HHS Public Access

Author manuscript

J Clin Child Adolesc Psychol. Author manuscript; available in PMC 2017 September 01.

Published in final edited form as:

J Clin Child Adolesc Psychol. 2016 ; 45(5): 529–563. doi:10.1080/15374416.2016.1146990.

Evidence-Based Psychosocial Treatments for Adolescents with Disruptive Behavior

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Abstract

Objective—This article updates the earlier reviews of evidence-based psychosocial treatments for disruptive behavior in adolescents (Brestan & Eyberg, 1998; Eyberg, Nelson, & Boggs, 2008), focusing primarily on the treatment literature published from 2007 to 2014.

Method—Studies were identified through an extensive literature search and evaluated using *Journal of Clinical Child and Adolescent Psychology* (*JCCAP*) level of support criteria, which classify studies as *well established*, *probably efficacious*, *possibly efficacious*, *experimental*, or of *questionable efficacy* based on existing evidence. The *JCCAP* criteria have undergone modest changes in recent years. Thus, in addition to evaluating new studies from 2007–2014 for this update, all adolescent-focused articles that had been included in the 1998 and 2008 reviews were re-examined. In total, 86 empirical papers published over a 48-year period and covering 50 unique treatment protocols were identified and coded.

Results—Two multicomponent treatments that integrate strategies from family, behavioral, and cognitive-behavioral therapy met criteria as *well established*. Summaries are provided for those treatments, as well as for two additional multicomponent treatments and two cognitive-behavioral treatments that met criteria as *probably efficacious*. Treatments designated as *possibly efficacious, experimental,* or of *questionable efficacy* are listed. Additionally, moderator/mediator research is summarized.

Conclusions—Results indicate that since the prior reviews, there has been a noteworthy expansion of research on treatments for adolescent disruptive behavior, particularly treatments that are multicomponent in nature. Despite these advances, more research is needed to address key gaps in the field. Implications of the findings for future science and clinical practice are discussed.

Keywords

Disruptive behavior; delinquency; treatment; evidence-based practice; adolescents

This article reviews the empirical literature from 2007 to 2014 to update previous reports on psychosocial treatments for youth with disruptive behavior, completed originally by Brestan and Eyberg (1998) and updated subsequently by Eyberg, Nelson, and Boggs (2008) for the

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Journal of Clinical Child and Adolescent Psychology (*JCCAP*). Of note, the previous reviews assessed all disruptive behavior treatments tested with youth less than 19 years of age. However, for this evidence base update, *JCCAP* decided to publish separate reviews of treatments designed for disruptive youth in early/middle childhood (ages 5–11 years) and adolescence (ages 12–19 years). Several factors influenced this decision. First, studies indicate that the types of behavior problems exhibited by youth vary significantly with age. For example, mild oppositional behaviors are more common in early childhood whereas aggression and law-breaking behaviors become more prevalent in adolescence (Lahey et al., 2000). Second, and as described in more detail later, the proximal causes and correlates of disruptive behavior vary across earlier and later stages of child development (Fleming, Catalano, Haggerty, & Abbott, 2010; Patterson, DeBaryshe, & Ramsey, 1989). As a result, effective treatments for children and adolescents have focused on a slightly different array of intervention targets. For example, the evidence-based treatments for disruptive children typically intervene on maladaptive parenting and/or children's basic cognitive skills. For the adolescent-focused treatments, parenting/family relations remain a central target, but other domains become relevant as well, including adolescents' more advanced cognitive skills, their peer relations, and their school involvement. In light of these differences, *JCCAP* commissioned separate evidence base updates for children and adolescents to allow for more detailed summaries of treatments that would be appropriate for youth at younger and older ages. Another research team is reviewing the treatments for childhood behavior problems. The current paper summarizes the evidence base on treatments for disruptive behavior among adolescents.

The term *disruptive behavior*, as used here, subsumes a wide range of significant adolescent problems (e.g., aggression, property destruction, running away from home, truancy, stealing) resulting in referrals to mental health specialists/clinics or juvenile justice authorities. Youth who engage in disruptive behavior represent a large population at risk for significant deleterious long-term outcomes, including family disruption, poor educational attainment, unemployment, substance abuse, and suicidal behavior (Colman et al., 2009; Fergusson, Horwood, & Ridder, 2005; Odgers et al., 2008). Professionals use different terms to describe disruptive behaviors. In the mental health field, such behaviors are included within the diagnostic categories of oppositional defiant disorder (ODD) or conduct disorder (CD), as specified in the Diagnostic and Statistical Manual of Mental Disorders (American Psychiatric Association, 2013). When adolescents' disruptive behavior brings them in contact with the juvenile justice system, however, they are described as juvenile delinquents and tend to be a subpopulation with significantly higher severity of problems and needs than typical disruptive youth. Given these notable differences in severity and to be more useful to clinicians, we specify in this review the population for which a given treatment has evidence; these populations include juvenile justice-involved youth, youth with disruptive behavior who are not justice-involved, and youth whose behavior is limited primarily to school or classroom disruption. By doing so, we aim to ensure readers understand the limits of the empirical research for a treatment (i.e., ensure that misunderstandings of the research findings are not generalized in a manner that leads to "off-label" use of the treatment for a notably different population). This differentiation is important so that less intensive treatments that have only been shown to work on less severe behaviors do not get directed to

severe cases such as justice-involved youth (unless the empirical literature supports this) and, likewise, that the most intensive treatments developed specifically for severe behavior problems are not consuming unnecessary resources by being used for low severity behaviors.

For the purpose of this review, *psychosocial treatments* are defined as interventions that could be delivered in community-based settings; thus, interventions requiring a special building/facility outside of the youth's typical community (e.g., inpatient facility, wilderness camp) or a system-wide change in the way an existing facility operates (e.g., a program requiring the entire justice system to change operations such as justice-wide assessment and referral programs) are excluded. However, stand-alone treatments that were studied within one of these milieus but could logically be delivered in a community-based setting (e.g., cognitive-behavioral groups delivered while youth were detained) were considered, as were programs that could feasibly be implemented in any given community without requiring buildings or system-wide change (e.g., requiring all foster homes to change practices versus converting a select subset of foster homes to be specialized treatment foster care homes; requiring all school teachers and/or administrators to change the way they operate versus a treatment that can be delivered by select school staff as part of a psychosocial treatment team). These parameters afforded a wider breadth of interventions that could be delivered in a community setting, while maintaining a focus exclusively on psychosocial treatments.

Causes and Correlates of Disruptive Behavior

Research builds a strong case for a multidetermined conceptualization of disruptive behavior among youth. Indeed, as noted in several comprehensive reviews (Howell, 2008; Liberman, 2008; Loeber, Burke, & Pardini, 2009), risk factors for behavior problems are present in multiple domains (i.e., individual, family, peer, and school), and those domains exert different levels of influence over time (Patterson, et al., 1989). Individual-level risk factors include biological vulnerabilities, personality characteristics, and basic cognitive processes. With regard to biology, specific genetic influences (Beaver & Connolly, 2013) and neural impairments (Crowe & Blair, 2008) are implicated in the development of disruptive behavior in youth. Evidence also points to heritable temperament constructs in infancy/early childhood (e.g., low behavior control, high negative emotionality; DeLisi & Vaughn, 2014) and callous-unemotional personality traits (Frick, Ray, Thornton, & Kahn, 2014) that give rise to serious youth behavior problems. Importantly, evidence indicates that these biological and temperament/personality risks exert their influence on disruptive behavior both directly and via interaction with environmental factors at the family, peer, and school levels (DeLisi & Vaughn, 2014; Frick, et al., 2014). Cognitive factors, specifically social information processing deficits, represent another individual-level determinant of disruptive behavior (Fontaine, 2006; Gifford-Smith & Rabiner, 2004; Mize & Pettit, 2007). Indeed, evidence suggests that disruptive youth search for fewer social cues and generate fewer competent responses in social situations. Moreover, they display more confidence in their ability to use aggression as a problem-solving strategy, and they tend to attribute hostile intentions to ambiguous situations. Such deficits emerge in early/middle childhood and become more prevalent in adolescence (Fontaine, Yang, Dodge, Pettit, & Bates, 2009; Lansford et al., 2006).

Research also supports a strong link between maladaptive parenting and disruptive behavior among youth (Hoge, Guerra, & Boxer, 2008). Mild oppositional behavior in early childhood gives way to frequent coercive interchanges between youth and their parents (Patterson, 2002). Over time, children learn that oppositional and aggressive behaviors are effective ways to avoid undesired activities (e.g., going to bed, doing chores), and parents become increasingly disengaged from attempting to control their child's behavior. By adolescence, families of youth with disruptive behavior are characterized by an overall lack of warmth, high rates of conflict, and poor parental monitoring of youth whereabouts and activities (Dishion, Bullock, & Granic, 2002). These problems set the stage for adolescent difficulties in peer and school contexts.

Association with deviant peers (i.e., delinquent and/or substance using friends) represents a powerful and proximal risk factor for disruptive behavior among adolescents (Dodge, Dishion, & Lansford, 2007). Indeed, numerous cross-sectional and longitudinal studies have established positive relations between behavior problems and deviant peer affiliation in youth (Andrews, Tildesley, Hops, & Li, 2002; Fleming, et al., 2010; Liberman, 2008; Patterson, Dishion, & Yoerger, 2000). Finally, research indicates that youth with school difficulties, including low academic achievement and frequent truancy, are at very high risk for disruptive behavior (Janosz, LeBlanc, Boulerice, & Tremblay, 1997; Loeber et al., 2005).

Importantly, a few longitudinal studies have documented the complex interrelations among several of the abovementioned disruptive behavior risk factors (e.g., Ary, Duncan, Duncan, & Hops, 1999; Henry, Tolan, & Gorman-Smith, 2001; Simons, Simons, Chen, Brody, & Lin, 2007). In general, findings from those studies indicate that when families experience high conflict and poor affective relations, they are more likely to exhibit reduced parental monitoring over time. In addition, as youth in these families transition from childhood to adolescence, they develop more positive views toward deviant behavior, and they increase their time spent with deviant peers. In turn, poor parental monitoring, acceptance of deviance, and deviant peer relations serve as strong proximal predictors of academic failure and serious disruptive behavior among adolescents.

Together, this body of work has had clear implications for the design of treatments aimed at decreasing disruptive behavior in adolescents. Indeed, as described subsequently, prior reviews have concluded that treatments with the strongest evidence base target youths' cognitive skills and/or aspects of their ecology (e.g., by building more effective family functioning, disengaging adolescents from deviant peer networks, enhancing their school involvement). On the other hand, the aforementioned biological and temperament/personality risk factors have been less commonly targeted in disruptive behavior treatment studies, likely because the implications of such factors for treatment design and application are not (yet) readily apparent.

Previous Reviews of the Empirical Literature

The initial *JCCAP* review of evidence-based treatments for disruptive behavior was conducted by Brestan and Eyberg (1998), covering the treatment literature published from 1966 to 1995. Treatments identified in that review were classified for their level of support

based on criteria posited by Division 12 of the American Psychological Association (Chambless et al., 1998; Chambless et al., 1996), which are similar to the level of support criteria specified by *JCCAP* for the current update (see Table 1; Southam-Gerow & Prinstein, 2014). At the time of the Brestan and Eyberg review, no adolescent-focused treatments emerged as *well established*. However, four treatment models attained *probably efficacious* treatment status. One of those models was Multisystemic Therapy (MST; Henggeler, Schoenwald, Borduin, Rowland, & Cunningham, 2009), a multicomponent, family-based treatment designed to target multiple disruptive behavior risk factors (i.e., maladaptive parenting and family relations, as well as youths' impaired cognitive skills, deviant peer relations, and poor school functioning) simultaneously. The other three *probably efficacious* treatments, Anger Control Training (Feindler, Marriott, & Iwata, 1984), Assertiveness Training (W. C. Huey & Rank, 1984), and Rational-Emotive Therapy (Block, 1978), are examples of cognitive-behavioral treatment (CBT) protocols, which focus primarily on improving youths' cognitive and affect regulation skills. Brestan and Eyberg concluded that while the initial studies on MST and the three CBT models were encouraging, additional research was needed. In particular, in order to be designated as *well established*, the treatments needed to achieve positive outcomes in replications studies conducted by independent investigators, with no affiliation to the treatment developers.

Eyberg and colleagues (2008) subsequently updated the evidence base for disruptive behavior treatments, focusing on the years 1996 to 2007. As before, no adolescent-focused treatments were classified as *well established*. In addition to MST, one new multicomponent, family-based treatment (Treatment Foster Care Oregon [TFCO], formerly named Multidimensional Treatment Foster Care [MTFC]; Chamberlain, 2003a) earned designation as *probably efficacious*. Similar to MST, TFCO works to reduce disruptive behavior among youth by simultaneously targeting risk factors across multiple domains (i.e., individual, family, peer, and school). Finally, because of a coding error in the 1998 review, a CBT protocol previously designated as *probably efficacious* (Anger Control Training) was reclassified as *possibly efficacious*. All other designations from the 1998 paper remained the same, suggesting there had been relatively few advances in treatments for disruptive adolescents in the years covered by the updated review.

Fortunately, research on treatments for disruptive behavior has grown some since the update by Eyberg and colleagues (2008). The growth is due, in part, to a significant increase over the past decade in federal initiatives, both in the United States and other countries, aimed at advancing evidence-based treatments for justice-involved adolescents (Schoenwald, 2010). Indeed, as noted in several comprehensive literature reviews (e.g., Henggeler & Sheidow, 2012; von Sydow, Retzlaff, Beher, Haun, & Schweitzer, 2013), the evidence base, particularly for multicomponent, family-based treatments of behavior problems, has expanded considerably in recent years. Multicomponent, family-based models have been shown to generate significant, though modest, effect sizes for disruptive behavior outcomes when compared to either treatment as usual or alternative treatments (Baldwin, Christian, Berkeljon, Shadish, & Bean, 2012; van der Stouwe, Asscher, Stams, Dekovic, & van der Laan, 2014). Further, studies indicate that the positive outcomes associated with family-based approaches are often sustained during extended follow-up and across a variety of settings (see Henggeler, 2015, for a review). Likewise, reviewers (Feindler & Byers, 2013;

McCart, Priester, Davies, & Azen, 2006) have identified numerous studies supporting the effectiveness of CBT for adolescent disruptive behavior, with improvements noted in youths' problem-solving skills, peer relations, and behavioral functioning. As highlighted in meta-analytic studies (Erford, Paul, Oncken, Kress, & Erford, 2014; Fossum, Handegård, Martinussen, & Mørch, 2008; McCart, et al., 2006), CBT yields effect sizes for disruptive behavior outcomes in the small-to-medium range. Unfortunately, these past meta-analyses aggregated CBT studies conducted with all disruptive youth, regardless of age. Thus, it is not possible to disentangle the effect sizes for CBT conducted with children versus adolescents. Nevertheless, McCart and colleagues reported a significant positive correlation between youth age and study effect size, suggesting that CBT protocols might be more effective at reducing disruptive behavior among older versus younger youth. In sum, research on treatments for adolescent disruptive behavior has expanded considerably in recent years. In light of the expansion, an update to the 2008 review by Eyberg and colleagues seems warranted.

Current Review

This article updates the evidence base on treatments for adolescent disruptive behavior, focusing primarily on the treatment literature published from 2007 to 2014. It should be noted, however, that while our search methodology was consistent with the two prior reviews, our search revealed several articles that had been overlooked by Brestan and Eyberg (1998) and Eyberg and colleagues (2008). Thus, this update also incorporates a number of papers published prior to 2007 based on our pre-specified search methodology (see subsequent description). Conclusions regarding the level of support for a particular treatment were guided by *JCCAP's* evaluation criteria (Southam-Gerow & Prinstein, 2014) presented in Table 1. Of note, those criteria have undergone modest changes since completion of the 1998 and 2008 reviews, including the specification of more refined methodological criteria and the addition of Level 5 as a new level of evidentiary support. We suspected those changes might yield different conclusions about studies included in the prior reviews. Thus, in addition to evaluating new studies for this update, we also re-examined all of the adolescent-focused articles that had been identified in the 1998 and 2008 reviews in accordance with the revised criteria. Final designations were based on all adolescent-focused papers from the prior and current reviews. Summaries are provided for treatments that, based on the Southam-Gerow and Prinstein (2014) prescribed conditions, met criteria as *well established* or *probably efficacious*. Further, we list all treatments designated as *possibly efficacious, experimental,* or of *questionable efficacy* and include basic information about the treatments and relevant studies. In addition, we summarize the available research on moderators and mediators of treatment outcome. This paper concludes with a summary of practice recommendations and suggestions for future research.

Methods

A four-stage process was used to identify relevant articles for this update, employing methods similar to those of Eyberg and colleagues (2008). Specifically, in stage one, we conducted a comprehensive literature search to generate the relevant study pool. In stage two, the abstracts of all identified studies were reviewed to detect those potentially meeting

the inclusion criteria. In stage three, we obtained the full text of all articles that passed the abstract-level review to confirm all inclusion criteria were in fact met. In stage four, studies from our literature search (and the prior two reviews) were coded to classify the treatments in accordance with the methods criteria and five evidence levels listed in Table 1.

Stage One: Literature Search

Stage one began with extensive literature searches using PsychINFO and PubMed. Search terms included *disruptive behavior, aggression, behavior problems, oppositional defiant disorder, conduct disorder, child behavior disorders, delinquency,* or *offending*; each of these terms was cross referenced with each of the following: *treatment, intervention,* or *therapy*. Results were limited to peer-reviewed, English-language articles published from 2007 (to cover publication lag for the previous 2008 review) to 2014 examining adolescents (aged 12–19 years) as the target age group. Next, we searched PsychINFO and PubMed specifically for studies of treatments identified in the earlier reviews (Brestan & Eyberg, 1998; Eyberg, et al., 2008). Finally, to identify articles that might have been missed in our electronic searches, we reviewed the table of contents for the following journals during the same time period: *Behavior Modification, Behaviour Research and Therapy, Behavior Therapy, Child Development, Journal of Abnormal Child Psychology, Development and Psychopathology, Journal of Applied Behavior Analysis, Journal of Child Psychology and Psychiatry, Journal of Clinical Child and Adolescent Psychology, Journal of Consulting and Clinical Psychology, Journal of the American Academy of Child and Adolescent Psychiatry, American Journal of Orthopsychiatry, Journal of Abnormal Psychology, Journal of Family Psychology, Psychological Bulletin,* and *Journal of Juvenile Justice*. These search strategies collectively yielded 7,185 citations.

In addition, we examined all review articles and meta-analyses of disruptive behavior interventions that had been identified in our electronic and table of content searches (N = 45).[1] The purpose of that review was to identify any studies that were neither captured by our search methods nor included in the prior evidence base updates (Brestan & Eyberg, 1998; Eyberg, et al., 2008). Through this examination of review articles and meta-analyses, we identified an additional 31 citations. Of note, 28 of those 31 papers were published prior to 2007, which was the cutoff for our PsychINFO and PubMed searches. Thus, in total, 7,216 relevant citations were identified in stage one.

Stage Two: Abstract Review

All 7,216 citations and their abstracts were examined by the authors or a trained project assistant to determine if the studies met three basic inclusion criteria, defined next.

Appropriate age—To be included, studies had to focus on adolescents between 12 and 19 years of age. In situations where the ages of youth extended below this range (e.g., from childhood to adolescence) or above this range (e.g., from adolescence to adulthood), studies were included only if the mean age in the sample fell between 12 and 19 years.

[1]A list of the 45 review articles and meta-analyses is available from the authors upon request.

Disruptive behavior as the primary problem—Studies were included if they targeted disruptive behavior as the primary presenting problem. As noted previously, disruptive behavior was broadly defined to encompass a range of behaviors (e.g., aggression, property destruction, running away from home, truancy, stealing) that often result in a diagnosis of ODD/CD or involvement with the juvenile justice system. Studies focusing primarily on attention-deficit hyperactivity disorder or substance use were excluded, as those have been covered in separate evidence base updates published by *JCCAP* (Evans, Owens, & Bunford, 2014; Hogue, Henderson, Ozechowski, & Robbins, 2014). In addition, we excluded studies targeting disruptive behavior associated with autism or sexual offending because separate and rather extensive bodies of literature are devoted to treatments for those types of problems.

Evaluation of a treatment—Studies were included if they evaluated a specific set of procedures with therapeutic intent. Consistent with the previous reviews (Brestan & Eyberg, 1998; Eyberg, et al., 2008), we included treatments labeled as preventive interventions only if the youth were selected based on significant disruptive behaviors at baseline, and if those behaviors were specifically targeted for change during the active treatment period. Interventions designed with the primary goal of preventing future disruptive behaviors, however, were excluded from this review.

Studies meeting all inclusion criteria were moved on to the third stage. If an abstract contained insufficient information to rate one or more of the criterion, it was automatically promoted. In total, the abstract review yielded 341 studies for promotion to stage three.

Stage Three: Full-Text Review

For this stage, the full text of all 341 studies was obtained and reviewed by either the first or second author. The purpose of this review was to confirm that the study did in fact meet all three of the abovementioned inclusion criteria (e.g., often, the mean age was not listed in the abstract). Based on this review, an additional 285 studies were excluded, resulting in 56 studies for promotion to stage four.

Stage Four: Study Coding

The purpose of this stage was to code all relevant articles for inclusion in the evidence base update. Three categories of studies were represented in this coding. Category one included the 56 studies identified in our literature search as meeting inclusion criteria. Category two included 12 studies from the previous reviews (Brestan & Eyberg, 1998; Eyberg, et al., 2008) that evaluated treatments for adolescents. As noted earlier, we chose to recode those 12 studies in light of the updates recently made to the evaluation criteria (Southam-Gerow & Prinstein, 2014). The third category of coded studies comprised articles submitted to us by treatment developers. That is, for every treatment model evaluated in a category one (literature search) or category two (previous review) study, we contacted the developers to inquire whether any other evaluations of their treatment had been missed by our search methods. In response to our queries, 36 articles were submitted, 18 of which met inclusion criteria and were coded. Of note, 10 of those 18 coded studies were published prior to 2007, and 1 was an in-press publication.

Thus, in total, 86 treatment studies (56 from category one + 12 from category two + 18 from category three) were coded for this update. The first and second authors independently coded each study with regard to the five methods criteria specified in Table 1. In addition, the authors independently extracted detailed information from each study on the sample demographics, treatment details, trial type, and study results. Any disagreements between the raters were discussed, and consensus was reached in all cases. A brief summary of the coded variables is provided next.

Methods criteria—First, raters assessed whether each study utilized a randomized controlled trial (RCT) design. Specifically, raters determined if the *unit of analysis* for a given study had been randomly assigned to treatment and comparison conditions. In most cases, the unit of analysis was an individual adolescent. However, if a study randomly assigned sites to different conditions, and an aggregate site score was used as the unit of analysis, that study also would meet the random assignment criterion. Second, raters assessed if the study appeared to have a written treatment manual or logical equivalent (e.g., video demonstrations, implementation checklists, client workbooks) to help define the parameters of the treatment and guide its delivery. Third, the raters considered whether the study was conducted with a well-defined sample of adolescents, involving clear inclusion criteria and at least some information on participant demographics and presenting problem. Such information is required to identify the youth for whom the study results would apply. Fourth, the raters determined if the study used disruptive behavior outcome measures with known reliability and validity.[2] Fifth, raters assessed whether the study involved appropriate data analyses (e.g., strategies used to account for missing data, adherence to intention-to-treat principles) and if the sample size was sufficient to detect expected effects. Sample size was considered sufficient if the study included at least 20 participants in a condition or if a power justification was provided in the paper.

Sample demographics, treatment details, and trial type—Information was recorded on participant age, gender, and ethnicity. Data also were extracted with regard to treatment name; treatment type (coded as *behavioral therapy/parenting skills, cognitive-behavioral therapy, family therapy, psychodynamic therapy,* and/or *other*)[3] ; treatment format (coded as *individual, youth group, parent group, family group, family,* and/or *other*); treatment setting (coded as *home, clinic, school, detention center,* or *other*); and therapist (coded as *student, paraprofessional, Bachelor's-level, Master's-level, doctoral-level,* or *other*). Similar information was recorded for the comparison condition, if applicable. Finally, we distinguished studies conducted in an efficacy or effectiveness context. Efficacy studies were defined as trials that optimized the probability of treatment effects by including highly motivated therapists (e.g., students) with intensive training, supervision, and fidelity monitoring from the treatment developer, and/or removing organizational barriers to

[2]Applicable measures were those assessing disruptive behavior (e.g., aggression, property destruction, running away, truancy, stealing) via self-report, parent/caregiver-report, teacher-report, direct observation, or official records.

[3]Treatment type was determined based on the approach used to elicit behavior change. Behavioral therapy/parenting skill protocols elicited change via behavior modification techniques. Cognitive-behavioral therapy relied primarily on cognitive strategies to elicit behavior change. Family therapy elicited change by targeting the family system and relationships. Psychodynamic therapy elicited change via enhanced awareness of unconscious drives and conflicts. Some treatments used multiple approaches and are labeled as multicomponent, with the specific treatment types identified.

treatment implementation (e.g., embedding services within a university clinic). In contrast, effectiveness studies were defined as trials conducted in real-world settings (e.g., community-based clinics), with limited oversight from treatment developers and the use of community practitioners as study therapists.

Study results—Finally, information was extracted on the trial results. Specifically, for each statistical test conducted with a disruptive behavior outcome instrument (e.g., analysis of change in the outcome over time, test of a group difference in the outcome at posttreatment), we evaluated whether the treatment was found to be *superior to*, *equivalent to*, or *inferior to* the relevant comparison condition. Consistent with the previous reviews (Brestan & Eyberg, 1998; Eyberg, et al., 2008), a study was considered supportive of the target treatment if it found the treatment to be either (a) superior to a psychological placebo/another active treatment, (b) superior to a waitlist or no treatment comparison, or (c) equivalent to an already *well-established* treatment on at least 50% of the disruptive behavior outcome measures. After all studies were coded, the first and second author made collective classifications regarding the level of support for each treatment, in accordance with the coding results and the *JCCAP* evaluation criteria.

Results

There were 27 RCTs meeting all 5 of the methods criteria, along with 9 follow-up reports on these RCTs (follow-up reports also had to meet the methods criteria). Table 2 details the studies in this pool, including the treatment type and format, sample and comparison group descriptions, therapist and setting for the target treatment, trial and measurement types, and findings summary (i.e., proportion of disruptive behavior outcome measures in the study that showed a statistically significant between-group difference favoring the target treatment).

As listed in Table 3, there were 50 additional treatment studies for disruptive behavior samples of adolescents that did not fully meet all 5 methods criteria. These studies all had well-defined treatments for disruptive behavior (criterion M.2), were conducted with appropriate behavior problem samples (criterion M.3), and assessed disruptive behavior outcomes with reliable and valid measures (criterion M.4). However, as illustrated in Table 3, the studies did not use a randomized design (criterion M.1) and/or were deficient with regard to sample size and analysis approach (criterion M.5). Treatment type and format are included in the table, as are sample and trial type.

Studies summarized in Tables 2 and 3 were used to make decisions regarding the level of support for each treatment. Table 4 lists treatments in their respective levels: 1. *well established*; 2. *probably efficacious*; 3. *possibly efficacious*; 4. *experimental*; 5. *questionable efficacy*. Within levels, treatments are categorized by treatment type (i.e., Behavioral Therapy or Parenting Skills; Cognitive-Behavioral Therapy; Family Therapy; Mentoring; Psychodynamic; Combined Behavioral Therapy and Cognitive-Behavioral Therapy; Combined Cognitive-Behavioral Therapy and Mindfulness; Combined Cognitive-Behavioral Therapy and Attachment-Based; Combined Family Therapy and Emotionally Focused Approaches; Combined Behavioral Therapy, Cognitive-Behavioral Therapy, and Family Therapy; Combined Behavioral Therapy, Cognitive-Behavioral Therapy, and Wraparound;

or Combined Humanistic, Bibliotherapy, Psychodynamic, and Cognitive Behavioral Therapy). Further, target population (i.e., juvenile justice involved; disruptive behavior [not juvenile justice involved], or school/classroom disruption) is identified given the differing treatment intensity needs for subgroups of adolescents who display disruptive behaviors. Summaries are provided below for treatments that met criteria as *well established* or *probably efficacious*.

Well-Established Treatments

Multisystemic Therapy (MST)—MST (Henggeler, et al., 2009) is a family-based treatment developed for justice-involved youth at risk for out-of-home placement due to their serious offending behavior. Of note, MST also has been evaluated with youth who have less severe disruptive behavior and no justice involvement, but has not reached the level of *well-established* for that particular population; the use of MST for less severe (non-justice-involved) youth is discussed subsequently in the Probably Efficacious Treatments section. MST uses nine core principles and a specified analytical process (assessment, hypothesis development, intervention, iterative evaluation, and planning) to guide treatment, primarily working with parents to generate and sustain change. Taking a social ecological (Bronfenbrenner, 1979) perspective in assessment and conceptualization, MST identifies the individual, family, peer, school, and community factors that are linked directly or indirectly with each youth's disruptive behavior. MST then implements an individualized treatment plan for each family that can incorporate interventions from empirically-supported, pragmatic, problem-focused treatments, including select strategies from family, behavioral, and cognitive-behavioral therapy protocols.

MST is inherently tied to a specific service delivery model that is home based, with a team of two to four full-time Master's-level therapists, as well as an advanced Master's-level or doctoral-level supervisor who devotes at least 50% of his or her professional time to each team. Therapists carry caseloads of four to six families each, and the treatment team provides 24-hours/day and 7-days/week availability. This intensive treatment includes multiple contacts each week (in person and by phone) with the family and other individuals (e.g., school, justice system), and treatment duration generally ranges from 3 to 5 months. MST implementation requires an intensive quality assurance system to sustain treatment fidelity and clinical outcomes in real-world settings. Interestingly, one of the recent clinical studies included in our review (Smith-Boydston, Holtzman, & Roberts, 2014) demonstrated weaker outcomes when this quality assurance system was not employed, building upon prior studies showing low-adherent MST was less effective in achieving outcomes for youth with serious disruptive behavior (e.g., Henggeler, Melton, Brondino, Scherer, & Hanley, 1997; Henggeler, Pickrel, & Brondino, 1999; Schoenwald, Chapman, Sheidow, & Carter, 2009).

In total, six RCTs meeting the methods criteria showed favorable disruptive behavior outcomes for MST (justice-involved) compared to treatment as usual or other treatments (see Table 2; Asscher et al., 2013; Borduin et al., 1995; Butler, Baruch, Hickey, & Fonagy, 2011; Henggeler, Melton, & Smith, 1992; Ogden & Halliday-Boykins, 2004; Timmons-Mitchell, Bender, Kishna, & Mitchell, 2006). Three RCTs did not find favorable outcomes (see Table 2; (Glisson et al., 2010; Henggeler, et al., 1997; Henggeler, et al., 1999), although the two

studies by Henggeler and colleagues included demonstrations of low adherence impacting outcomes. The RCTs evaluating MST for justice-involved youth have included three efficacy studies and six effectiveness studies. Of the six RCTs with superior disruptive behavior findings for MST, four were conducted independently of developers, including RCTs completed in the United States and Europe. Many of the published RCTs have demonstrated long-term outcomes, including one showing sustained disruptive behavior outcomes for MST versus individual therapy (blend of psychodynamic, client-centered, and behavioral) at 14- and 22-years posttreatment (Sawyer & Borduin, 2011; Schaeffer & Borduin, 2005). In addition to RCTs, there have been five (nonrandomized) clinical studies of MST for justice-involved youth that evaluated disruptive behavior outcomes, all conducted independently of developers and all demonstrating positive disruptive behavior findings favoring MST (see Table 3; Curtis, Ronan, Heiblum, & Crellin, 2009; Fain, Greathouse, Turner, & Weinberg, 2014; Ogden, Hagen, & Andersen, 2007; Smith-Boydston, et al., 2014; Stambaugh et al., 2007). Notably, MST also is among the ecological family-based treatments deemed *well established* for treatment of adolescent substance abuse (Hogue, et al., 2014), and it has been adapted for other specific problems in adolescents and young adults (i.e., juvenile sexual offenders; youth in psychiatric crisis; youth with physical abuse; youth with chronic health conditions; emerging adults with justice involvement and mental illness). In sum, MST meets criteria as a *well-established* treatment for youth presenting serious antisocial behavior (i.e., justice-involved youth), although caution needs to be taken to ensure high adherence to the MST model since empirical evidence has accumulated to show that low adherence does not generate the same positive outcomes as the original RCTs.

Treatment Foster Care Oregon (TFCO; formerly Multidimensional Treatment Foster Care [MTFC])—TFCO (Chamberlain, 2003b) is a family- and individual-based treatment developed for serious antisocial behavior in youth (e.g., those at risk for out-of-home placement due to their disruptive behavior; delinquent youth). Youth receiving TFCO are placed with specially trained foster parents in lieu of residential placement, with the goal of transitioning the youth back home to his or her biological (or aftercare) family. Based on the principles of social learning theory, which include behavioral principles and the impact of the natural social context on learning, TFCO integrates behavioral and cognitive behavioral interventions within a social ecological framework. TFCO emphasizes the role of parent supervision and monitoring in (a) engaging the youth in prosocial peer activities, (b) disengaging him or her from deviant peers, and (c) promoting positive school performance. While in the foster home (one youth per TFCO home), an intensive plan is implemented (clear expectations with a daily point system) to manage the youth's behavior in a consistent and noncoercive manner, as well as to intervene on the youth's negative peer involvement and school performance. To develop the youth's nonviolent problem-solving skills, as well as increase school/work functioning and involvement in prosocial activities, the youth receives individual therapy and individual weekly mentoring and skill building sessions. The youth's family also receives parent management training to build supervision, discipline, and problem-solving skills. The youth and family have short-term visits that increase to overnight stays as treatment progresses.

TFCO is inherently tied to a specific service delivery model that is home based, with a team consisting of the TFCO foster parents, a full-time Master's-level program supervisor (i.e., case manager), Master's-level individual and family therapists, part-time paraprofessional skills trainers (i.e., mentors), and a foster parent trainer. A team typically has a caseload of no more than 10 youth, with the program supervisor directing all treatment planning. Daily contact with the foster parent is made by the foster parent trainer, and the program supervisor provides crisis intervention for foster parents 24-hours/day and 7-days/week. Foster home placement usually lasts 6 to 9 months. Family therapy, individual therapy, and skills training are provided weekly during that time and can continue for up to 3 months following reunification to support a successful transition back home. TFCO implementation requires intensive training and an initial quality assurance system to sustain treatment fidelity and clinical outcomes in real-world settings. This quality assurance decreases in intensity over time, with a periodic intensive recertification process.

In total, three RCTs meeting the methods criteria showed favorable disruptive behavior outcomes for TFCO compared to usual group care for juvenile delinquents or other treatments (see Table 2; Chamberlain & Reid, 1998; Leve, Chamberlain, & Reid, 2005; Westermark, Hansson, & Olsson, 2011), and one did not (Hansson & Olsson, 2012). These studies have included two efficacy studies and two effectiveness studies. Of the three RCTs with superior disruptive behavior findings for TFCO, one was conducted independently of developers, completed in Sweden. The initial trial of TFCO was completed with an all male sample, but the second trial was completed with an all female sample. Disruptive behavior outcomes in these two trials have been sustained at 2-years post baseline (Chamberlain, Leve, & DeGarmo, 2007; Eddy, Whaley, & Chamberlain, 2004). In addition to RCTs, there have been two (nonrandomized) clinical studies of TFCO that evaluated disruptive behavior outcomes, one conducted independently of developers and both demonstrating positive findings favoring TFCO for serious antisocial youth (see Table 3; Green et al., 2014; Rhoades, Chamberlain, Roberts, & Leve, 2013). TFCO was combined with Trauma-Focused CBT in one small-scale RCT focused on justice-involved girls (see Table 3; Smith, Chamberlain, & Deblinger, 2012), with promising outcomes but no subsequent studies conducted thus far. In sum, TFCO meets criteria as a *well-established* treatment for youth presenting serious antisocial behavior (i.e., justice-involved youth).

Probably Efficacious Treatments

Functional Family Therapy (FFT)—FFT (Alexander, Pugh, Parsons, & Sexton, 2000) is a family-based treatment developed for serious antisocial behavior in youth (e.g., justice-involved youth). FFT takes a strong relational focus, with youth behavior problems viewed as a symptom of dysfunctional family relations. Interventions, therefore, aim to establish and maintain new patterns of family behavior to replace dysfunctional ones. FFT includes three sequential phases of intervention: (a) engagement and motivation, including engendering hope and creating positive expectations; (b) behavior change, including establishing new patterns of family interaction that are more adaptive; and (c) generalization, including planning for any future problems and linkage with community-based support services. Some behavioral (e.g., communication training) and cognitive behavioral (e.g., reframing, anger management) interventions are utilized in FFT, but the relational focus is always maintained.

As transported to community practice settings, FFT is delivered primarily in the clinic or home, supplemented by sessions in schools, probation offices, or other community locations as needed. FFT typically consists of teams of three to eight Master's-level therapists, each carrying caseloads of up to 16 families and supervised by a Master's-level supervisor. Contact is typically focused on families, with approximately one session per week. Treatment usually includes 12 sessions spanning a 3 to 4 month duration. FFT implementation requires intensive training and an initial quality assurance system to sustain treatment fidelity and clinical outcomes in real-world settings. This quality assurance decreases in intensity over time, with ongoing monitoring at a lower intensity level once benchmarks are achieved.

One RCT meeting the methods criteria showed favorable disruptive behavior outcomes for FFT (see Table 2; Alexander & Parsons, 1973), and a second RCT meeting the methods criteria showed favorable disruptive behavior outcomes for FFT when therapists were highly adherent to the model, but not when adherence was low (see Table 2; Alexander & Parsons, 1973; Sexton & Turner, 2010). RCTs of FFT by independent investigative teams have yet to be conducted. The RCTs of FFT have included one efficacy study and one effectiveness study. In addition to RCTs, there has been one additional clinical study of FFT evaluating disruptive behavior outcomes. This study indicated that FFT had equivalent disruptive behavior outcomes to MST, (a *well-established* treatment), but was not randomized (see Table 3; Baglivio, Jackowski, & Greenwald, 2014). FFT as a treatment for adolescent substance abuse is among the ecological family-based treatments deemed *well established* (Hogue, et al., 2014). