receiver Operating Characteristics (ROC) curve was used to estimate the predictive accuracy of the total number of prior arrests to predict a subsequent non-sex offense arrest. The total number of prior arrests produced an AUC of 0.67 (S.E. = .03; 95% C.I. = 0.62 to 0.72). See Figure 7.

Figure 7. Total Number of Arrests and General Re-Arrest ROC Curve



Discussion

A main goal of this investigation was to measure and examine the re-arrest rate for sexual and non-sexual offenses in a sample of juvenile sex offenders. Recidivism data are often conceptualized to reflect "actual" sexual re-offenses; however these data are typically conservative estimates of true offenses (Worling & Langstrom, 2006). Re-arrest rates, as a measure of recidivism, are less influenced by aspects of the criminal justice system, such as charge elevation practices and plea bargains. Moreover, re-arrest data are considered a more sensitive measure, which more closely approximate "actual sex offense behaviors" when compared to re-conviction data (Kahn and Chambers, 1991). Recidivism data have been described as the "traditional measure" for evaluating rehabilitation programs and their correctional effectiveness (Maltz, 1984). In addition, using recidivism data to estimate offender characteristics, measure the number and rate of re-offense, and determine when individuals terminate their criminal behaviors have significant implications for public policy makers and legislatures (Maltz, 1984).

Results indicate the majority of individuals who were initially adjudicated for a juvenile sex offense (60.9%) between 2000 and 2007 were not subsequently re-arrested. However, 39.1% of participants who were originally adjudicated for a juvenile sex were re-arrested during the follow up period, which averaged 5.4 years. Of note, 3.9% of participants were re-arrested for an additional "hand-on" contact sex offense, with an

average sex offense arrest occurring approximately 26 months following release from incarceration. Moreover, more were re-arrested for technical violations of registration requirements, 5.3%, than were re-arrested for actual sexual offenses. Furthermore, the largest proportion of the juvenile sex offenders (29.9%) were re-arrested for either a property-related, violent, or drug-related offense, with an average non-sex offense arrest occurring 29 months following incarceration. In contrast, 74.3% of juveniles who were initially adjudicated for a non-sex offense were subsequently re-arrested, during an average follow-up period of 4.6 years, due to mostly drug-related offenses, property offenses, or violent offenses. Of note, a meaningful proportion of these original juvenile non-sex offenders (2.7%) were subsequently re-arrested for a sex offense during the follow-up time period. Several trends are evident based upon these findings.

These results indicate a relatively small proportion of juveniles initially adjudicated for either a sex offense (3.9%) or a non-sex offense (2.7%) were re-arrested for a subsequent sex offense. These findings are generally consistent with previous prospective recidivism studies that utilized a large sample size, a comparison group of delinquent, non-sex offending juveniles, and/or extended follow-up time period. For example, the majority of prospective studies indicated a relatively low base rate (e.g., 10%) of subsequent sex offense arrests and/or convictions (e.g., Rassmussen, 1999; Sipe Jensen, & Everett, 1998; Bremer 1992).

Furthermore, results indicating 2.7% of the comparison group in the current investigation, or individuals with no prior juvenile arrest history for a sex offense, were rearrested for a subsequent sex offense were in-line with prior prospective investigations

as they reported similar rates of sexual offending during follow-up by comparison group participants (e.g., Sipe Jensen, & Everett, 1998). These results are somewhat unexpected given the close approximation to the overall re-arrest rate for subsequent sex offenses (3.9%) committed by individuals who were originally adjudicated for a juvenile sex offense behavior. The close approximation between the re-arrest rates for subsequent sex offenses between these two groups may be a function of detection; namely juveniles sex offenders were simply detected earlier compared to those who were re-arrested for their first sex offense during the follow-up period. An examination of pre-treatment arrest data support this assertion as on average, juvenile sex offenders were measured to have approximately two prior arrests before their sex offense adjudication. However, these re-arrest results across juvenile offender groups may also highlight the variable developmental pathways leading to sex offense behaviors (Rich, 2003). For example, these results indicate a small percentage of individuals (e.g., juvenile sex offenders) develop a deviant sexual interest and engage in illicit sexual behavior at a young age and continue to do so into young adulthood. These data also indicate individuals (e.g., juvenile non-sex offenders) are not arrested for any illicit sexual behavior until young adulthood. A small subset of these juvenile non-sexual offenders may have developed a deviant sexual interest and engage in related sexual behaviors as juveniles, but such behaviors went undetected until young adulthood. Or, it is equally plausible sex offense-specific attitudes and behaviors first manifested in early adulthood and resulted in arrest. Unfortunately, results from the current investigation do not provide for an adequate

understanding of the factors related to the synthesis and development of these sex-offense related attitudes for individuals with no juvenile sex offense adjudication history.

Somewhat unexpected was the relatively low rate of re-arrest for subsequent sex offenses by those who were previously adjudicated for a sex offense as a juvenile as correctional-based treatment has been associated with an increased risk of sexual recidivism (Waite et al., 2005). Prior recidivism investigations (e.g., Langstrom, 2002; Nisbet, Wilson, & Smallbone, 2004) have reported significantly greater rates of recidivism (e.g., greater than 20%), but these investigations commonly examined extremely small samples comprised of participants who were mostly "high-risk" offenders. The current investigation utilized re-arrest data, which is commonly considered a less conservative measure of recidivism (e.g., Worling & Langstrom, 2006) to that of reconviction data. Nonetheless, the measured re-arrest rate from the current investigation, 3.9%, closer approximates sex offense re-arrest rates from prospective investigations that utilized a community-based or outpatient sample rather than a sample of incarcerated individuals, which is somewhat surprising. For example, Bremer (1992) and Kahn and Laford (1988), reported sexual recidivism rates of 11% and 9%, respectively, for fairly large samples of individuals previously incarcerated as juveniles due to a sex offense adjudication. These sex offense recidivism rates are approximately 60% greater to the re-arrest rate of 3.9% reported in the current investigation. Juvenile sex offenders in the current investigation participated in an intensive residential-based treatment program that averaged 14 months. Treatment program differences between ABSOP and Bremer (1992) and Kahn and Laford (1988) are likely to account for a

significant portion of the measured differences of re-arrest rates as ABSOP was developed in 2000. And, as a result, ABSOP treatment developers were able to reference and incorporate approximately 10 additional years of empirical data regarding juvenile sex offender treatment.

Results from the current study as well as those previously reported indicate juvenile sex offenders, who complete treatment, generally recidivate at a low rate for a subsequent sex offense. For example, Waite et al. (2005) in a 10-year follow-up study reported 4.9% of a sample of 144 male juvenile sex offenders who received "self-contained treatment" and 4.5% of 112 male juvenile sex offenders who received "prescriptive treatment" were re-arrested for a sex offense. Additionally, Worling and Curwen (2000) reported 5.17% of 58 juveniles who successfully completed a 12-month community-based treatment program sexually recidivated. Moreover, Bremer (1992) reported none of the 193 juvenile sex offenders who completed at least 15 months of specialized sex-offender treatment were measured to recidivate within an average follow-up period of 3 years. Therefore, data from the current investigation as well from previous studies examining the efficacy of juvenile sex offender treatment (e.g., Waite et al., 2005; Worling & Curwen 2000; Bremer, 1992) indicate a relatively small portion of juvenile sex offenders who complete "treatment" are likely to sexually recidivate.

Generally, recidivism literature indicates sexual recidivism rates for juvenile sex offenders range between 2% and 14% for an additional sex offense arrest or reconviction (e.g., Smith & Monastersky, 1986; Bremer, 1992, Rasmussen, 1999, Kahn & Chambers, 1991). Moreover, those juvenile sex offenders who complete a sex-offense treatment

program are commonly measured to be the least likely to be subsequently re-arrested for a sex offense (e.g., Worling & Curwen, 2000; Waite et al., 2005). However, despite these relatively low reported rates of sexual recidivism by juvenile sex offenders, current public perception and subsequent policy regarding juvenile sex offenders appears to castigate these individuals as life-long offenders who require life-long monitoring or civil commitment, in some cases. Current public policy across numerous states require those convicted of a sex offense behavior, regardless of age, to register publicly and given the low base rate of subsequent sexual re-offense, the universal requirement appears unduly harsh in most cases. Juveniles who register publicly as a sex offender are likely to experience a host of immediate and long-term negative consequences including social ridicule, social isolation, and increased attention by authorities. Zimring (2004) classified sex offender public registries as the modern day "scarlet letter branding" as all but two states, Vermont and New York, have sex offender registries that can be searched anonymously online.

Zimring (2004) presented an example, albeit extreme, describing the possible consequences of public registries as he described a high school prank gone wrong. In this example, a high school senior reportedly "flashed" a group of girls on their way to the bathroom. Police were subsequently notified and the juvenile eventually pled guilty to indecent exposure, for which he received a suspended sentence and placed on the Oklahoma on-line sex offender registry. The juvenile eventually dropped out of high school reportedly due to feeling stigmatized and he relocated to another town, living apart from his family and friends. A short time later, this previously well-adjusted high school

student committed suicide due to his social isolation, inability to find work, and experienced stigmatization associated with being listed on the sex offender registry, according to his mother. Zimring reported the mother's contention that the registry was largely to blame and she questioned its use for a "nonviolent, nonchronic, nonpredatory sex prank" (p. 185).

Granted, a purpose of a sex offender registry is to protect the public by better informing them who resides in their communities, but the low base rate of additional sexual offending calls into question the public's perception regarding the chronicity of juvenile sex offending behavior as well as the policies enacted, including public registries, to mitigate those sex offense behaviors. Based upon re-arrest data from the current study, the assertion that "nothing works with sex offenders," in regard to treatment (e.g., Schwartz, 1992) is a fallacy as few individuals were re-arrested for an additional sex offense. Furthermore, current public perception and laws appear to be the result of a disproportionate amount of fear and emotion rather than an accurate understanding of current juvenile recidivism data. Thus, a greater awareness by lawmakers of potential developmental consequences for youths subject to these sex offender management policies is needed when crafting policies designed to protect society. Barbarre, Hudson, and Seto (1993) characterized the primary attitude toward juveniles who committed sex offenders prior to the 1980s as "boys-will-be-boys" and such offenses commonly were viewed as simply experimentation and equally innocent in nature. Clearly, the current political climate concerning juvenile sex offenders as an "epidemic" has shifted dramatically and may over-pathologize juvenile sex offenders by

confounding this group with dangerous, violent sexual predators subject to civil commitment.

Additional results from the current investigation indicate the majority of juveniles adjudicated for a non-sex offense (71.6%) and a significant proportion of juveniles originally adjudicated for a sex offense (29.9%) were re-arrested for a subsequent general offense. For those individuals previously adjudicated for a juvenile sex offense, the re-arrest rate for a non-sex offense from the current investigation is mostly consistent with prior recidivism studies examining. For example, prior investigations have reported non-sexual recidivism rates for juvenile sex offenders approximating 35% (e.g., Smith & Monasterskly, 1986; Sipe, Jensen, & Everett, 1998). Other recidivism investigations with juvenile sex offenders (e.g., Rubenstein, Yeager, Goodstein, & Lewis, 1993; Rasmussen, 1999) reported much greater general recidivism rates post-release, ranging between 50% to 90%. The variation between these reported rates (i.e., 50-90%) and that from the current investigation (i.e., 29.9%) may be a function of the previously mentioned factors hypothesized to increase the difficulty of comparing results from recidivism investigations including variations in sample size, follow-up time period, or the manner in which recidivism is defined. Moreover, differences in reported rates may stem from sample characteristics as prior investigations possibly examined individuals who were inherently more delinquent or antisocial to participants from the current investigation. Additionally, juvenile sex offenders in the current investigation participated in an intensive residential-based treatment program that averaged 14 months, which may have impacted subsequent criminogenic development. Without an adequate control group, the

direct effect of participation in such a treatment program on subsequent rates of re-arrest is unknown; however, it is possible that treatment participation may mitigate certain delinquency-related risk factors for some participants, resulting in an overall lower rate of general recidivism to that of previous investigations (e.g., e.g., Rubenstein, Yeager, Goodstein, & Lewis, 1993; Rasmussen, 1999).

However, unintended, negative consequences of residential treatment with delinquent individuals have been documented. And, as a result, the reported level of subsequent re-arrest for a non-sex offense is possibly influenced by iatrogenic effects of incarceration with other delinquent, anti-social individuals. For example, Arnold and Hughes (1999) reported that programs with delinquent youth may result in an increase in antisocial attitudes and behaviors among participants rather than the desired punishing effects commonly assumed with incarceration or treatment. Additional iatrogenic mechanisms have been suggested by researchers (e.g., Dishion, McCord, Poulin, 1999) including greater exposure to antisocial youth and the positive reinforcement of antisocial behavior by peers.

Despite the measured differences in general recidivism rates across studies and the current investigations, the current results indicate a meaningful proportion of the juvenile sex offenders had additional post-adjudication contact with legal authorities. Based upon these data, anti-delinquency treatment interventions are warranted for both juvenile sex offenders and juvenile non-sex offenders. Moreover, if a goal of public policy is to protect society, these data indicate greater attention by lawmakers toward mitigating general delinquency issues is appropriate.

