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Juvenile Sex Offenders

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Abstract Sexual offending by juveniles accounts for a sizable percentage of sexual offenses, especially against young children. In this article, recent research on female juvenile sex offenders (JSOs), risk factors for offending in juveniles, treatment, and the ways in which these youth may differ from general delinquents will be reviewed. Most JSOs do not go on to develop paraphilic disorders or to commit sex offenses during adulthood, and as a group, they are more similar to nonsexual offending juvenile delinquents than to adult sex offenders. Recent research has elucidated some differences between youth who commit sex offenses and general delinquents in the areas of atypical sexual interests, the use of pornography, and early sexual victimization during childhood.

Keywords Juvenile sex offenders · Paraphilic disorders · Risk factors · Risk assessment · Sex offender treatment · Sexual abuse

Introduction

Juvenile sex offending remains poorly understood by both society at large and the legal system, which often perceives all juvenile sex offenders (JSOs) as younger versions of adult sex offenders, whom society has been fortunate enough to catch early in their offending. JSOs comprise a heterogeneous group, most of whom do not go on to develop paraphilic disorders or to commit sex crimes as adults. However, sexual offending by youth is a significant public health problem. In the USA, in 2014, 21 % of arrests for sexual offenses were of juveniles (youth under the age of 18) [1]. Victims of sexual abuse suffer a variety of negative consequences, including anxiety, depression, and substance abuse [2].

In this article, we use the term juvenile sexual offender to apply to youths between the ages of 12 and 18 who have been charged with or convicted of a sexual crime, or have engaged in an act that could be officially charged as a sexual crime, or have committed any sexual act with a person of any age in an aggressive, threatening, or exploitive manner [3].

It has long been recognized that attempting to categorize JSOs into slightly more homogenous groups has research, diagnostic, and treatment utility. JSOs have been classified into three groups: (1) youth with paraphilic disorders; (2) conduct disordered youth; and (3) youth with more general psychopathology [4]. Shaw identified four groups of youth who sexually offend: (1) those with true paraphilic disorders; (2) those with strong antisocial personality traits; (3) individuals with neurological compromise (such as mental retardation, autistic spectrum disorder, etc.); and (4) youth with impaired social skills [5]. Becker and Kaplan described three possible paths that an adolescent may pursue after the first sex offense: (1) a "dead-end," with no further criminal behavior; (2) a "delinquency path," with continued sexual and nonsexual offending; and (3) a "sexual interest path," in which the juvenile continues to commit sexual offenses and develops a paraphilic disorder [6, 7].

The DSM-5 defines a paraphilia as "any intense and persistent sexual interest other than sexual interest in genital

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stimulation or preparatory fondling with phenotypically normal, physically mature, consenting human partners," which is often termed "deviant sexual arousal" in much of the literature on sexual offending. However, DSM-5 distinguished between paraphilias and paraphilic disorders, stating that paraphilias alone do not require psychiatric treatment, and it is only when the behavior associated with the paraphilia has lasted for at least 6 months and causes distress or impairment that impedes social, occupational, or other important areas of functioning and/or causes personal harm or the risk of harm to others that it merits the diagnosis of a paraphilic disorder. Deviant sexual arousal is a critical component of any paraphilia. A paraphilia is necessary for the diagnosis of a paraphilic disorder, but a paraphilia alone does not justify the diagnosis of a paraphilic disorder or compel treatment [8].

Risk Factors for Juvenile Sexual Offending

An informed risk assessment is critical for informed decision-making regarding an individual's treatment and supervision needs and is being used increasingly by courts to determine sentencing and post-sentencing disposition. Predicting who will commit a first sexual offense is impossible, and there is no profile of the "typical" juvenile sex offender. The challenge for the evaluating clinician is to apply the current research findings in an effort to identify youth who possess empirically validated vulnerabilities and risks and develop effective, individualized interventions and treatments that mitigate the risk of re-offense. JSOs as a group are far more likely to go on to commit nonsexual than sexual offenses, with most sexual and nonsexual recidivism occurring within 3 years of release [9, 10]. Caldwell's analysis of recidivism studies included 11,219 JSOs with a mean follow-up period of 5 years and found a mean base rate of 7.08 % for sexual reoffending but a 43.4 % mean base rate for general reoffending [11]. Rates of nonsexual recidivism of 28 to 54 % have been found in other studies [12–14]. More recent research is attempting to distinguish ways in which JSOs are different from general delinquents in order to identify and treat youth at risk for reoffending. Deviant sexual interest has long been identified as a risk factor for recidivism in adults, with studies of adult male sexual offenders revealing that most of the participants reported developing deviant arousal in adolescence.

In research done prior to the DSM-5, and using the term "paraphilia" in a manner that would be termed "paraphilic disorder" in DSM-5 terminology, Abel and colleagues reported that deviant sexual interests by age 15 were reported by 42 % of adults diagnosed with paraphilias and deviant interests by age 19 in 57 % [15, 16]. Although only a minority of adolescents who engage in sexually offensive behavior have deviant sexual arousal patterns, some offenders begin a pattern of behavior that is a harbinger of a paraphilic disorder and can progress to a pattern of multiple victims and perpetuation into adulthood [17, 18]. Recent research has focused on better understanding of risk factors for sexual offending and recidivism that might improve our ability of identifying and treating at-risk youth.

For adult sex offenders, identifying and treating paraphilic disorders are crucial elements of evaluation and treatment planning, since the research is clear that these disorders are a major risk factor in sexual recidivism. Although most JSOs neither have a paraphilic disorder nor will they go on to develop one, identifying youth who may be at risk for developing paraphilic disorders and reoffending sexually is an important goal in juvenile sex offender evaluation and risk assessment. Unfortunately, the adult research does not provide useful guideposts in this area. For example, deviant sexual arousal has been noted to be the most predictive factor for sexual reoffending among adult male child molesters [19], and the use of penile plethysmography (PPG) in adult male sex offenders has been studied extensively and is considered to be the "gold standard" of objective measurement of sexual arousal in males [20]. This is not the case for adolescent sex offenders, where the results are more mixed [21]. No association was found between psychopathy determined by Psychopathy Checklist: Youth Version (PCL:YV) scores and PPG evidence of deviant sexual arousal in an outpatient sample of 220 male JSOs; however, youth with both elevated psychopathy scores and deviant sexual arousal as measured by PPG were at increased risk for general recidivism [22]. Another study of 132 male JSOs found that post-treatment arousal and inability to suppress arousal to male and female children as measured by PPG was associated with sexual offense recidivism over a 6-year follow-up period [23]. There are ethical concerns associated with the interpretation of PPG results in the adolescent population, including the invasiveness of the procedure and exposing victims of abuse as well as younger adolescents to sexually explicit materials [24]. Also, adolescents who have both sexually offended and been victimized sexually themselves were more likely to have shown indiscriminate and consistently higher patterns of arousal to all stimuli [25]. Additional studies utilizing the PPG in adolescent sex offenders are warranted, given the fact that extant research suggests that phallometric testing can identify deviant arousal toward children among adolescent sex offenders, especially those with male victims [26, 27].

Christiansen and Vincent studied 39,248 adjudicated juvenile sexual and nonsexual offenders in Arizona, ages 7 to 18 years. Only 1.77 % had any adjudicated sex offenses, and the sexual reoffense rate was 4.2 %, with the reoffense rate for nonsexual crimes of 40.96 %. As in other studies, as a group, JSOs are far more likely to recidivate nonsexually than sexually. The strongest predictors of sexual recidivism in this study were prior nonsexual offending, prior sexual offending, hands-off offending, offending against a child, not attending

school, and younger school grade/age at the time of the initial offense [28].

