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EVIDENCE BASE UPDATE

Evidence-Based Treatments for Youths Who Engage in Illegal Sexual Behaviors

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Effective treatments for youths who have engaged in illegal sexual behaviors are needed to reduce the societal impact of sexual crimes. This article reviews the state of the evidence base for treatments that target this clinical population. We conducted a comprehensive literature review to identify studies that evaluated outcomes of treatments for youths who have engaged in illegal sexual behaviors. Based on the results of our review, we characterized each treatment using established criteria for five evidence-based treatment classifications. We identified 10 treatment studies that met inclusion criteria. We classified one treatment—multisystemic therapy for problem sexual behaviors—as Probably Efficacious (Level 2), and two treatments—cognitive-behavioral therapy and behavior management through adventure—as Experimental (Level 4). Cognitive-behavioral therapy has limited research support with youths who have engaged in illegal sexual behaviors, but it is widely used in the United States and Canada. In contrast, multisystemic therapy for problem sexual behaviors had the highest level of research support but is used much less extensively with this population. We discuss implications of the present findings for treatment providers, policymakers, and researchers who seek to improve clinical services in this area.

Sexual violence has been recognized as a significant public health problem that engenders substantial economic costs for the health care, social services, and criminal justice systems, as well as considerable pain and suffering for victims (Freyd et al., 2005; Krug, Dahlberg, Mercy, Zwi, & Lozano, 2002; Letourneau, Eaton, Bass, Berlin, & Moore, 2014). Notably, illegal sexual behaviors by youths account for more than one third of all sexual offenses against minors, of whom the majority are prepubescent children (Finkelhor, Ormrod, & Chaffin, 2009). Furthermore, youths who offend sexually are at increased risk for continued criminality into adulthood; although their rates of recidivism for sexual crimes are low 5–7% in meta-analyses by Caldwell, 2010, 2016), these youths have a similar risk for nonsexual recidivism as do youths who engage in nonsexual offenses (nearly 50%). Overall, these findings suggest that intervention efforts focused on evidence-based treatment (EBT) would be an efficient strategy to reduce the societal impact of youths who engage in illegal sexual behaviors (Rothman, 2016).

There are challenges to defining a population for treatment by target behaviors (i.e., illegal sexual behaviors), most notably the difficulty in matching an individual's clinical diagnosis or presentation (which includes many symptoms and factors beyond illegal sexual behaviors) to an appropriate treatment. However, current public policies and risk management efforts for youths who engage in illegal sexual behaviors have created a distinct population with unique treatment needs. For example, in the United States, such efforts have been largely modeled after approaches targeting adults who offended sexually

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(Chaffin, 2008b; Letourneau & Borduin, 2008) and have been enacted as a response to concerns about public safety (Letourneau et al., 2014); this strategy has resulted in increasingly hostile and restrictive responses to youths who have been convicted of sexual offenses (as compared to similarly severe nonsexual offenses), including community notification, sex offender registration, and residential treatment (see, e.g., Letourneau et al., 2014). Unfortunately, research has demonstrated that these aggressive, adversarial approaches are largely ineffective (and possibly harmful) for targeted youths and may actually undermine community safety by increasing risk factors (e.g., social isolation) for sexual and nonsexual offending in these youths (Association for the Treatment of Sexual Abusers, 2012; Letourneau & Levenson, 2011; Zimring, 2004). Consistent with increasing recognition (e.g., De Los Reyes, 2016) that the child and adolescent mental health field must leverage knowledge from multiple disciplines (e.g., psychology, psychiatry, juvenile justice, public policy), treatments for youths with illegal sexual behaviors need to be responsive not only to the clinical needs of this population but also to their complex political and legal needs.

Similar to the limitations of current policy responses, there is cause for concern regarding the current standard of mental health treatment for youths with illegal sexual behaviors. The predominant cognitive-behavioral therapy (CBT) models that are used with this clinical population represent downward extensions of treatments developed for adult sexual offenders and tend to focus on individual-level risk factors (e.g., deviant cognitions, problem-solving skills deficits; see Hanson, 2014). Indeed, in a survey of North American treatment programs that targeted youths who engaged in illegal sexual behaviors ($N = 1,379$; McGrath, Cumming, Burchard, Zeoli, & Ellerby, 2010), more than half of the programs reported using punishment-based sexual arousal reconditioning procedures even though only a minority of such youths has atypical sexual interests or patterns of arousal (see Chaffin, 2008b; Worling, 2013). In contrast, there is increasing recognition that the most successful interventions for youths with illegal sexual behaviors include high levels of caregiver involvement (e.g., family intervention) and are individualized to match each youth's dynamic strengths and needs (Association for the Treatment of Sexual Abusers, 2012; Miner et al., 2006; Przybylski, 2014).

Youths who engage in illegal sexual behaviors are heterogeneous in terms of their risk and protective factors (Chaffin, 2008a) and share many risk factors at individual, family, peer, school, and neighborhood levels with youths who commit nonsexual offenses (Ronis & Borduin, 2013; van Wijk et al., 2005). Thus, it seems likely that comprehensive, individualized treatments for youths who have engaged in serious antisocial behaviors in general (including nonsexual offending) hold particular promise in the treatment of youths who have engaged in illegal sexual behaviors. Furthermore, there are scientific and ethical imperatives to evaluate the effectiveness of treatments for youths with illegal sexual behaviors in controlled clinical research trials prior to widespread dissemination (Letourneau & Borduin, 2008; Seto et al., 2008). Encouragingly, McGrath et al. (2010) reported that an increasing number of programs, as compared to previous iterations of their survey, endorsed the use of "evidence-based practices" with youths who had engaged in illegal sexual behaviors; this finding points to a growing appreciation of treatments that have empirical support. Nevertheless, in light of recent estimates that only 5% of serious juvenile offenders receive an EBT (Greenwood & Welsh, 2012; Henggeler & Schoenwald, 2011), it seems likely that the vast majority of youths with illegal sexual behaviors are treated with interventions that lack such support.

The purpose of the present article is to provide a critical overview of empirical evidence regarding the efficacy of psychosocial treatments for youths who have engaged in illegal sexual behaviors. Although recent narrative reviews (Dopp, Borduin, & Brown, 2015; Letourneau & Borduin, 2008) and meta-analyses (Reitzel & Carbonell, 2006; St. Amand, Bard, & Silovsky, 2008) have summarized studies that evaluated such treatments, no review to date has characterized the quantity and quality of empirical support for extant treatment models. To that end, we present a systematic literature review that uses established criteria for EBTs to evaluate the empirical base regarding current treatments. We also provide recommendations to inform research, policy, and practice related to evidence-based interventions for youths who engage in illegal sexual behaviors.

METHOD

We conducted our review in three stages. First, we performed a comprehensive literature search to identify citations for peer-reviewed treatment outcome studies from a variety of sources. Second, we reviewed the abstracts of identified studies and, if a given abstract was promising, the full text to determine whether the study met eligibility criteria (i.e., a study that evaluated the effects of a psychosocial treatment, vs. a control or comparison group, targeting youths who had engaged in illegal sexual behaviors). Finally, we reviewed all eligible studies for the presence or absence of characteristics related to treatment outcomes and methodological qualities. Based on those characteristics, we assigned each treatment to an EBT classification.

Literature Search

We used three procedures to identify potential studies for inclusion in this review. First, we conducted keyword searches within PsycINFO and MEDLINE (via PubMed) using the following combination of keywords and search limits designed to capture (a) illegal sexual behaviors (e.g., "sex offender," "sexual offense," "problem sexual behavior"), (b) youth populations (e.g., age = birth to 18), and (c) treatment (e.g., article

type = clinical trial). A full list of keywords and search limits is available from the first author upon request. Second, the first author hand-searched tables of contents from the following peer-reviewed journals (from the years 2005 to 2015) to identify promising articles: *American Journal of Orthopsychiatry, Annals of Sex Research, Archives of Sexual Behavior, Behaviour Research and Therapy, Behavior Therapy, Child Abuse & Neglect, Child Maltreatment, Cognitive Therapy and Research, International Journal of Offender Therapy and Comparative Criminology, Journal of Abnormal Child Psychology, Journal of Child Psychology and Psychiatry, Journal of Child Sexual Abuse, Journal of Clinical Child and Adolescent Psychology, Journal of Clinical Psychology, Journal of Consulting and Clinical Psychology, Journal of Counseling Psychology, Journal of Emotional and Behavioral Disorders, Journal of Family Psychology, Journal of Offender Rehabilitation, Journal of Sexual Aggression, Journal of the American Academy of Child and Adolescent Psychiatry*, and *Sexual Abuse: A Journal of Research and Treatment*. Finally, the first author examined the reference lists from both potential studies and previously published English language reviews of treatments for sexual offenders (e.g., Dopp et al., 2015; Letourneau & Borduin, 2008; Reitzel & Carbonell, 2006; St. Amand et al., 2008) to identify additional studies.

Eligibility Criteria

Studies eligible for the present review included those with (a) a psychosocial treatment, (b) a sample of youth with a history of illegal sexual behaviors, (c) a research design that included at least one comparison condition, (d) at least one measure that assessed posttreatment rates of sexual offending, and (e) a published report of the study available by January 1, 2016. The first author reviewed all potential studies and made preliminary decisions about inclusion/exclusion, which were presented to the remaining authors; disagreements about inclusion criteria were discussed and resolved via consensus.

Psychosocial Treatment

Psychosocial treatments included those in which intervention providers interacted directly with participants (e.g., individual therapy) and/or facilitated interactions among multiple participants (e.g., group or family therapy). We excluded studies that exclusively evaluated medical interventions (e.g., medication, chemical/physical castration).

Youths Who Engaged in Illegal Sexual Behaviors

Eligible studies included samples of youth participants who (a) were on average younger than 18 years of age at the beginning of treatment and (b) had engaged in illegal sexual behaviors based on juvenile/criminal history, such that a study was included if all youths in the sample had a history of at least one arrest for a sexual offense. To improve consistency of analyses and results, studies that included samples of youths who had problematic sexual behaviors but not formal sexual offense histories were not eligible for inclusion because those samples tended to be much younger, among other differences (e.g., no involvement with the juvenile justice system). Furthermore, we required that youths did not meet criteria for psychotic disorders, moderate to profound intellectual disabilities (i.e., IQ < 55), or autism spectrum disorders.

Comparison Condition

Studies were required to have a prospective design and to include at least one comparison condition (e.g., alternative treatment, treatment-as-usual, no intervention). Randomization to conditions was not required for inclusion but was subsequently coded as a study characteristic. Although this criterion may have resulted in the exclusion of some experimental treatments for youths who engage in illegal sexual behaviors, we chose to consider evidence only from relatively rigorous (i.e., controlled) trials due to the important public safety implications of treatment effectiveness with this population.

Measure of Posttreatment Illegal Sexual Behaviors

Eligible studies included at least one measure of illegal sexual behaviors (e.g., convictions/adjudications/arrests for sexual offenses, self-reported sexually aggressive behaviors) that was collected posttreatment. Measures of other types of offending behaviors (e.g., overall offense rate, nonsexual offense rate) were not sufficient to satisfy this criterion, although they were recorded separately if a study used such measures alongside measures of illegal sexual behaviors.

Publication Date

Studies were required to be presented in published, peer-reviewed reports on or before January 1, 2016. To maintain a minimum level of quality for the evidence base, we excluded unpublished reports (e.g., from government agencies).

Coding and Evaluation

The first author reviewed all eligible studies and recorded a range of characteristics relevant to participants, interventions, study methods, and outcomes. Characteristics of study samples (i.e., target youths) included the (a) sample size, (b) average age at baseline (in years), (c) gender composition (i.e., percentage male), (d) racial/ethnic background (i.e., percentage racial/ethnic minority), and (e) sexual offense histories (i.e., number and severity of pretreatment sexual offenses). Characteristics of interventions, for both the treatment and comparison conditions, included the (a) theoretical model

(e.g., cognitive-behavioral, family systems), (b) format/modality of interventions (e.g., individual, group, family), (c) setting (e.g., residential, community provider's office, family's home), (d) therapist credentials, and (e) dose (i.e., amount of treatment in hours or length of treatment in months). Characteristics of study methods were based on the EBT classification criteria for methodological quality (Southam-Gerow & Prinstein, 2014) and included the (a) method of group assignment (i.e., use of randomization vs. other methods), (b) use of treatment manuals or logical equivalents to define treatment (yes/no), (c) inclusion of a well-defined target population, (d) use of reliable and valid outcome measures, (e) use of appropriate data analyses (based on recommendations from the Centre for Evidence-based Medicine, 2009; e.g., intent-to-treat analysis, less than 20% attrition) with sufficient sample size to detect expected effects (i.e., $n \geq 25$ for each condition; e.g., Chambless & Hollon, 1998), and (f) involvement of treatment developers (yes/no). Characteristics of outcomes included the (a) domain (i.e., illegal sexual behaviors, nonsexual offenses, or other), (b) type of measure (e.g., official record, self-report, caregiver report), (c) average length of follow-up (in years), (d) statistical significance of treatment effect (i.e., $p < .05$), and (e) effect size for a statistically significant effect. In studies in which a given measure had been completed at multiple points in time during a posttreatment follow-up period, we recorded the statistical significance and effect size for the last time of measurement.

Upon completion of coding, the first author used the codes to assign each treatment to one of five EBT classifications: well-established, probably efficacious, possibly efficacious, experimental, or of questionable efficacy. The criteria for these classifications are presented in Table 1 and were adopted from Southam-Gerow and Prinstein (2014). The assignment process proceeded in three steps in which the first author (1) determined the number of methods criteria (as specified in Table 1) met by each study that examined a given treatment; (2) determined the number of outcome measures for which there was a statistically significant treatment effect in each of those studies, with a given treatment condition considered to be superior to the comparison condition if the majority of outcomes for illegal sexual behaviors were statistically significant in favor of the treatment; and (3) assigned an EBT classification to each treatment model by evaluating outcomes across studies using the evidence criteria (see Table 1). The remaining authors agreed with all classification decisions.

We did not use information regarding treatment effect size or certain other codes (e.g., length of follow-up, treatment characteristics, outcomes other than illegal sexual behavior) to assign an EBT classification to each treatment. Instead, those codes were used to provide additional description and context regarding the evidence base of psychosocial treatments for youths with illegal sexual behaviors. For effect size, the first author calculated Cohen's *d* (Cohen, 1988) using the Campbell Collaboration effect size calculator (Wilson, 2001). In our review, Cohen's *d* represents the extent to which the treatment group differed from the comparison group in standard deviation units (i.e., the standardized mean difference), with a positive number representing a beneficial effect for the treatment group relative to the comparison group. For example, $d = 0.25$ would indicate that the intervention group performed one quarter of a standard deviation better than the comparison group on a given measure.

RESULTS

Our literature search yielded 1,445 studies to be reviewed for inclusion/exclusion. Ten of these studies (from eight samples) met eligibility criteria and thus served as the evidence base for treatments of youth who have engaged in illegal sexual behavior. Table 2 provides a list of these studies along with details about the participants, interventions, methods, and outcome measures in each study. Taken together, the studies represented 1,110 youth participants (average age range = 14.0–16.8 years) and varied widely in sample size (range = 16–285). Half of the studies ($k = 5$) were published in the past 10 years. The vast majority of participants were male (range = 93.9%–100.0%). Samples were more diverse in terms of racial/ethnic minority representation (ranging from 27.1% to 56.5% minority youths). All studies required youths to have been arrested for at least one sexual offense, yet few details were reported regarding youths' offense histories (e.g., number and type of previous arrests).

In terms of posttreatment outcomes, Table 2 displays results for up to three domains in each study: sexual offenses, nonsexual offenses, and other outcomes (e.g., behavior problems, internalizing symptoms, family characteristics, peer relations). For each domain, the table presents the type(s) of measures used and the range (across outcome measures in that study for the given domain) of follow-up lengths and attrition rates. All studies reported posttreatment rates of sexual and nonsexual offenses; offense rates were generally measured using official records (e.g., from a statewide or nationwide arrest database), a fact that likely explains why these measures tended to have long follow-up periods (up to 16.23 years) and low attrition rates. A minority of studies ($k = 4$) measured other types of posttreatment outcomes. These other outcomes were typically based on self-, caregiver, or teacher reports; had short follow-up periods (up to 2 years postbaseline); and showed large variability in attrition rates.

The studies identified in the present review examined multisystemic therapy for problem sexual behaviors (MST-PSB; $k = 4$), CBT ($k = 5$), or behavior management through adventure (BMtA; $k = 1$) as the primary treatment of interest. Three of the four studies that evaluated MST-PSB also had a comparison group that received CBT; comparison groups in the remaining studies were more variable but

TABLE 1
Review Criteria for Evidence-Based Treatment Classifications

Methods criteria

M.1. Group design: Study involved a randomized controlled design
M.2. Independent variable defined: Treatment manuals or logical equivalent were used for the treatment
M.3. Population clarified: Conducted with a population and problem for whom inclusion criteria have been clearly delineated
M.4. Outcomes assessed: Reliable and valid outcome assessment measures gauging the problems targeted (at a minimum) were used
M.5. Analysis adequacy: Appropriate data analyses were used and sample size was sufficient to detect expected effects

Evidence criteria

Level 1: Well-Established Treatments
1.1 Efficacy demonstrated for the treatment by showing the treatment to be either:
1.1.a. Statistically significantly superior to pill or psychological placebo or to another active treatment
OR 1.1.b. Equivalent (or not significantly different) to an already well-established treatment in experiments
AND 1.1.c. In at least two independent research settings and by two independent investigatory teams demonstrating efficacy
AND 1.2 All five of the methods criteria

Level 2: Probably Efficacious Treatments
2.1 At least two good experiments showing the treatment is superior (statistically significantly so) to a waitlist control group
OR 2.2 One (or more) experiments meeting the Well-Established Treatment level except for criterion 1.1.c. (i.e., Level 2 treatments will not involve independent investigatory teams)
AND 2.3 All five of the methods criteria

Level 3: Possibly Efficacious Treatments
3.1 At least one good randomized controlled trial showing the treatment to be superior to a wait list or no-treatment control group
AND 3.2 All five of the methods criteria
OR 3.3 Two or more clinical studies showing the treatment to be efficacious, with two or more meeting the last four (of five) methods criteria, but none being randomized controlled trials.

Level 4: Experimental Treatments
4.1 Not yet tested in a randomized controlled trial
OR 4.2 Tested in one or more clinical studies but not sufficient to meet Level 3 criteria.

Level 5: Treatments of Questionable Efficacy
5.1 Tested in good group-design experiments and found to be inferior to other treatment group and/or wait-list control group, that is, only evidence available from experimental studies suggests the treatment produces no beneficial effect.

Note: Adapted from Southam-Gerow and Prinstein (2014).

typically involved a combination of treatments offered through community-based outpatient providers, residential/inpatient treatment facilities, or state-operated juvenile incarceration facilities.

Table 3 lists the EBT classification criteria met by each of the three identified treatment models; MST-PSB was classified as Probably Efficacious (Level 2), and CBT and BMtA were both classified as Experimental (Level 4). There was no evidence to suggest that any of these treatment models produced detrimental effects (i.e., Questionable Efficacy; Level 5). The following sections briefly discuss each treatment model.

Multisystemic Therapy for Problem Sexual Behaviors

MST (Henggeler & Borduin, 1990; Henggeler, Schoenwald, Borduin, Rowland, & Cunningham, 2009) is a family- and community-based treatment model that integrates structural and strategic family therapies, behavioral parent training, and cognitive-behavioral interventions to reduce adolescent antisocial behaviors. The adaptation of the MST model for the treatment of youths with illegal sexual behaviors is known as MST-PSB (Borduin & Munschy, 2014).

Like standard MST, MST-PSB specifies a model of service delivery rather than a manualized treatment with sequential session content. Nevertheless, to achieve strong specification, the development and delivery of interventions in MST-PSB are guided by nine treatment principles. Furthermore, MST-PSB therapists use several standard interventions to target risk factors for sexual offending at each level of the youth's social ecology, including individual (e.g., social skills training, cognitive restructuring of thoughts about offending), family (e.g., engagement and motivational enhancement, safety planning, communication skills training, marital therapy), peer (e.g., encouraging friendships with prosocial peers, discouraging affiliation with delinquent peers), and school (e.g., improving communication between caregivers and school personnel, promoting academic achievement) factors. The overarching goal of MST-PSB is to empower caregivers (and other important adult figures) with the skills and resources needed to address the youth's problem sexual behaviors and other behavior problems. Services are delivered to youths and their caregivers in home, school, and neighborhood settings at times convenient to the family (including evenings and weekends),

TABLE 2
Studies Comprising the Evidence Base of Psychosocial Treatments for Youths With Illegal Sexual Behaviors

			Participant Characteristics					*Treatment Characteristics*				
								Target Treatment				*Comparison*
Study (by Trial)	*Target Treatment Model*	*Developer Involved?*	N	*Age (M)*	*% Male*	*% Racial/ Ethnic Group*	*Sexual Offense History*	*Format*	*Setting*	*Therapists*	*Dose (M)*	*Format/Model*
1. Borduin et al. (1990)	MST-PSB	Y	16	~14	100.0	62.5 W, 37.5 B	*M* = 1.75 offenses	Family/systems therapy	Family- and community-based	Doctoral students, clinical psychology	37 hr	Individual therapy (eclectic)
2. Borduin et al. (2009)	MST-PSB	Y	48	14.0	95.8	72.9 W, 27.1 B; 2.1 H	*M* = 1.62 offenses	Family/systems therapy	Family- and community-based	Doctoral students, clinical psychology	7.1 mo.	Individual and group specialized CBT
3. Letourneau et al. (2009, 2013);	MST-PSB	Y	127	14.6	97.6	44 W, 54 B, 2 O; 31 H	At least one previous offense	Family/systems therapy	Family- and community-based	Community therapists (MA/ BA)	7.1 mo.	Group specialized CBT (n = 5 private therapy)
4. Lab et al. (1993)	CBT	N	155	14.5	98.0	56.8 W, 40.6 B; 2.6 H	At least one previous offense	Group therapy; individual and family therapy as needed	Outpatient	Court personnel (not specified further)	4.6 mo.	Nonspecialized individual or group therapy, or detention
5. Guarino-Ghezzi and Kimball (1998)	CBT	N	75	NR; adolescents	100.0	53.3 W, 16.0 B, 13.3 O; 17.3 H	At least one previous offense; 29.4% had multiple	Individual and group therapy	Residential	Residential program staff (not specified further)	15.7 mo.	Nonspecialized individual, group CBT for juvenile offenders
6. Worling and Curwen (2000); Worling et al. (2010)	CBT	Y	148	15.5	93.9	NR	At least one previous offense	Individual, group, and family therapy	Outpatient	NR	24.4 mo.	Youths who did not initiate treatment or dropped out within 12 mo.
7. Waite et al. (2005)	CBT	N	256	16.8	100.0	43.5 W, 49.8 B, 0.8 O; 5.9 H	*M* = 3.6 offenses	Individual, group, and milieu; family when feasible	Juvenile detention (specialized for sexual offenders)	NR	31.7 mo.	Individual and group nonspecialized CBT; family when feasible
8. Gillis and Gass (2010)	BMtA	Y	285	NR; range = 8–18	100.0	65.3 W, 34.7 B	At least one previous offense	Wilderness/adventure group therapy	Residential	Community therapists (MA)	~12 mo.	Nonspecialized services for sexual offenders; not specified further

Treatment Characteristics			*Study Method Characteristics*[a]					*Outcome Characteristics*							
Comparison (continued)								*Sexual Offense Measures*			*Nonsexual Offense Measures*			*Other Outcome Measures*	
Setting	*Therapists*	*Dose (M)*	*M.1.*	*M.2.*	*M.3.*	*M.4.*	*M.5.*	*Type(s)*	*Years of Follow-Up (Range)*	*% Attrition (Range)*	*Type(s)*	*Years of Follow-Up (Range)*	*% Attrition (Range)*	*Type(s)*	*Years of Follow-Up (Range)*	*% Attrition (Range)*
1 Outpatient	Community therapists (MA)	45 hr	Y	Y	Y	Y	N (*ns* < 25)	OR	3.1–3.1	0.0–0.0	OR	3.1–3.1	0.0–0.0	n/a	n/a	n/a
2 Outpatient through juvenile court	Community therapists (MA)	6.9 mo.	Y	Y	Y	Y	Y	OR	8.9–8.9	0.0–0.0	OR, SR, CR	0.0–8.9	0.0–14.6	SR, CR, TR	0.0–0.0	4.2–43.0
3 Outpatient through juvenile court	Treatment probation officers (MA/BA)	11.9 mo.	Y	Y	Y	Y	Y	SR, CR	2.0–2.0 PB	8.0–8.0	OR. SR	2.0–2.0 PB	2.3–8.0	SR, CR	1.0–2.0 PB	5.0–8.0
4 Varied; outpatient, residential, juvenile detention	NR	NR	N	Y	Y	Y	Y	OR	0.0–3.3	0.0–0.0	OR	0.0–3.3	0.0–0.0	n/a	n/a	n/a
5 Residential	Residential program staff (not specified further)	7.1 mo.	N	NR	Y	Y	N (no ITT analysis)	OR	1.0	22.67	OR	1.0–1.0	0.00–25.33	SR	0.0–0.0	46.67–48.00
6 Varied; group, residential, or no treatment	NR	NR	N	Y	Y	Y	N (no ITT analysis)	OR	6.23–16.23 PB	0.0–0.0	OR	6.23–16.23 PB	0.0–0.0	n/a	n/a	n/a
7 Juvenile detention (not specialized for sexual offenders)	NR	12.8 mo.	N	Y	Y	Y	Y	OR	5.16	0.0	OR	5.16–5.16	0.0–0.0	n/a	n/a	n/a
8 Varied; inpatient, residential, or juvenile detention	Community therapists (MA)	NR	N	Y	Y	Y	N (no ITT analysis)	OR	3.0–3.0	0.0–0.0	OR	1.0–2.0	0.0–0.0	n/a	n/a	n/a

Note: MST-PSB = multisystemic therapy for problem sexual behaviors; Y = yes; W = White; B = Black; H = Hispanic ethnicity; mo. = months; CBT = cognitive-behavioral therapy; N = no; NR = not reported; O = other race; BMtA = behavior management through adventure; OR = official record; SR = self-report; CR = caregiver report; TR =teacher report; PB = postbaseline; ITT = intent-to-treat.