An additional goal of this investigation was to determine if meaningful pre-treatment differences were discernable between subsequent re-arrest offender groups (e.g., non-recidivists, sexual recidivists, and general recidivists). Predictive precursors of future re-arrest types (e.g., sex offense versus non-sex offense arrest) would have immense clinical utility as specific treatment interventions may be developed and implemented for those recently adjudicated individuals in order to mitigate the identified variables. Furthermore, identifying meaningful predictive precursors of offense-specific re-arrests, such as those predictive of a future sex offense arrest, may contribute to the current juvenile sex offender risk assessment literature as new factors may be indentified or previously hypothesized factors may be further validated.

The current investigation also contrasted pre-treatment variables of those juvenile sex offenders who were re-arrested for a subsequent sex offense, a general non-sex offense, and those who had no subsequent arrest history. Several notable differences in pre-treatment variables were observed based upon these group comparisons.

First, the majority (50%) of those who are rearrested for a subsequent sex offense reported being a victim of sexual abuse during the pre-treatment interview compared to 37.1% and 22.9% for non-recidivists and general recidivists, respectively. A history of childhood sexual victimization has been identified as a common, but not universal event, reported by juvenile sex offenders and is commonly included in hypothesized causal models of juvenile sex offending (e.g., Knight & Sims-Knight, 2004). For example, a history of sexual abuse is postulated to contribute to the disinhibition of a sexual fantasies

and drive, which is believed to lead to sexually coercive behavior (Knight & Sims-Knight, 2004).

Next, the majority of sexual recidivists (75%) were measured to have offended against victims four or more years their junior while 66% of non-recidivists and 51% general recidivists initially offending against victims four or more years their junior. These results are difficult to interpret as a meaningful proportion of those rearrested for a subsequent sex offense and those with no subsequent arrest history select a relatively young victim, but engage in significantly different post-treatment behaviors. Victim age appears to be a factor related to a subsequent sex offense arrest as well as to no additional arrest history, which limits the overall clinical utility of this variable in isolation of additional information. Additionally, a greater proportion of general recidivists (38%) selected peer-aged or older victims compared with the victim selection patterns of the additional recidivism groups. These results indicate an initial offense against a peer-aged victim is related to lesser rate of subsequent arrest for a sex offense, but a greater likelihood of arrest for a general offense.

Somewhat unexpected was the finding that subsequent re-arrest groups did not differ according to their pre-treatment report of total sex offense victims. That is, those individuals who were re-arrested for a subsequent sex offense did not differ in their report regarding the total number of victims compared to those with no additional sex offense arrest. Prior research has documented juveniles with a greater number of victims are at a greater risk for subsequent sex offense behaviors (Worling & Langstrom 2006), and were more likely to be re-convicted for a sex crime (Langstrom, 2002; Worling, 2002). Thus,

these results do not support previous findings by researchers regarding outcomes associated with the total number of victims. An additional unexpected outcome was victim gender type did not differ across re-arrest groups. Juveniles who sexually offended against male victims were not measured to be re-arrested for a subsequent sex-offense at a greater rate to those with female, or both male and female victims. Hanson & Bussiere (1998) reported adult sex offenders who offended against male children are at an increased risk for subsequent sex offenses. Moreover, juvenile sex offender researchers (e.g., Smith & Monastersky, 1986, Langstrom & Grann, 2000) have reported male juveniles who abused male victims were more likely to sexually re-offend. Of note, the current investigation used a considerably larger sample size with an extended follow-up time period to that of prior researchers (i.e., Smith & Monastersky, 1986; Langstrom & Grann, 2000), which may account for the measured differences. Perhaps with an increased follow-up period of investigation, the association between male victims and subsequent sex offense re-arrest may be better understood.

Results regarding personality functioning based upon the Millon Adolescent Clinical Inventory (MACI) were quite descriptive for those who were not subsequently re-arrested or those who were re-arrested for a subsequent non-sex offense. Results indicated those who were not re-arrested for any additional offense generally appeared as introverted, shy, anxious, and concerned with their physical appearance and development prior to the onset of juvenile sex offender treatment. Furthermore, they expressed concern regarding sexual development, their peer relationships, and history of childhood abuse. Those individuals who were subsequently re-arrested for a non sex offense

generally reported being impulsive, a history of brief, yet intense relationships with others, feeling bored, being less concerned with the well-being of others, and narcissistic. Furthermore, prior to the onset of treatment, these individuals expressed a greater rate of prior behavioral problems, substance abuse problems, and they endorsed a greater number of beliefs associated with an antisocial personality style. Those re-arrested for a subsequent sex offense were measured, prior to the onset of treatment, to express a passive and submissive attitude toward others. These findings support the notion that juvenile sex offenders are a heterogeneous group, who go on to engage in a variety of post-adjudication behavior. Moreover, pre-treatment personality testing results were sensitive and associated with future delinquent behaviors, most notably for those re-arrested for a non-sex offense. Generally, these personality testing results provide an objective means to identify treatment related issues and general delinquency concerns; however, they alone provide little information regarding a "personality profile" for those who are subsequently re-arrested for an additional sex offense.

Significant pre-treatment differences on the PCL:YV were observed, but not on the J-SOAP or J-SOAP-II, across recidivism groups. PCL:YV factor two and total scores were measured to differ significantly across recidivism groups. Factor two of the PCL:YV represents the Chronically Unstable and Antisocial Lifestyle factor as it is a conglomeration of items releated to general delinquency. For example, several factor items include impulsivity, irresponsibility, stimulation seeking, poor anger control, parasitic orientation, a history of early behavioral problems, and a history of serious criminal behaviors. Not surprisingly, based upon factor two item content, pre-treatment

scores of those who were subsequently re-arrested for a general offense were significantly greater compared to those who were not subsequently rearrested. Somewhat surprisingly, no pre-treatment group differences were measured on the J-SOAP or J-SOAP-II across recidivism groups. In fact, sexual recidivists, as a group, were measured to have the lowest J-SOAP-II total score (average of 22.00) with general recidivists measured to have the greatest total score (average of 26.62). These results are unexpected and difficult to interpret due to previous research regarding the measured clinical utility of the J-SOAP-II to assess risk of future sex re-offense. Possible methodological concerns, mentioned below, may account for these unexpected results from the current investigation. Although not statistically significantly different across groups, sexual recidivists were measured to have the greatest J-SOAP total score (average of 30.33) followed by general recidivists (average of 28.20) and non-recidivists (average of 26.24). These J-SOAP total score differences are likely to have utility for clinical staff despite their lack of statistical significance of group differences.

These results indicate with greater specificity regarding group membership (e.g., non-recidivists, general recidivists, non-recidivists) pre-treatment group differences were measured. With continued greater specificity further defining juvenile sex offender groups, additional pre-treatment differences may be measured, which would further improve the pre-treatment ability to accurately prognosticate likely post-treatment arrest group membership.

This investigation also examined the predictive accuracy of several variables and their ability to accurately predict a sexual or non-sexual re-arrest. Logistic regressions

were used to predict both subsequent sex offense and non-sex offense arrests. Not surprising, given the low base rate of sexual re-arrest, the data from the current investigation were relatively weak at predicting a subsequent sex offense arrest. Only the logistic regression model using multiple variables hypothesized to be associated with sex offense behaviors was empirically supported. This result is not likely to replicate given the weak power of the finding. Moreover, the overall classification rate for subsequent sex offense arrests was 18.2%, which would likely have limited clinical utility. Variables and models predicting a subsequent arrest for a non-sex offense were more successful, in part, due to the larger number of individuals with subsequent non-sex offense arrests. Using area under the curve as an estimate of the statistical probability to accurately predict a subsequent arrest for a sex offense, results were somewhat mixed. Based upon area under the cure probabilities, the J-SOAP, J-SOAP-II, and PCL:YV all predicted sexual re-arrest above the level of chance prediction. However, the current results (AUC of .59 for J-SOAP-II) were less accurate than results reported by Prentky et al. (2009) as they reported an AUC of 0.803 for their adolescent sample. Their rate of sexual recidivism was approximately 23%, which may contribute to their ability to more accurately predict recidivism using J-SOAP-II total scores. The AUC results suggest a relatively modest ability for accurate prediction. These modest results indicate a rating of overall risk based solely upon instrument total scores in this investigation would be grossly inappropriate.

The J-SOAP, J-SOAP-II, PCL:YV, and total number of arrests were each individually assessed as a means of accurately predicting a subsequent arrest for a non-

sex offense. Again, each instrument provided an AUC above a chance level of prediction with the PCL:YV total score and total number of prior arrests resulting in an AUC of .61 and .67, respectively. Here, a history of prior arrests was the most accurate predictor of a subsequent arrest for a general offense. Granted, the instruments selected are not nesseccarily an instrument designed to assess general recidivism, but the current results suggest those individuals with a prior history of arrest for a non-sex offense may warrant additional treatment attention for delinquency related risk factors.

In conclusion, based upon the results of this investigation, the majority of juvenile sex offenders who were subsequently treated at the Mt. Meigs correctional facility were not re-arrested for any offense while a relatively small proportion were re-arrested for an additional sex offense and a modest proportion were rearrested for a general non-sex offense. These re-arrest data are mostly in-line with prior recidivism investigations. Pre-treatment group differences reported in the current investigation may be useful starting points to develop treatment interventions aimed at mitigating any factors related to an increased likelihood of subsequent arrest following treatment and strengthening "protective factors" associated with no additional arrest history. A considerable amount of sex offender offense-specific treatment is naturally directed toward addressing hypothesized risk factors (e.g., poor victim empathy, deviant sexual interest, poor social skills), and attempting to reduce the overall level of risk of sexual subsequent reoffending, but it appears, based upon results from the current investigation as well as prior recidivism studies, a treatment focus should also address risk factors associated with antisocial attitudes, behaviors, and general delinquency if a treatment goal for youth who sexually abuse is to reduce future harm.

Clinical Implications

These data indicate a relatively small number of individuals in this sample were rearrested for a subsequent sex offense behavior while a considerable group was rearrested for a general offense. Participants in the current investigations were, generally speaking, a group of offenders with significant and non-trivial offenses. Courts tended not to commit to long-term, residential treatment, adolescents with minor offenses. Additionally, there were very limited post-treatment care options available for these boys. Alabama had not at the time of this research had any systematic plan for follow-up care. Thus, the low recidivism rate can be understood as reflecting the true nature of the rates of re-arrests and these are low, much lower than found with adult offenders. Therefore, these data have considerable implication for the on-going debate about whether juvenile sex offenders are similar to and should be treated like adult sex offenders. Requiring all juvenile sex offenders to be subject to post-release "management policies" appears inappropriate given the measured re-arrest rates during the follow-up period.

Furthermore, global, long-term sanctions for juvenile sex offenders imposed by legislatures aimed at reducing subsequent sex offense behaviors are likely to unduly punish the small group of offenders who sexually re-offend. For example, unwarranted sanctions may include extended mandatory-minimum periods of incarceration and life-long community notification requirements.

In 1988, residential or institution treatment for juvenile sex offenders was estimated to approximate $40,000 per individual (Farrell & O'Brien, 1988). Given the relatively low base-rate of subsequent re-arrest for a sex offense in the current study,

alternative, less-costly options should be explored. Exploring outpatient treatment options for those juveniles determined to be low risk for a sex offense re-arrest seems appropriate as outpatient treatment was estimated to cost approximately $2700 per individual (Farrell & O'Brien, 1988). Moreover, if outpatient and residential sex offender treatment are measured to be equally effective, the lower-cost option seems warranted not only as a cost-savings decision, but as an intervention strategy aimed at reducing iatrogenic effects typically associated with incarceration.

Recidivism data from the current investigation indicated an arrest for a subsequent non-sex offense was a fairly common outcome for both juvenile sex offenders and juvenile non-sex offenders. Based upon these data, it is recommended that sex offender specific treatment should also include treatment interventions/modules attempting to address general delinquency issues. Iatrogenic effect literature indicates treatment with delinquent individuals may further increase the overall rate of pro-delinquent attitudes and behaviors for others involved in the treatment process (e.g., Orsagh & Chen, 1988). Those incarcerated together are hypothesized to be exposed to and adopt antisocial norms from one another through the process of "prisonization" (Wellford, 1967). The rate of "prisonization" is a function of the total time of incarceration and an increase in antisocial beliefs is hypothesized to be associated with an increased rate of post-incarceration offenses (Wellford, 1967). Therefore, interventions designed to reduce the effects of "prisonization" are warranted for both juvenile sex and non-sex offenders. Orsagh and Chen (1988) reported incarceration weakens an offenders' relationship with others including friends and families. And, weakened

relationships resulting from incarceration are assumed to increase the likelihood an individual would commit a subsequent post-incarceration offense (Orsagh & Chen, 1988). Therefore, general, anti-delinquency interventions aimed at improving interpersonal relationships between offenders, their family members, and their social support network appear to be an appropriate starting point.

The re-arrest rate for juveniles originally adjudicated for a non-sex offense behavior was 74.3% following incarceration at Mt. Meigs. These data suggest much can and needs to be done with these individuals, while incarcerated at Mt. Meigs, in an attempt to disrupt this frequently measured outcome of re-arrest. For example, implementing anti-delinquency treatment modules, at a minimum, appears warranted. Furthermore, closely examining pre-arrest, incarceration, and pos-adjudication variables of those 25.7% who were not subsequently re-arrested during the follow-up period appears warranted. Perhaps by doing so, "protective" anti-delinquency variables could be identified. Once these protective variables have been identified, treatment professionals may be better able to develop and implement specific interventions aimed at reducing general delinquency for all juvenile offenders.

With the addition of delinquent specific treatment modules included in sex offender specific treatment, the proportion of juvenile sex offenders in the current sample with no additional re-arrest history (60.7%) may increase. Additionally, segregating or closely monitoring the interactions between those individuals who are identified most likely to act as negative treatment contagion from those most susceptible seems warranted.

Additionally, these data indicate specific instruments (e.g., J-SOAP-II, PCL:YV) were empirically supported to provide a better than chance estimate of subsequent re-arrest based upon AUC analyses for sexual and general offenses. However, as an isolated variable attempting to predict future re-arrest, total scores from these instruments were generally not significant predictors of sexual re-arrest. In an introductory section of the current manual for the J-SOAP-II, test developers stated the following, "Decisions about re-offense risk should not be based exclusively on the results from J-SOAP-II. J-SOAP-II should always be used as part of a comprehensive risk assessment (p. 1)." Results from the current investigation support the test developers' contention regarding the ability to predict future risk in isolation of additional risk-relevant information and considerations. Therefore, data from the current investigation indicate decisions of future risk regarding sexual dangerousness should be the result of an aggregate of factors including, but not limited to, clinical judgment, measures/checklists associated with risk of re-offense, and careful consideration of additional factors identified to be related to risk.

Methodological Strengths and Concerns

Many of the previous investigations examining juvenile sex offender recidivism rates did so with relatively small sample sizes, participants who received treatment in a community-based setting, and were fairly homogeneous in terms of demographic characteristics. In contrast, the current investigation examined re-arrest data for a relatively large sample size (N = 509), who represented all Alabama counties, resulting in a geographically diverse sample. Additionally, participants were diverse in additional

demographic characteristics including age, race, familial, and social backgrounds. Participant characteristics of the current investigation indicate the total sample was fairly diverse in nature. A considerable percentage of juvenile sex offenders had previous contact or involvement with legal authorities indicating participants, as a whole, were generally delinquent in isolation of sex offense behaviors. Therefore, results from this investigation indicating the overall re-arrest rate for an additional sex offense behavior is low (3.9%) are unique given the large, diverse, delinquent sample used in the current investigation.

Several methodological limitations of the current investigation must be considered. Only arrest data was used to classify individuals as a subsequent sex offender; conviction data may represent a better definition of those who go on to commit subsequent sexual offenses. Arresting authorities may inadvertently demonstrate a bias toward those with a history of a prior sexual arrest as a juvenile, which may increase the overall likelihood of a subsequent arrest for a sex offense. Additionally, individuals are commonly arrested for a specific offense, but are frequently convicted under less severe charges or plead guilty to reduced charges. It is possible to conceive that individuals, especially those with a known public history of prior sex offense behaviors, would experience a disproportionate rate of arrest and subsequent "charge inflation" to that of other offender groups.

Next, results from the current investigation were solely based upon re-arrest data available from the state of Alabama. Re-arrest data may simply be a general estimate of sexual recidivism, rather than a measure of "actual rates" as individuals may continue to engage in sex offense behaviors, but do so outside of the awareness of legal authorities.

Perhaps, as function of their prior incarceration, these individuals' ability to avoid subsequent detection are improved based upon their prior interaction and exchange of knowledge with other adjudicated individuals. Also, the rate of relocation to other states for these participants is unknown, thereby introducing a considerable methodological concern related to re-arrest data. The "actual" rate of re-arrest for subsequent sex and general offenses may be in fact far greater than reported in the current investigation due to the unknown rate of relocation. Thus, the rates reported in the current investigation should be considered with this caution in mind and considered as re-arrest "estimates." However, as previously mentioned, these results are generally consistent with prior recidivism studies, suggesting the rate of relocation may only minimally influence the actual rate of re-arrest.

Additionally, pretreatment information was mostly collected using a combination of self-report and interview information. Due to the potentially stigmatizing nature of a sexual offense, individuals may be inclined to minimize or distort offense-related behaviors. In fact, Burkhart, Cook, and Sumrall (2008) reported 80% of juvenile sex offenders were frequently deceptive to assessors when describing aspects of their adjudicating offense prior to the onset of treatment. For example, these juvenile sex offenders reported being dishonest about the total number of victims, total number of offenses, and the amount of force used during their respective sex offense. The level of deception juvenile sex offenders engage in when describing aspects of their offense prior to the onset of treatment may greatly limit these findings as the conclusions are based upon less than accurate information.

The overall rate of re-arrest is generally low for juvenile sex offenders. Juvenile sex offenders were mandated to complete treatment and a low rate of re-arrest may be a function of treatment successfully serving to disrupt a developmental pathway toward adult sex offending behaviors for some individuals. However, as all juvenile sex offenders in the state of Alabama were mandated to complete treatment, there was no control group available for comparison. Without a control-group comparison, such as a "no-treatment" or "delayed treatment cohort," statements regarding treatment efficacy or effectiveness are inappropriate. Although there is no "control group" included in this investigation, there are limited data available regarding adjudicated juvenile sex offenders who did not receive offender specific treatment. In 1997, a committee commissioned by the Association for the Treatment of Sexual Offenders reported that approximately 18% of juvenile sex offenders who were untreated were measured to commit a subsequent sex offense (ATSA, 2001), which is significantly greater than the rate of sexual re-arrest of 3.9% reported in the current investigation. Nonetheless, the lack of a control group limits statements regarding ABSOP treatment effectiveness.

Finally, coding for this project was done so over a seven year process, which utilized approximately 30 different graduate student interviewers. Multiple efforts were made to maximize inter-rater reliability across interviewers including rigorous training exercises and scoring assignments. However, as interviewers changed yearly as a function of the project, an overall estimate of inter-rater reliability for all interviewers is unfortunately unavailable. Therefore, without an overall estimate of inter-rater reliability across all interviewers, it is possible that instrument scoring and coding, such as required

by the J-SOAP, J-SOAP-II, and PCL:YV, may have been unduly influenced by a lack adequate calibration among interviewers.

Future Directions

Future studies should attempt to implement increased follow-up periods. Furby, Lita, Weinrott, and Blackshaw (1989) contended that recidivism rates for adult sex offenders will be significantly greater for studies implementing extended long-term follow-up periods rather than a short-term follow-up time frame. As with adult sex offender recidivism studies, a lengthier follow-up period is likely to result in a greater rate of both sexual and non-sexual recidivism for these individuals. With a lengthier follow-up period, additional pre-treatment characteristics associated with sexual and non-sexual re-arrest, as well as no re-arrest, may be identified.

Also, continued examination and identification of those factors related to general recidivism for juvenile sex offenders seems warranted. Once identified, treatment programs may better address these concerns thereby reducing the overall risk of individuals being re-arrested for a general offense. Additionally, examining those adolescent offenders who go on to commit subsequent sex offenses can serve to better inform theoretical offense models. Processes related to the etiology and maintenance of sex offending behaviors may be better understood by examining those who desist and those who commit subsequent offenses once re-released into the community. Future studies capable of identifying and understanding offense trajectories may subsequently better inform risk assessment instruments and improve offender interventions (Nisbet, Wilson, & Smallbone 2004).

Future studies addressing strategies aimed at reducing deception when collecting self-report sex offense specific information from juvenile sex offenders seems warranted. Possible strategies aimed at increasing the veracity of self-report information would include polygraph verification or a “bogus pipeline” assessment scenario. Also, data from the current investigation represent only those in Alabama. Additional replication in other states would be warranted in order to determine the generalizability of these results.

References

Abbey, A. (2005). Lessons learned and unanswered questions about sexual assault perpetration. *Journal of Interpersonal Violence, 20,* 39-42.

Abel, G. G., Becker, J. V., Mittelman, M., Cunningham-Rathner, J., Rouleau, J. L., & Murphy, W. D. (1987). Self-reported sex crimes of nonincarcerated paraphiliacs. *Journal of Interpersonal Violence, 2,* 3-25.

Abel, G. C., Mittleman, M. S., & Becker, J. V. (1985). Sexual offenders: Results of assessment and recommendations for treatment. In M. R. Ben-Aron, S. J. Hucker, & C. D. Webster (Eds.), *Clinical criminology: The assessment and treatment of criminal behavior* (pp. 191 – 205). Toronto: M & M Graphic.

Abel, G. G., Osborn, C. A., & Twigg, D. A. (1993). Sexual assault through the life span: Adult offenders with juvenile histories. In H. E. Barbaree, W. L. Marshall & D. R. Laws (Eds.), *The juvenile sexual offender* (pp. 104-116). New York: Guilford Publications, Inc.

Arnold, M. & Hughes, J. N. (1999). First do no harm: Adverse effects of grouping deviant youth for skills training. *Journal of School Psychology, 37,* 99-115.

Association for the Treatment of Sexual Abusers. (2001). *Practice standards and guidelines for members of the Association for the Treatment of Sexual Abusers.* Beaverton, OR: Author.

Barbaree, H., Hudson, S., & Seto, M. (1993). Sexual assault in society: The role of the juvenile offender. In H.E. Barbaree, W.L. Marshall, & S.M. Hudson (Eds.), *The juvenile sex offender (*pp.1-24). New York: Guilford.

Becker, J., & Abel, G. (1985). Methodological and ethical issues in evaluating the treatment of adolescent sex offenders. In E. M. Otey & G.D. Ryan (Eds.), *Adolescent sex offenders: Issues in research and treatment* (pp. 109-129). Rockville, MD. Department of Health and Human Services.

Becker, J.V., Kaplan, M.S. and Kavoussi, R. (1988). Measuring the effectiveness of treatment for the aggressive adolescent sexual offender. *Annals of the New York Academy of Science, 528,* 215-222.

Borduin, C. M., Henggeler, S. W., Blaske, D. M., & Stein, R. J. (1990). Multisystemic treatment of adolescent sexual offenders. *International Journal of Offender Therapy and Comparative Criminology, 34,* 195-113.

Borduin, C. M., & Schaeffer, C. M. (2001). Multisystemic treatment of juvenile sexual offenders: A progress report. *Journal of Psychology and Human Sexuality, 13,* 25–42.

Borum, R. (1996). Improving the clinical practice of violence risk assessment: Technology, guidelines, and training. *American Psychologist, 51,* 945-956.

Brannon, J. M., & Troyer, R. (1995). Adolescent sex offenders: Investigating adult commitment rates four years later. *International Journal of Offender Therapy & Comparative Criminology, 39,* 317-326.

Brandt, J. R., Kennedy, W. A., Patrick, C. J. & Curtin, J. J. (1997). Assessment of psychoapthy in a population of incarcerated adolescent offenders. *Psychological Assessment, 9*, 429-435.

Bremer, J. (1992). Serious juvenile sex offenders: Treatment and long-term follow up. *Psychiatric Annals, 22*, 326-332.

Burkhart, B.R., Peaton, A., & Sumrall, R. (2009). Youth services teams with universities for sex offender programs. *Corrections Today, 71*, 93-94.

Burkhart, B. R., Cook, P. K., & Sumrall, R. (2008, October). *Embedding research in a large scale treatment program.* Paper presented at the Association for the Treatment of Sexual Abusers, Atlanta, GA.

Burton, D. L., & Smith-Darden, J. P. (2001). *North American survey of sexual abusers treatment and models summary data 2000.* Brandon, VT: The Safer Society Foundation.

Catchpole, R. E. H., & Gretton, H. M. (2003). The predictive validity of risk assessment with violent young offenders: A 1-year examination of criminal outcome. Criminal Justice and Behavior, 30, 688-708.

Chaffin, M., & Bonner, B. L. (1998). Don't shoot, we're your children: Have we gone too far in our response to adolescent sex abusers and children with sexual behavior problems? *Child Maltreatment,* 3, 314-316.

Chaffin, M., Letourneau, E., & Silovsky, J. F. (2002). Adults, adolescents, and children who sexually abuse children: A developmental perspective. In J. Myers, & L. Berliner (Eds.), The APSAC handbook on child maltreatment (pp.205-232). Thousand Oaks, CA: Sage.

Dishion, T. J., McCord, J., Poulin, F. (1999). When interventions harm: Peer groups and problem behavior. *American Psychologist, 54,* 755-764.

Fanniff, A. M., Becker, J. V. (2005). Specialized assessment and treatment of adolescent sex offenders. *Aggression and Violent Behavior, 11,* 265-282.

Federal Bureau of Investigation. (1999). Uniform crime reports for the United States. Washington, DC: U.S. Department of Justice.

Forth, A. E., Kosson, D. S., & Hare, R. D. (2003). *Manual for the Hare psychopathy version*. Toronto, Canada: Mult-Health Systems, Inc.

Furby, L., Weinrott, M. R., & Blackshaw, L. (1989). Sex offender recidivism: A review. *Psychological Bulletin,* 105, 3-30.

Garfinkle, E. (2003). Coming of age in America: The misapplication of sex offender registration and community notification laws to juveniles. *California Law Review, 91,* 163-208.

Gretton, H., McBride, M., Hare, R., O'Saughnessy, R., & Kumba, G. (2001). Psychopathy and recidivism in adolescent sex offenders. *Criminal Justice and Behavior, 28,* 427-449.

Groth, N. A. (1977). The adolescent sex offender and his prey. *Journal of Offender Therapy and Comparative Criminology, 21,* 249-254.

Hagan, M., & Gust-Brey, K. (1999). A ten year longitudinal study of adolescent rapists upon return to the community. *International Journal of Offender Therapy and Comparative Criminology, 43,* 448-458.

Hall, E., & Flannery, P. (1984). Prevalence and correlates of sexual assault experiences in adolescents. *Victimology, 9,* 398-406.

Hanson, R. K. (2002). Recidivism and age: Follow-up data from 4,673 sexual offenders. *Journal of Interpersonal Violence, 17*, 1046-1062.

Hanson, R. K., & Morton-Bourgon, K. (2005). Predicting relapse: A meta-analysis of sexual offender recidivism studies. *Journal of Consulting and Clinical Psychology, 66*, 348-362.

Hanson, R. K., Morton, K. E., & Harris, A. J. R. (2003). Sexual offender recidivism risk: What we know and what we need to know. In R. Prentky, E. Janus, M. Seto, & A. W. Burgess (Eds.), *Understanding and managing sexually coercive behaviour.* New York*:* Annals of the New York Academy of Sciences.

Hare, R. D. (1991). *The Hare Psychopathy Checklist – Revised version*. Toronto, Canada: Multi-Health Systems.

Hart, R. L. (1993). Diagnosis of disruptive behavior disorders using the Millon Adolescent Personality Inventory, *Psychological Reports, 73,* 895-914.

Hendricks, J., & Bijleveld, C. (2008). Recidivism among juvenile sex offenders after residential treatment. *Journal of Sexual Aggression, 14*, 19-32.

Hiatt, M. D., & Cornell, D. G. (1999). Concurrent validity of the Millon Adolescent Clinical Inventory. *Journal of Personality Assessment, 73*, 64-79.

Hood, R., Shute, S., Feilzer, M., & Wilcox, A. (2002). Sex offenders emerging from long-term imprisonment. *British Journal of Criminology, 42*, 371-394.

Kahn, T. J., & Chambers, H. J. (1991). Assessing reoffense risk with juvenile sexual offenders. Child Welfare, 70, 333-345.

Kahn, T. J., & Lafond, M. A. (1988). Treatment of the adolescent sexual offender. *Child and Adolescent Social Work, 5,* 135-148.

Kenney, D.T., Keogh, T., Seidler, K. (2001). Predictors of recidivism in Australian juvenile sex offenders: Implications or treatment. *Sexual Abuse: A Journal of Research and Treatment, 13,* 131-148.

Kenny, D., Keogh, T., Seidler, K. & Blaszczynski, A. (2000). Offence and clinical characteristics of Australian juvenile sex offenders. *Psychiatry, Psychology and Law,* 7, 212-227.

Knight, R., & Prentky, R. (1993). Exploring the characteristics for classifying juvenile sexual offenders. In H. Barbaree, W. Marshall & S. Hudson (Eds.), *The juvenile sex offender* (pp. 45-83). New York: Guilford Press.

Knight, R. A., & Sims-Knight, J. E. (2004). Testing an etiological model for male juvenile sexual offending against females. *Journal of Child Sexual Abuse,* 13, 33-55.

Lab, S. P., Shields, G., & Schondel, C. (1993). Research note: An evaluation of juvenile sexual offender treatment. *Crime and Delinquency, 39,* 543-553.

Langstrom, N. (2002). Long-term follow-up criminal recidivism in young sexual offenders. *Psychology, Crime, and Law: Special Swedish Studies on Psychology, Crime, and Law,* 8, 41-58.

Langstrom, N. & Grann, M. (2000). Risk for criminal recidivism among young sex offenders. *Journal of Interpersonal Violence, 15,* 855-871.

Letourneau, E. J., & Miner, M. H. (2005). Juvenile sex offenders: A case against the legal and clinical status quo. *Sexual abuse: A Journal of Research and Treatment*, 17, 293-312.

Lusted, L. B. (1971). Signal detectability and medical decision making. Science, 171, 1217-1219.

Maltz, M. D. (1984). *Recidivism.* Orlando, FL: Academic Press.

McNiel, D., Gregory, A., Lam, J., Binder, R., & Sullivan, G. (2003). Utility of decision support tools for assessing acute risk of violence. *Journal of Consulting and Clinical Psychology, 71,* 945-953.

Millon, T. (1993). *Millon Adolescent Clinical Inventory manual.* Minneapolis, MN: National Computer Systems.

Millon, T., Green, C. J., & Meagher, R. B. (1982). *Millon Adolescent Personality Inventory manual*. Minneapolis, MN: National Computer Systems.

Monahan, J. (1981). *The clinical prediction of violent behavior.* Northvale, NJ: Jason Aronson, Inc.

Mossman, D. (1994). Assessing predictions of violence: Being accurate about accuracy. *Journal of Consulting and Clinical Psychology,* 62, 783-792.

National Adolescent Perpetrator Network (1993). The revised report from the national task force on juvenile sex offending. *Juvenile and Family Court Journal, 44,* 1-155.

Nisbet, I. A., Wilson, P. H. & Smallbone, S. W. (2004). A prospective study of sexual recidivism among adolescent sexual offenders. *Sexual Abuse: A Journal of Research and Treatment, 16,* 223-234.

O'Brien M. J. & Bera W. H. (1986). *The PHASE typology of adolescent sex offenders*. Salem: Department of Human Resources, Children's Services Division.

Office of Juvenile Justice and Delinquency Prevention, U.S. Department of Justice. (2001). *Juveniles who have sexually offended: A review of the professional literature*. Washington DC: Author.

O'Neill, M. L., Lidz, V., & Heilbrun, K. (2003). Adolescent with psychopathic characteristics in a substance abusing cohort: Treatment process and outcomes. *Law and Human Behavior, 27,* 299-313.

O'Reilly, G., Morrison, T., Sheerin, D., & Carr, A. (2001). *Child Abuse Review, 10,* 150-169.

Orsagh, T., & Chen, J. R. (1988). The effect of time served on recidivism: An interdisciplinary theory. *Journal of Quantitative Criminology, 4,* 155-171.

Prentky, R. A., Harris, B., Frizzell, K., & Righthand, S. (2000). An actuarial procedure for assessing risk with juvenile sex offenders. *Sexual Abuse: A Journal of Research and Treatment, 12,* 71-93.

Prentky, R. A., Rimental, A., Cavanaugh, D. J., & Righthand, S. (2009). Predicting risk of sexual recidivism in juveniles: Validity of the J-SOAP-II. In A. R. Beech, L. Craig, & K.D. Browne (Eds.), *Assessment and treatment of sex offenders: A handbook* (pp. 265-292). New York: Wiley, John & Sons, Incorporated.

Prentky, R. A., & Righthand, S. (2003). *Juvenile sexual offender assessment protocol: Manual,* Justice Resource Institute, Bridgewater, MA.

Prescott, D. (2004). Emerging strategies for risk assessment of sexually abusive youth: Theory, controversy, and practice. *Journal of Child Sexual Abuse, 13,* 83-105.

Rasmussen, L. A. (1999). Factors related to recidivism among juvenile sexual offenders. *Sexual Abuse: A Journal of Research and Treatment,* 11, 69-85.

Rice, M. E. (1997). Violent offender research and implications for the criminal justice system. *American Psychologist, 52,* 414-423.

Rice, M.E., & Harris, G.T. (1995). Violent recidivism: Assessing predictive validity. *Journal of Consulting and Clinical Psychology,* 63, 737-748.

Rich, P. (2003). *Understanding, assessing and rehabilitating juvenile sexual offenders.* Hoboken, NJ: John Wiley & Sons Inc.

Righthand, S., Prentky, R., Knight, R., Carpenter, E., Hecker, J. E., & Nagle, D. (2005). Factor structure and validation of the juvenile sex offender assessment protocol (J-SOAP). *Sexual Abuse: A Journal of Research and Treatment, 17,* 13-30.

Ross, J. & Loss, P. (1991). Assessment of the juvenile sex offender. In G. D. Ryan, & S. L. Lane (Eds.), *Juvenile sexual offending: Causes, consequences, and correction* (pp. 199-251). Lexington, MA: Lexington Books.

Rubinstein, M., Yeager, C., Goodstein, C., & Lewis, D. (1991). Juvenile male sexual assaulters: A follow-up. *American Journal of Psychiatry,* 150, 262-265.

Ryan, G., Miyoshi, T., Metzner, J., Krugman, R. & Fryer, G. (1996). Trends in a national sample of sexually abusive youth. *Journal of the American Academy of Child & Adolescent Psychiatry, 35,* 17-25.

Schwartz, B. K. (1992). Effective treatment techniques for sex offenders. *Psychiatric Annals, 22,* 315-319.

Seto, M. C., & Barbaree, H. E. (1999). Psychopathy, treatment behavior, and sex offender recidivism. *Journal of Interpersonal Violence,* 14, 235-249.

Sipe, R., Jensen, E. L., & Everett, R. S. (1998). Adolescent sexual offenders grown up: Recidivism in young adulthood. *Criminal Justice and Behavior, 25,* 109-125.

Skeem, J. L., & Cauffman, E. (2003). View of the downward extension: Comparing the Youth Version of the Psychopathy Checklist with the Youth Psychopathic Traits Inventory. *Behavioral Sciences and the Law, 21,* 737-770.

Smith, W., & Monastersky, C. (1986). Assessing juvenile sexual offender's risk for reoffending. *Criminology, Justice & Behavior, 13,* 115-140.

Snyder, H., & Sickmund, M. (1999). *Juvenile offenders and victims: 1999 national report.* Washington, DC: Office of Juvenile Justice and Delinquency Prevention.

Trivits, L. C., & Reppucci, N. D. (2002). Application of Megan's Law to juveniles. *American Psychologist,* 57, 690-704.

Vandiver, D. M. (2006). A prospective analysis of juvenile male sex offenders: Characteristics and recidivism rates as adults. *Journal of Interpersonal Violence,* 21, 673-688.

Waite, D., Keller, A., McGarvey, E.L., Wieckowski, E., Pinkerton, R., & Brown, G. L. (2005). Juvenile sex offender re-arrest rates for sexual, violent nonsexual and property crimes: A 10-year follow-up. *Sexual Abuse: A Journal of Research and Treatment, 17,* 313-331.

Wellford, C. (1967). Factors associated with adoption of the inmate code: A study of normative socialization. *The Journal of Criminal Law, Criminology and Police Science, 58,* 197-203.

Will, D. (1999). Assessment issues. In M. Erooga & H. Massons (Eds.), *Children and young people who sexually abuse others: Challenges and responses* (pp. 86-103). London: Routledge.

Witt, P., Bosley, J., & Hiscox, S. (2002). Evaluation of juvenile sex offenders. *Journal of Psychiatry & Law, 30,* 569-592.

Worling, J.R. (1995). Sexual abuse histories of adolescent male sex offenders: Differences on the basis of the age and gender of their victims. *Journal of Abnormal Psychology, 104,* 610-613.

Worling, J.R. (2004). The estimate of risk of adolescent sexual offense recidivism (ERASOR): Preliminary psychometric data. *Sexual Abuse: A Journal of Research and Treatment, 16,* 235-254.

Worling, J., & Curwen, T. (2000). Adolescent sexual offender recidivism: success of specialized treatment and implications for risk prediction. *Child Abuse and Neglect, 24,* 965-982.

Worling, J. R., & Langstrom, N. (2003). Assessment of criminal recidivism risk with adolescents who have offended sexually. *Trauma, Violence, and Abuse,* 4, 341-362.

Zimring, F. E. (2004). *An American travesty: Legal responses to adolescent sex offending.* Chicago: University of Chicago Press.

Appendix

Table 1A. Juvenile Sex Offender Assessment Protocol (J-SOAP) Items

Factor I:	(Sexual Drive/Sexual Preoccupation)
	Prior legally charged sex offense
	Duration of sex offense history
	Evidence of sexual preoccupation
	Degree of planning in sex offense
	Degree of sexualizing victim(s)
Factor II:	(Impulsive, Antisocial Behavior)
	Caregiver consistency/stability
	History of expressed anger
	School behavior problems
	School suspensions/expulsions (k -8th grade)
	History of conduct disorder (< age 10)
	Juvenile antisocial behavior (age 10-17)
	History of legal charges prior to age 16
	Multiple types of offenses
	Impulsivity
	History of substance abuse
	History of parental substance abuse
Factor III:	(Clinical Intervention)
	Responsibility acceptance for sex offense
	Internal motivation for change
	Knowledge of sex offense cycle
	Evidence of empathy, remorse, and guilt
	Absence of cognitive distortions
Factor IV:	(Community Stability)
	Evidence of poorly managed anger in community
	Stability of current living situation
	Stability in school
	Evidence of community support system
	Quality of peer relationships