Recent research has moved beyond findings that JSOs as a group are more similar to general juvenile delinquents than adult sex offenders to attempt to focus on distinctions between the larger group of generalist sex adolescent sex offenders and a much smaller group of specialist JSOs. Seto and Lalumière's meta-analysis of 59 studies compared male adolescent sex offenders ($N = 3855$) with nonsexual adolescent offenders ($N = 13{,}393$) on a variety of variables including antisocial behavior and criminal involvement, maltreatment, exposure to violence, substance abuse, family and interpersonal problems, sexuality, and psychopathology [29]. There were no differences between the two groups with respect to antisocial personality traits, attitudes, and beliefs; early conduct problems; intelligence; social problems; and general psychopathology. The JSOs had a less extensive criminal history, less substance abuse, and fewer delinquent friends than the general delinquents did; however, they were more likely to have been physically and emotionally abused and much more likely to have been sexually abused. The JSOs were also more likely than the generalist offenders to have had early exposure to sex or pornography, exposure to sexual violence within the family, and atypical sexual interests (e.g., sexual fantasies involving young children or coerced sex). The largest differences between the two groups were with respect to atypical sexual interests and sexual abuse history [30].

Expanding on the findings of Seto and Lalumière, Pullman and colleagues performed an archival analysis of clinical files from a sample of 158 male adolescent sex offenders ages 12 to 17 who were seen in a court clinic to assess differences between "sex-only" offenders and "sex-plus" (those who committed sexual and nonsexual crimes) offenders. Sex-plus offenders were found to have more antisocial tendencies compared to sex-only offenders, including greater substance use, pro-crime attitudes, and risk for future delinquency. Compared to sex-only offenders, sex-plus offenders were 3.2 times as likely not to live with both parents during time of offense, 3.8 times more likely to cause physical injury during the offense, 2.3 times more likely to have experienced physical abuse, 3.6 times more likely of having any type of psychiatric diagnosis, 6.3 times as likely as having had psychiatric hospitalization, 7.7 times as likely to have a history of drug use, and 2.2 times as likely to have difficulty socializing with peers. Sex-only offenders were less likely (0.5 times) to have had a previous boyfriend or girlfriend and less likely (0.4 times) to have had a consensual sexual relationship than were sex-plus offenders. Sex-plus offenders were less likely to have victimized children (0.3 times) than were sex-only offenders [31]. These findings support a distinction between sex-only versus sex-plus offenders, suggesting that sex-plus offenders are driven more by general antisocial factors and sex-only offenders are driven more by special factors such as atypical sexual interests and difficulty with romantic relationships. Leroux and colleagues in a study of 162 court-referred male JSOs, comparing those who had offended against children (under age 12 or at least 5 years younger) versus those offending against peers or adults, found further support for the specialist versus generalist distinction [32••]. JSOs with child victims were found to have the most atypical sexual interests versus JSOs who offended against peers and adults, who as a group were more behaviorally disordered and were more likely to be under the influence of substances and to be more physically violent toward their victims.

Cale and colleagues [33] conducted a retrospective study of 217 adolescent sexual offenders (ages 10 to 17 years) in Australia who were referred for treatment in order to try to assess the links between the nature of sex offenses committed by adolescents and the trajectory of criminal activity. Crimes were grouped into nonviolent nonsexual, violent-nonsexual, and sex offense groups. Statistical models reliably identified four groups of offender trajectories: rare offenders (53 %), late-bloomers (those with few charges early who surpassed the other three groups by the end of adolescence, 25 %), low-rate chronic offenders (10 %), and high-rate chronic offenders (12 %). Several demographic and descriptive differences were found between groups. Rare offenders were most likely to have been employed. Late-bloomers and low-rate chronic offenders were more likely to reside in remote and rural locations and were also most likely to have had sexual recidivism (although there was a low base rate of sexual recidivism overall, so this conclusion is not robust). Unsurprisingly, the rare-offenders group had the lowest number of charges for sexual offenses as well as violent crimes and nonviolent crimes, despite being most likely to be referred solely for sexual charges. The late-bloomers and high-rate chronic offenders were equally likely to have had nonviolent charges accompany sexual charges, but the late bloomers were most likely to have referral charges for violence. Late bloomers and high-rate chronic offenders were the most likely groups to offend against adult victims, high-rate chronic offenders were also most likely to offend against peer-age victims, while rare-offenders and low-rate chronic offenders were the most likely groups to offend against children. The authors postulated that a feature of the low-rate chronic sex offenders may have had more early psychosocial deficits that negatively impacted their sexual development; that alcohol and drug use may play a role in the rapid progression of the late-bloomer trajectory; and that rare-offenders may offend in part due to difficulties finding a consensual partner, leading to coercion, or due to curiosity leading to inappropriate sexual contacts. This study's findings further support the heterogeneity of juvenile sexual offenders.

A study of 498 juvenile sex offenders in the Netherlands sought to determine whether major life events of marriage, parenthood, and employment impacted offending patterns,

and followed offenders who committed a crime between 1988 and 2001 for an average of 14 years [34]. This study showed that JSOs had more difficulty fulfilling adult roles than average young people, with less successful employment. Multivariate analysis showed that of marriage, parenting, and employment, only employment was associated with decreased offending (up to 60 % reduction). Interestingly, parenthood was associated with an increased risk of general offending in child abusers.

In a study of 247 randomly selected male sex offenders released from prison between 1990 and 1994 and 248 male sex offenders released from prison between 1995 and 1999, only 28 men possessed both a juvenile and adult sexual offense [35]. The most robust predictor of continued sexual offending in adulthood was nonsexual juvenile offending. However, sex offending continuity was a robust predictor of sexual recidivism. The authors suggested that public policy should more selectively focus on individuals at higher risk of recidivating rather than all sexual offenders given the significant unintended adverse consequences that sex offender legislation can lead to such as unemployment, public shaming, housing difficulties, social stigmatization, depression, vulnerability, loss of relationships, and violence.

Sexual Abuse History

Perpetrators' history of sexual abuse is worthy of continued research scrutiny, especially in light of recent findings. It is clear that the vast majority of sexually abused children (both male and female) do not sexually abuse others. Therefore, perceiving abused children to be "at risk" for abusing others is yet another unwarranted burden for victimized individuals to bear. However, rather than a black-or-white approach to the issue of sexual victimization and risk, a more nuanced approach looking at how the convergence of a variety of factors may confer increased risk of offending is needed, including how having been sexually victimized may confer increased risk in susceptible individuals and pathways to subsequent offending. Hunter and colleagues noted greater psychosocial deficits in male adolescents who offended against prepubescent children, and as a group that these adolescents were less likely to be aggressive during the offense and more likely to offend against relatives. Noncoercive childhood sexual abuse by a male nonrelative was found to be associated with sexual offending against a male child [36]. More recent research has consistently shown that having been sexually abused in childhood is associated with sexual offending in adult and adolescent criminal populations [37, 38].

Seto and colleagues studied two adolescent male populations in Norway and Sweden and found that those with a history of having been previously sexually abused were more likely to report sexually coercive behavior, even when noncoercive sexual behaviors, such as pornography use, substance abuse, and nonsexual violent behavior, were controlled for [38]. A recent analysis of 6628 ninth grade students in Switzerland (mean age 15.5 years) found that after controlling for other variables such as nonsexual abuse, low parent education, urban versus rural living, mental health problems, substance use, and nonsexual violent behavior, both males and females who had been victims of contact or noncontact sexual abuse were more likely to report engaging in sexually coercive acts [39••]. In this study, 7.1 % of males and 1.3 % of females reported having sexually coerced another individual, among whom 42.4 % of males and 85.0 % of females reported a history of having been sexually abused. Males reporting a history of having been sexually abused, especially by a stranger, were more likely to report engaging in sexually coercive behaviors. Other risk factors identified in sexually coercive male youths included past exposure to physical violence, mental health problems, conduct problems, hyperactivity, and a personal history of engaging in violence and substance abuse. However, having been sexually abused was significantly associated with having engaged in sexual coercion even after controlling for all covariates. For females, those who reported having been the victims of contact or noncontact sexual abuse were more likely to have reported sexually abusing others, even after controlling for covariates. Having been a victim of multiple instances of sexual abuse and being a victim of vaginal, anal, or oral penetration were significant predictors of sexual coercion in the female adolescent participants.