[a]Defined in Table 1.

TABLE 3
Level of Support Designations for Psychosocial Treatments of Youths With Illegal Sexual Behaviors

Classification[a]	*Treatment Model*
Level 1: Well-Established	None
Level 2: Probably Efficacious	Multisystemic therapy for problem sexual behaviors
Level 3: Possibly Efficacious	None
Level 4: Experimental	Cognitive-behavioral therapy
	Behavior management through adventure
Level 5: Questionable Efficacy	None

[a]Based on criteria defined in **Table 1**.

with intensity of treatment matched to clinical need (e.g., up to 3–4 client contact hr per week in the initial weeks of treatment, if indicated) over a relatively brief (average of 5–7 months) course of treatment. Treatment fidelity in MST-PSB is maintained by weekly group supervision meetings involving three to four therapists and a clinical supervisor and is monitored by an MST-PSB expert through weekly consultation calls and the use of a rigorous quality assurance system.

Our review identified four studies (from three clinical trials) that evaluated the effects of MST-PSB with juvenile sexual offenders (see Table 2). These studies represent the only randomized clinical trials of a treatment for youth with illegal sexual behaviors. The first study (Borduin, Henggeler, Blaske, & Stein, 1990) found that MST-PSB produced significant reductions in sexual offenses on two out of two measures (i.e., dichotomous measure of sexual offense recidivism, number of sexual offenses) when compared to individual therapy (an eclectic mix of psychodynamic, interpersonal, and cognitive-behavioral treatments). A second study (Borduin, Schaeffer, & Heiblum, 2009) reported significant, positive treatment effects for MST-PSB versus usual community services (i.e., outpatient group and individual CBT) on two of two measures of sexual offenses (using the same measures as Borduin et al., 1990). Finally, a third trial (Letourneau et al., 2013; Letourneau et al., 2009) compared MST-PSB to treatment-as-usual (i.e., outpatient group CBT) and found a significant benefit of MST-PSB on one of two illegal sexual behavior outcomes; specifically, there was a significant effect on caregiver-reported, but not self-reported, sexual abuse/misuse.

Across studies of MST-PSB, five of the five significant treatment effects had a meaningful effect size. Furthermore, MST-PSB showed significant positive effects on nine of 12 nonsexual offense measures (with seven meaningful effect sizes) and 16 of 29 other measures (with 13 meaningful effect sizes) across all studies. In terms of treatment characteristics, MST-PSB was delivered by doctoral students or community therapists and was time-limited with an average treatment duration of 7.1 months; community therapists and probation officers delivered the comparison treatments. Regarding study methods, two of the trials (Borduin, Schaffer, & Heiblum, 2009; Letourneau et al., 2013; Letourneau et al., 2009) met every method criterion, and the other trial (Borduin et al., 1990) met all but one of the criteria (i.e., the sample size [$N = 16$] was insufficient for robust analyses).

In sum, MST-PSB demonstrated significant reductions in posttreatment sexual offense rates in two randomized clinical trials that met all method criteria. However, due to involvement of the model developers in the clinical and research operations of these trials, MST-PSB qualifies as a Level 2 (Probably Efficacious) rather than a Level 1 (Well-Established) treatment (see Table 3).

Cognitive-Behavioral Therapy

McGrath et al. (2010) reported that more than 80% of treatment programs in the United States and Canada that targeted youths who engaged in illegal sexual behaviors endorsed a CBT orientation. Most CBT interventions for this population focus on a common set of treatment targets that are consistent with a relapse prevention model and that include each youth (a) providing a detailed disclosure of past illegal sexual behaviors, (b) accepting full responsibility for his or her sexual offense(s), (c) reducing or eliminating deviant cognitions/attitudes about sexual behaviors, (d) learning new social skills (e.g., interpersonal skills, anger management), (e) developing awareness and empathy for victims, (f) engaging in behaviors and thoughts that prevent relapse (e.g., self-monitoring of the youth's "offense cycle," avoidance of high-risk situations), (g) increasing family support networks, and (h) reducing and controlling sexual arousal (McGrath et al., 2010). Interventions are offered in community-based and/or residential settings (including juvenile incarceration facilities) and are primarily delivered in individual and/or group therapy sessions, although family therapy is sometimes incorporated as well. In residential programs, interventions are reported as being typically delivered in the context of a therapeutic milieu.

Our review identified five studies (from four clinical trials) that evaluated the effects of specialized CBT

programs for illegal sexual behaviors (see Table 2). In the earliest of these studies, Lab, Shields, and Schondel (1993) compared an outpatient CBT program delivered through juvenile court to a highly variable usual services condition without specialized treatment for sexual offending; group assignment was based on level of risk, with low- and medium-risk youths referred to the CBT program and high-risk youths referred to usual services. In a subsequent study, Guarino-Ghezzi and Kimball (1998) examined outcomes for 27 residential treatment programs that delivered individual and group CBT versus 13 residential programs that provided psychoeducation-focused CBT and lacked specialized interventions for illegal sexual behaviors; assignment to conditions was based primarily on administrative considerations (e.g., available space in programs). More recently, a pair of studies evaluated the effects of the Sexual Abuse: Family Education and Treatment program (concurrent outpatient group, individual, and family CBT) at an average of 6.2 years (Worling & Curwen, 2000) and 16.2 years postbaseline (Worling, Litteljohn, & Bookalam, 2010). Specifically, youths who completed at least 12 months of the Sexual Abuse: Family Education and Treatment program were compared to a pooled group of youths who (a) dropped out before 12 months, (b) declined to participate, (c) received treatment elsewhere, or (d) received only a pretreatment assessment. Finally, Waite et al. (2005) compared outcomes for youths who received CBT (individual and group; family when feasible) in a specialized juvenile detention facility that included a therapeutic milieu versus nonspecialized CBT (similarly, individual and group plus family when feasible) delivered to youths housed with the general juvenile detention population (i.e., no therapeutic milieu). Youths were assigned to treatment conditions based on level of risk, with higher risk youths assigned to the specialized treatment program; there were differences between the groups in terms of youth characteristics, length of treatment, and length of follow-up.

Across studies, results showed significant effects of CBT on two of seven measures of sexual offense rates. All four studies included a dichotomous measure of sexual offense recidivism, but only one study (Worling & Curwen, 2000; Worling et al., 2010) found significant treatment effects on those measures; that same study was also the only study of CBT that measured number of posttreatment sexual offenses, although there were no treatment effects for those measures. In addition, eight of 22 measures of nonsexual offense rates showed a significant treatment effect. Across sexual and nonsexual offenses, all significant effects had a meaningful effect size. Furthermore, Guarino-Ghezzi and Kimball (1998) reported significant effects on nine of 14 other measures (with seven of nine meaningful effect sizes), but those results are difficult to interpret due to attrition rates that approached 50%. In terms of treatment characteristics, CBT conditions varied widely in format, setting, and duration (e.g., average lengths from 4.6 months to 31.7 months). Few details were provided about the therapists who delivered CBT, but most appeared to be community professionals rather than researchers. Comparison conditions in these studies were also highly variable and were often described in less detail than were the target CBT conditions. Regarding methodological quality, all studies of CBT included a well-specified population and psychometrically sound measures; each study also used a treatment manual, with the possible exception of Guarino-Ghezzi and Kimball (1998), as the treatment condition in that study was not described in sufficient detail to determine if it was standardized. It is noteworthy that none of the CBT trials used random assignment to treatment conditions and that three of five studies (Guarino-Ghezzi & Kimball, 1998; Worling & Curwen, 2000; Worling et al., 2010) did not use intent-to-treat analysis.

Overall, the studies of CBT that have been published to date reveal mixed support for the treatment model and are limited by serious methodological weaknesses. Thus, CBT is classified as a Level 4 (Experimental) treatment (see Table 3). The model is not eligible for classification at a higher level because (a) evaluation in one or more randomized clinical trials is required for Levels 1 and 2, and (b) the trial (Worling & Curwen, 2000; Worling et al., 2010) that found support for the effectiveness of CBT on sexual offenses—which also included the only CBT condition in this review for which family therapy was a standard service—did not use intent-to-treat analyses and thus did not meet all of the method criteria required for Level 3. Furthermore, it is important to note that two of the MST-PSB trials (Borduin et al., 2009; Letourneau et al., 2013; Letourneau et al., 2009) demonstrated positive effects of MST-PSB over individual/group CBT conditions. Taken together, the available literature provides limited support for the effectiveness of CBT with youth who have engaged in illegal sexual behaviors.

Behavior Management Through Adventure

The final study in the present review (Gillis & Gass, 2010) examined a model that incorporates elements of CBT (e.g., cognitive restructuring, social skills training) and client-centered (e.g., experiential learning, group process) traditions. That model, BMtA (Project Adventure, n.d.; Simpson & Gillis, 1998), is a form of residential treatment in which youths participate in (a) wilderness/adventure programming (e.g., ropes courses, team-building exercises), (b) group processing therapy, and (c) a therapeutic milieu. Wilderness adventure activities are designed to create novel, challenging experiences that require youths to develop healthy and effective relationships with others. Staff members use group therapy and the therapeutic milieu to promote insight into the adventure experiences while reinforcing prosocial behaviors.

Gillis and Gass (2010) examined the effects of BMtA versus a variety of usual (i.e., nonspecialized) services

placements for youths who engaged in illegal sexual behaviors. The authors constructed the comparison group through a process in which youths who received BMtA during the study period were rank-ordered by length of stay and then matched to two comparison youths, one from a youth development center (i.e., juvenile prison) and one from a residential or inpatient program. Twenty-six percent of youths who received BMtA were not matched, suggesting that youths with shorter lengths of stay (e.g., dropouts) were not included in the study analyses. Results revealed that BMtA outperformed the comparison groups on none of the two sexual offense measures (i.e., violent sexual recidivism as compared to either comparison group) and five of the 10 nonsexual offense measures (all with meaningful effect sizes). The findings from this study place BMtA in the Level 4 (Experimental Treatment) category, given that (a) the treatment model did not demonstrate significant effects on violent sexual offenses compared to nonspecialized services and (b) the study had serious methodological limitations (i.e., lack of random assignment, lack of intent-to-treat analyses).

DISCUSSION

Illegal sexual behavior does not constitute a clinical diagnosis, yet the United States and other countries have, through their policy responses, designated youths who engage in such behaviors as a distinct population in need of specialized treatment. As a result, the past three decades have witnessed rapid growth in the number of treatment programs targeting youths who engage in illegal sexual behaviors (Chaffin, 2008b; McGrath et al., 2010). Unfortunately, only a handful of the treatments used in these programs have been formally evaluated. CBT, which we classified as Experimental (Level 4) based on the available evidence, is currently the most frequently used treatment in the United States and Canada by a wide margin (i.e., more than 80% of treatment programs; McGrath et al., 2010). In contrast, MST-PSB met criteria for a Probably Efficacious (Level 2) treatment, with methodologically rigorous support from two randomized trials (one efficacy, one effectiveness), which makes it the only EBT for this population; however, MST-PSB is much less widely used than CBT at present (i.e., approximately 5% of treatment programs identified as "multisystemic"; McGrath et al., 2010).

The relative effectiveness of MST-PSB has important implications regarding the design of treatment programs for youths who have engaged in illegal sexual behaviors. Indeed, the positive results of MST-PSB may be due in part to its explicit focus on addressing key social-ecological risk factors that are linked with illegal sexual behaviors (e.g., ineffective parenting practices, negative family socialization processes, social skills deficits) and that place youth on a developmental pathway (or pathways) for sexual offending. Furthermore, MST-PSB is an individualized treatment model in which therapists collaborate with families and other relevant stakeholders (e.g., probation officers, family court judges) to identify problems (e.g., relevant risk factors), set treatment goals, and design and implement interventions using strategies that can be tailored to a wide variety of clinical presentations. Moreover, MST-PSB interventions are delivered in the youth's natural environment (e.g., home, school, recreation center) and, as such, represent a model of service delivery that promotes family engagement (which is critical with a population that is often mandated to treatment), the development of comprehensive relapse prevention plans, and the acquisition of more accurate assessment data regarding problem behaviors and intervention effects. In contrast, the effectiveness of CBT and related models (e.g., BMtA) is limited by their (a) relatively narrow focus, with interventions that are not designed to simultaneously address the multiple social-ecological systems that influence illegal sexual behaviors in youths; (b) lack of individualization and flexibility in service delivery; and (c) delivery in settings (e.g., community-based clinics, residential treatment centers, juvenile justice institutions) that have little bearing on the contexts of youths' and their family members' lives.

Our finding of strong research support for MST-PSB is consistent with recognition of that treatment model by several national registries of EBTs in the United States (e.g., Blueprints for Healthy Youth Development, 2016; Substance Abuse and Mental Health Services Administration, 2016) and abroad (Early Intervention Foundation, 2016). In addition, there is growing interest in MST-PSB among clinical service providers, as demonstrated by the fact that dissemination of the MST-PSB model over the past 10 years has resulted in 45 teams located in nine states, the District of Columbia, the United Kingdom, and the Netherlands (R. Munschy, personal communication, March 31, 2016). However, despite these facts and the aforementioned strengths of the model, MST-PSB did not meet criteria for a Well-Established (Level 1) treatment due to a need for independent investigators (i.e., not the developers) to evaluate the effectiveness of the model. Fortunately, the first such effort is currently being undertaken: In the United Kingdom, a randomized clinical trial (Fonagy et al., 2015) that does not involve the developers of MST-PSB is under way that will compare the clinical and cost-effectiveness of MST-PSB versus usual community services.

Although not a focus of the present review, it is worth noting the importance of evidence-based assessment principles (see Hunsley & Mash, 2007) to the development of treatment plans for youths who engage in illegal sexual behaviors. Clinicians can make use of numerous risk prediction measures (see Hanson & Morton-Bourgon, 2009, for a review) and offender typologies (e.g., Leversee, 2014) to characterize youth who have committed illegal sexual behaviors. In addition,

assessment strategies must account for the heterogeneous clinical origins of these behaviors (e.g., as planned behaviors in the context of a conduct disorder with callous/unemotional traits, as reenactment in a posttraumatic stress disorder, as inappropriate sexual exploration in a youth with a mild developmental delay), as well as potential moderating symptoms (e.g., depression/anxiety, substance abuse). Unfortunately, the studies included in the present review provided few details regarding assessment procedures, and none reported clinical diagnoses or presentations of participating youths. Thus, the present literature does not allow for specific recommendations about how to assign or tailor treatments based on information gathered from an evidence-based assessment approach.

Implications for Research

The fact that only 10 studies met the criteria for inclusion in the present review highlights the dearth of rigorous evaluations of treatments for youths who have engaged in illegal sexual behaviors. In addition, the majority of controlled studies in this area had considerable methodological limitations (e.g., lack of random assignment, lack of intent-to-treat analyses). It is concerning that little information is available from which practitioners can draw conclusions regarding the effectiveness of various treatment methods for this clinical population, especially given that practitioners must instead rely on existing (often ineffective) practices or develop their own interventions in the absence of such information (Seto et al., 2008; Worling, 2013). Indeed, we found no controlled evaluations of potentially harmful techniques (e.g., sexual arousal reconditioning) that continue to be used by treatment providers in the treatment of youths with illegal sexual behaviors. Thus, before more definite conclusions can be drawn regarding the effectiveness of treatments for this population, more high-quality research is needed to address several important areas.

There are several ways in which researchers can improve the methodological quality of future treatment studies involving youths with illegal sexual behaviors. Important aspects of study design—such as the inclusion of comparison conditions, use of intent-to-treat analyses, and minimization of attrition—should receive greater attention in future trials, with appropriate efforts to address ethical challenges in working with this population (e.g., risks to public safety created by the use of a no-treatment or placebo comparison condition). In addition, future studies should examine promising variants of CBT that include more comprehensive services; for example, few CBT conditions in the present review included family therapy services, and CBT plus family therapy has never been directly compared to a broad-based treatment such as MST-PSB, despite the fact that the majority of CBT programs for youths with illegal sexual behaviors report providing family services (see McGrath et al., 2010). Moreover, all 10 studies in the present review were conducted in the United States or Canada, and thus the applicability of the present results to the treatments and mental health systems used in other countries remains unclear (i.e., especially in countries such as England with more effective usual services for youth delinquency; see Butler, Baruch, Hickley, & Fonagy, 2011). In future studies, it would be useful for researchers to (a) use methods that allow for the strongest possible inferences about intervention effects, (b) compare treatments of interest with well-specified (i.e., manualized) treatments that are used in typical community settings, and (c) evaluate treatments that have been developed or adapted for use outside of North America (e.g., Fonagy et al., 2015).

The rarity of high-quality research on treatments for youths with illegal sexual behaviors can be attributed in part to a political climate that has made it difficult to obtain public funding for intervention studies with this population (Hanson, 2014; Letourneau & Borduin, 2008). Such funding is essential to obtaining a sample that is sufficiently powered, given that effect sizes on measures of illegal sexual behaviors are likely to be small (i.e., because recidivism rates for sexual offenses are low) and thus require large samples (e.g., multisite trials) to detect between-groups differences. An alternative is to use youth and caregiver reports of problematic sexual behaviors, as in Letourneau et al. (2013) and Letourneau et al. (2009), given that many acts of illegal sexual behavior are not reported to law enforcement officials or otherwise go undetected (Truman & Langton, 2015). However, the validity of these measures for predicting illegal sexual behaviors is unclear because (a) there is considerable incentive to refrain from disclosure of illegal behaviors and (b) the legal considerations around the confidentiality of such disclosures are complex (Wolf et al., 2015).

Within the small extant literature on treatment outcomes with youths who have engaged in illegal sexual behaviors, only a few studies (all focused on MST-PSB) have examined for whom (i.e., moderation) or through what mechanisms (i.e., mediation) these treatments work. Regarding moderation, Letourneau et al. (2009) found that the effects of MST-PSB did not vary as a function of victim age (i.e., child vs. peer/adult victim) or level of perpetrator aggression (i.e., whether the crime required formal adjudication), suggesting that characteristics of the youths' sexual offenses did not moderate treatment effects. Additional research is needed to examine moderating effects for characteristics of youths with illegal sexual behaviors (e.g., gender, race/ethnicity, age, clinical diagnosis/presentation), as well as characteristics of CBT and other treatment models (e.g., individual vs. group format, inclusion of family therapy services). Regarding mediation, Henggeler et al. (2009) demonstrated that MST-PSB effects on youth antisocial behaviors and deviant sexual interest/risk behaviors in the Letourneau et al. (2009) clinical trial were mediated by (a)

increased caregiver follow-through on discipline practices, as well as (b) decreased youth association with delinquent peers. These findings are consistent with the MST-PSB theory of change (Borduin, Munschy, Quetsch, & Johnides, 2016) and highlight the multiple pathways by which the comprehensive, individualized, and ecologically valid services in MST-PSB can affect change in targeted behaviors. Future research should also examine the CBT theory of change, which proposes that modification of individual-level behavioral contingencies and/or deviant cognitions leads to decreases in illegal sexual behaviors.

Finally, it should be noted that previous controlled trials of treatments for youths with illegal sexual behaviors also had key methodological strengths that should be considered in the design of future studies. More specifically, the majority of these trials were conducted under conditions similar to those under which youths typically receive interventions for illegal sexual behaviors through the juvenile justice system, including recruitment of participants through referrals from juvenile justice professionals, employment of community professionals to deliver services, and inclusion of a comparison condition in which youths received usual community services. These strengths increased the external validity (i.e., generalizability) of study findings and should be considered in the design of future clinical trials with this population of youths. Moreover, the methodological strengths of these studies were likely enhanced by the development of long-term partnerships between researchers and government agencies to facilitate research design, treatment delivery, and data collection. For example, Letourneau et al. (2009) acknowledged the importance of close collaboration with individuals in the local state attorney's office and juvenile court (e.g., to obtain complete records of arrests in the juvenile and adult justice systems). Such partnerships will be critical to future research efforts in this area.

Implications for Policy

In the United States, the federal government and the majority of states invest considerable economic resources in registration programs, residence restrictions, and civil commitment programs for sexual offenders (Letourneau & Levenson, 2011; Miller, 2010). These funding practices are concerning given that the aforementioned policies are not evidence based and likely result in a considerable waste of taxpayer dollars; for example, a recent cost–benefit analysis of juvenile registration and notification across the United States estimated that these policies produced annual net losses ranging from $40 million to $1 billion (Belzer, 2015). In contrast, as noted previously, government agencies have allocated limited funding to support treatment outcome research involving youths who have engaged in illegal sexual behaviors (e.g., to our knowledge, only one randomized clinical trial has been funded by the U.S. federal government). We contend that the continued investment in expensive but ineffective policies, rather than in treatment development and dissemination, is indicative of a societal persistence in viewing problematic sexual behaviors solely as a legal problem and not as a treatable or preventable public health problem (Letourneau et al., 2014). The results of the present review suggest that funding for development and implementation of EBTs would likely be a more productive investment of taxpayer dollars.

Although there are limitations in the empirical literature evaluating treatments for youths who engage in illegal sexual behaviors, it would be useful for government agencies to consider the demonstrated clinical benefits of EBTs when setting policies that target this population. For example, Letourneau, Caldwell, and Shields (2016) recently recommended that the U.S. Office of Justice Programs take three steps to improve federal policy regarding youths with illegal sexual behaviors: (a) remove all requirements for the registration of youths adjudicated for sexual offenses, (b) discontinue use of language that encourages the waiver of youths charged with sexual offenses to adult criminal court, and (c) promote the provision of EBTs to youths adjudicated for sexual offenses and their caregivers (e.g., encourage state Medicaid programs to approve reimbursement for such treatments). Implementation of these measures would represent an important increase in the use of research evidence to inform policy responses to youths with illegal sexual behaviors, as well as emphasize the similarity in clinical needs between youths who commit sexual and nonsexual crimes rather than continuing to treat the former as a distinct population.

In addition to clinical benefits, studies have demonstrated that EBTs for youths with illegal sexual behaviors are capable of producing economic benefits. The first such study, conducted by Aos, Miller, and Drake (2006) at the Washington State Institute for Public Policy, estimated the financial benefit of such treatments (pooled across trials of CBT and MST-PSB) at $1.24 for every dollar spent. More recently, Borduin and Dopp (2015) used arrest data from an earlier clinical trial (i.e., Borduin et al., 2009) to investigate the economics of MST-PSB versus CBT; their results demonstrated that MST-PSB had an estimated return of $48.81 per dollar spent. These latter findings suggest that MST-PSB can produce substantial economic benefits when delivered to youths with illegal sexual behaviors. Thus, it seems likely that states that invest in EBTs would save considerable money in the long run; such savings could then be reinvested in research that informs additional development and evaluation of such treatments. In addition, continued examination of the costs and benefits of treatments for youths with illegal sexual behaviors (e.g., as in Fonagy et al., 2015) is necessary to more fully inform administrative and policy decisions about allocating financial resources to interventions for this clinical population.

Finally, although these recommendations are designed to improve policy responses in the United States and Canada

to youths with illegal sexual behaviors, we believe that the recommended policies represent a template for best practices that can be adapted to a variety of countries and cultural contexts. Indeed, we expect that any jurisdiction that prioritizes use of comprehensive treatments that are tailored to key risk factors for illegal sexual behaviors (vs. hostile and restrictive legal responses) will be able to achieve comparable improvements in public health, public safety, and economics. However, as noted earlier, additional research is necessary to identify such EBTs for other countries.

Implications for Practice

The findings of the present review suggest that comprehensive, ecologically valid treatments, such as MST-PSB, have the most promise in decreasing illegal sexual behaviors by youths. Therefore, we recommend that providers who work with youths who engage in illegal sexual behaviors consider the adoption of such treatment models as part of their routine services. However, several shifts in current practice will likely be necessary to facilitate such adoption. First, because implementation of effective treatments often requires considerable resources (e.g., an intensive quality assurance and improvement system), funding for such treatments must be competitive to ensure their adoption within provider communities. Second, strong partnerships between provider organizations and social service agencies (e.g., juvenile justice) will be essential in order to establish effective procedures for identification, referral, and monitoring of youths in need of mental health treatment for illegal sexual behaviors. Third, given that EBTs for youths with illegal sexual behaviors are comprehensive and complex, it will be important to invest in provider training (including ongoing expert consultation) that promotes adherence to the selected treatment model. Such training would ideally begin in graduate degree programs (e.g., social work, counseling, clinical psychology) with exposure to the principles and research base underlying effective treatments for such youths. Fourth, because many jurisdictions employ sexual offender advisory boards that mandate treatment standards for individuals (including juveniles) convicted of sexual offenses, we encourage practitioners and treatment developers in those jurisdictions to advocate for standards that are based on the levels of empirical support for different treatment models.

Finally, and perhaps most important, there is considerable room for the development of additional EBTs for youths who have engaged in illegal sexual behaviors. Indeed, the existence of one well-validated intervention for a given clinical population is far from sufficient because a single intervention model, no matter how well designed, cannot match the needs of all individuals in that population. Given that MST-PSB was adapted from an efficacious treatment for juvenile nonsexual offending (standard MST), the effectiveness of MST-PSB bodes well for adapting other EBTs of delinquency, given similar clinical emphases (i.e., focus on key risk factors associated with delinquency, ecologically valid service delivery). For example, the efficacy of MST-PSB and CBT with female youths who engage in illegal sexual behaviors remains unclear, as female participants have made up 0% to 6% of all samples in controlled studies to date; it may be promising to adapt Treatment Foster Care Oregon (Chamberlain, 2003; formerly Multidimensional Treatment Foster Care), a well-established family-based treatment for youth antisocial behaviors that has been evaluated extensively with female juvenile offenders (McCart & Sheidow, 2016), to the treatment of illegal sexual behaviors. In addition, there remains a need for prevention and early intervention strategies that target youth before their problem sexual behaviors pose a high risk of harm to themselves or others. We recommend that clinical scientists consider the comprehensive array of risk factors linked with illegal sexual behaviors, as well as protective factors (i.e. individual, familial, and extrafamilial strengths), in the design of treatments for youths with illegal sexual behaviors.

CONFLICT OF INTEREST

Charles M. Borduin is a board member of MST Associates, the organization that provides training in multisystemic therapy for problem sexual behaviors.

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