A study examining 119 nonsexual offenders and 108 JSOs aged 12 to 19 in confinement facilities in the southeastern USA using questionnaires assessing trauma, parental bonding, delinquency, callous-unemotional traits, and psychosexual history sought to shed light on several theories behind the link between having been sexually victimized and engaging in sexual abuse, including reenactment of one's own victimization experiences, conditioned response, learned behavior patterns, development of sexually based coping strategies, general self-regulation deficits, and/or distorted sexual scripts. [40] The study's findings support previous findings that demonstrate higher rates of sexual maltreatment history in JSOs. The results suggested that JSOs do not differ significantly from other offenders in their perceived maternal relationships, which is consistent with the failure of Seto and Lalumiere's study to find a difference in family problems. The presence of callous-unemotional traits was found to be predictive of general offending rather than sexual offending.

DeLisi and colleagues studied 2520 incarcerated juvenile males and found that those with childhood sexual abuse had a 467 % increase in the likelihood of later sexual offense (a 768 % increased risk without accounting for confounders such as a range of family risk factors, behavioral risk factors, and race/ethnicity) [41]. However, this study also revealed several novel findings, including an 83 % decreased likelihood of committing homicide and a 68 % decreased likelihood

committing a serious person or property offense in JSOs with a history of childhood sexual abuse. Also, Caucasians were 7.53 times as likely to commit a sexual offense; poverty positively predicted sexual offending; and gang involvement was negatively associated with sexual offending.

Pornography

Pornography may contribute to the initiation and/or strengthening of atypical sexual fantasies and interests and has been included as a variable in recent research. Although it has been estimated that juveniles commit only 3 to 15 % of child pornography offenses, there is some indication that there has been an increase in convictions for the possession of child pornography, including among adolescents, but it is unclear to what extent this increase is related to increased law enforcement involvement versus growth in the population accessing child pornography [42, 43]. The 2014 FBI Uniform Crime Report indicates that juveniles comprised 44 % (3855 of 8791 arrests) of arrests related to pornography; however, it is not known what percentage of that number was related to self-produced and disseminated sexual images (sexting) [1]. Frequent pornography use among a community sample of male 18-year-olds was associated with increased viewing of child pornography, as well as other "problem behaviors," such as alcohol abuse, hypersexuality, and prostitution [44]. In a Swedish community sample of 1928 young males ages 17–20 (median age = 18 years), 4.2 % of young males admitted to viewing child pornography [45•].

In a meta-analysis of mostly adult male child pornography offenders and offline offenders, offline offenders were found to have reported more physical abuse (40.8 versus 24.4 %) and were found to have less deviant sexual arousal than were the online offenders. Sexual abuse was not significantly different between the two groups, nor was loneliness or self esteem. In comparing online offenders (again mostly adults) with males in the general population, online offenders reported significantly more physical and sexual victimization. Online offenders tended to be older than offline offenders, have greater emotional identification with children, have more cognitive distortions, and be Caucasian [46].

A Swiss study examined the criminal files of 54 male juveniles between the ages of 10 and 18 who were convicted of a sexual offense including child pornography possession from 2003 to 2008 and compared them to three other groups: (1) juveniles ($N = 42$) possessing other forms of pornography illegal in Switzerland; (2) juveniles who had committed a contact (hands-on) offense against a child ($N = 64$); and (3) juveniles who had committed a sexual offense against a peer or adult, but not a child ($N = 104$) [43] The results indicated that 39 % of juvenile possessors of child pornography had also downloaded pictures/videos that depicted sexual behaviors including animals, rape, brutality, or excrements onto their computers or mobile phones. Child pornography offenders were found to be older, less frequently of low socioeconomic status, less likely to have been placed outside their family, less likely to have immigrated, and with fewer previous and subsequent offenses than were contact offenders of peers or adults at the time of offense. There were no differences detected between child pornography offenders and child contact offenders. This study found that juvenile possessors of child pornography downloaded pornography more frequently and over a longer period than did other illegal pornography offenders.

Psychopathology in Juvenile Sex Offenders

There is clearly a much higher prevalence of mental illness and substance use among incarcerated youth than in the general adolescent population [47–53]. There are few studies of mental illness among the adult sex offender population, and even fewer among juvenile sex offenders. Adult sex offenders with paraphilic and nonparaphilic behavior have high rates of comorbid psychiatric disorders, especially mood, anxiety, substance abuse, and personality disorders [54–57]. Kavoussi and colleagues studied 58 male sex offenders ages 13 to 18 receiving outpatient evaluation and treatment and found that conduct disorder was the most prevalent diagnosis (48 %); 8.3 % met criteria for alcohol abuse; 10.3 % for both alcohol and cannabis abuse; 8.6 % for adjustment disorder with depressed mood; 6.9 % for ADHD; and 5.2 % for social phobia. The authors suggested that offenders with more severe psychopathology might have been placed in residential programs; 19.2 % of the adolescents did not meet criteria for any diagnosis [58]. Physical abuse by a father or stepfather and exposure to violence against females were found to be associated with higher levels of comorbid anxiety and depression among youthful sex offenders [36].

Findings regarding personality pathology have been contradictory, and given the heterogeneity of the juvenile offender population, this is not surprising. Psychopathy, a personality construct that comprises interpersonal (manipulative, grandiose), affective (callous, shallow), lifestyle (impulsive, stimulation seeking), and antisocial features, has received the most attention, in large part because it has a strong association with general and violent crime [59], and has been noted in several studies to predict general and sexual recidivism in adolescent males [22, 60]. However, the stability of psychopathic traits into adulthood remains controversial, and the presence of psychopathic traits in an adolescent should not be a sole reason to divert that individual from treatment into a correctional facility [61].

Girls Who Offend Sexually

Girls who commit sexual offenses are an understudied group in large part related to the fact that girls commit sex crimes at

much lower rates than do boys (5 to 10 % of juvenile sex offenses) and also have very low rates of recidivism [62, 63]. A meta-analysis of 10 studies with an average follow-up of 6.5 years found that less than 3 % reoffended sexually [64]. Van der Put examined differences in risk factors among three subgroups of female JSOs from Washington State who had committed the following: (1) felony sexual abuse against a younger child ($N=25$); (2) felony sexual abuse against an older individual or a child less than 5 years younger ($N=15$); and (3) misdemeanor sexual abuse ($N=31$). Those who had sexually abused a much younger child had fewer problems in school and within their families and with friends and had less risk for general recidivism. There were no differences in mental health problems [65••]. Girls who had committed a felony offense against a peer or a misdemeanor sexual offense demonstrated a high prevalence of risk factors for general (nonsexual) recidivism, such as truancy, severe behavior problems in school, parental substance use and pathology, running away, out-of-home placements, poor parental control, and delinquent friends. Sexual abuse by a nonrelative was the only characteristic that distinguished girls who had committed sexual offenses from adolescent male sex offenders and female nonsexual violent offenders [66].

Adult female sex offenders often co-offend, often with a male who is an intimate partner [67]. Group sexual offending in which at least one female offender had been adjudicated ($N=35$) was studied in the Netherlands, where in 2009, 2.4 % of JSOs arrested were female [68]. Co-offenders often included romantic partners (20 % of offenders in this study). Motivations for offender groups fit three different themes: harassment, sexual gratification, and revenge. In most groups, male and female offenders were involved, with an average group size of three offenders, the largest of which was seven offenders. Offenders were usually acquaintances or relatives of victims; only two groups victimized a person unknown to them. The majority of juvenile females (54 %) reported a history of abuse or neglect, with 31 % reporting a history of sexual abuse. The majority victims were female with an average age of 14 years (7 years youngest, 23 years oldest). Offender participation roles ranged from active sexual acts, battering or threatening the victim, provoking other members, introducing victims to other members to commit the offense, or making no effort to stop the abuse. Half of the offenders did not actually commit a hands-on sexual offense but were considered to have done so legally. In the majority of group offenses, there was some preparation. In 62 % of groups, female JSOs participated in sexual acts or violence. Group dynamics and social pressure played a dominant role in participation in the offense for 63 % of juvenile females. The authors concluded that juvenile females who commit group sexual offenses often have had victimization experience and interpersonal problems; there is heterogeneity in the aims of group sexual offenses, as well as why offenders offend in a group.

Use of Structured Instruments

The very low base rate of juvenile sexual reoffending compromises the development of an instrument that effectively and specifically identifies only those juveniles at risk for reoffending sexually. Actuarial measures, such as the STATIC-99 and 2002, which is supported by over 60 validity studies, are a critical part of adult sex offender evaluation [69, 70]. However, structured instruments for juvenile offenders have a number of limitations, including the fact that they predict general (nonsexual) offending better than sexual offending, which is not surprising given that the base rate of sexual recidivism is low and most juvenile sexual offenders are more similar to general delinquents than to adult sex offenders and are more likely to commit a nonsexual than a sexual offense.

The Juvenile Sex Offender Assessment Protocol-II (J-SOAP-II), the Estimate of Risk of Adolescent Sexual Offense Recidivism (ERASOR), and the PCL:YV are often used in juvenile sex offender evaluations. The J-SOAP-II is a commonly used instrument in the USA and is designed for use in 12- to 18-year-old males for the assessment of risk factors associated with sexual and violent offending [71]. However, results are mixed both in terms of the instrument as a whole or for individual subscales to predict sexual or nonsexual recidivism [72]. Results for the ERASOR [73], which has the stated purpose of only predicting sexual recidivism, are likewise equivocal [72]. The PCL:YV is a moderate to strong predictor of general recidivism in juveniles ages 12 to 18 years, but does not predict sexual recidivism [72]. In a review of 19 studies of juvenile sex offender instruments, the authors concluded that none of the instruments showed unequivocally positive results in the prediction of sexual recidivism. The ERASOR and PCL:YV appeared to be the best predictors of nonsexual violent and general recidivism [72]. Despite their limitations, specialized instruments such as the J-SOAP-II and ERASOR are somewhat better than other more generalized instruments in sexual offender risk assessment, with a recent study of 81 adolescent sex offenders indicating that the ERASOR was significantly correlated with sexual recidivism over a 3.5-year period [74]. Standardized instruments such as the ERASOR and J-SOAP-II may be useful adjuncts to assessment, but should never be used in isolation.

Treatment

A one-size-fits-all approach to treatment of juvenile sex offending is not recommended given the heterogeneity of this group. An individualized approach to treatment has the best chance for success and should be tailored to the results of a thorough psychiatric evaluation and risk assessment, and any treatment plan or program (outpatient or residential) must have the ability to track progress with respect to those dynamic risk factors targeted. (Dynamic risk factors are those that are

amenable to change, for example, substance use, untreated mental illness, atypical sexual interests, and pornography. Static risk factors such as being male and having been sexually abused are not amenable to change.) Comprehensive understanding of an individual youth's risk factors for reoffending and targeted treatment of those risk factors is critical to effective intervention. Although treating other clinical disorders may also be important (e.g., depression, anxiety, etc.), it is unlikely that treating psychiatric disorders that do not have a nexus to sexual offending will significantly impact reoffending. If deviant sexual arousal is present in an offending youth, then this is the most important risk factor to be addressed treatment targeting sex offending. Unfortunately, sometimes due to scant community resources, youth receive inadequate treatment from therapists who lack expertise in this area. The problem may be magnified by a legal system that refers a youth for "therapy" without providing a therapist with the specifics of the youth's offenses, leaving the therapist to obtain specifics from the youth and family, both of whom may minimize or deny their seriousness. Denial of sexually deviant behavior is common among juvenile sex offenders [75].

A variety of psychological treatments have been reported, but much additional research is needed, as there is a low level of scientific evidence available. The most frequently reported treatment is cognitive behavioral therapy, followed by psychoeducation, family systems therapy, multimodal therapy, and multisystemic therapy (MST). Although the World Federation of Societies of Biological Psychiatry (WFSBP) has recently published guidelines on the treatment of juvenile sex offenders with a paraphilic disorder, included in the article is an excellent review of the various nonpharmacologic treatment modalities for juvenile offenders, including an analysis of the evidence base for interventions [76].

Juvenile offenders who complete a treatment program appear to fare better with respect to reoffending than do dropouts. Worling and colleagues in a 20-year follow-up study of 148 adolescents between 12 and 19 years of age who received specialized community-based treatment found that those who participated in specialized treatment, the Sexual Abuse: Family Education and Treatment (SAFE-T) Program, were significantly less likely than those in a comparison group to receive subsequent charges for sexual (9 versus 21 %), nonsexual violent (22 versus 39 %), and nonviolent crimes (28 versus 52 %) [77].

Outpatient treatment is recommended for first offenses when the adolescent is accepting of treatment and where there is a lack of antisocial behavior, violence, or major psychopathology. Residential treatment may be necessary when pathology is severe, for repeat offenders, or in the presence of major family dysfunction or disinterest. [78] However, the distance of residential families from youths' families may compromise the treatment offered, especially given a recent meta-analysis by Langstrom et al. [79], which concluded that only MST is clearly effective with moderate risk offenders. Family work is a critical component of MST. The effectiveness of MST appears to be reduced when it is administered by nonresearchers who may not maintain the integrity of the treatment (e.g., case managers/therapists with a higher case load than recommended) [80].

Co-occurring psychiatric disorders, including mood and anxiety disorders and ADHD, should be treated with both psychotherapeutic and pharmacologic interventions, to decrease suffering as well as to increase the likelihood of maximal participation in treatment. The WFSBP developed guidelines on the biological treatment of adults with paraphilic disorders, noting that the evidence base for pharmacological intervention is poor [81]. The evidence base for biological treatments for juvenile sex offending is even less compelling. In the WFSBP guidelines, Thibaut and colleagues developed an algorithm of four levels of pharmacological treatment for adolescent sexual offenders based on age, Tanner stage, and the severity of the offenses. Psychological therapies are recommended for all levels. For level 1 offenders without violence, no pharmacologic intervention is recommended. For level 2 offenders (adolescents with contact or noncontact offenses with low to moderate levels of violence, such as indecent exposure or touching the genitals of another), a selective serotonin uptake inhibitor (SSRI) is recommended. For level 3 offenders (adolescents with high risk of violent sexual offending, such as coercive or sadistic sexual fantasies or behavior), anti-androgen treatment at the lowest effective dose may be utilized if Tanner V stage of puberty has been acquired and SSRIs and psychological therapies are ineffective. Level 4 treatment is the same as level 3, but youths are 17 or older, and there is no time limit for anti-androgen treatment [76]. Despite the frequency with which SSRIs are utilized in the juvenile offender population, especially targeting deviant arousal, there are only two open label trials of an SSRI (fluoxetine) targeting paraphilic behavior described in the literature, both with a positive response [82, 83].

Adolescent sex offenders who have paraphilic disorders present different treatment challenges from generalist adolescent offenders and from adults with paraphilic disorders, in large part related to the fact that their biological and psychosocial development remains incomplete. For example, hormonal agents such as medroxyprogesterone acetate (MPA) and luteinizing hormone-releasing hormone (LHRH) are typically not offered to adolescents secondary to their side effect profiles and as yet unknown potential sequelae in developing adolescents [84]. A discussion of antiandrogen treatments is beyond the scope of this chapter, but more detailed discussions can be found elsewhere [76, 84].

Conclusion

Sexual offending by juveniles is a subject that has resulted in increased public awareness, legislative attention, and research

interest. Youth under the age of 18 commit about half of all sex offenses against children. Juvenile sexual offending is a serious problem for victims, society, and the offenders and their families. Thorough individualized evaluation is critical in order to make appropriate disposition and treatment recommendations that take into account the risk of recidivism. Risk factors for sexual reoffending in male JSOs include multiple prior sexual offenses, selection of a stranger, and deviant sexual interests.

Compliance with Ethical Standards

Conflict of Interest Joseph M. Otonichar declares that he has no conflict of interest.

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Human and Animal Rights and Informed Consent This article does not contain any studies with human or animal subjects performed by any of the authors.

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- •• Of major importance

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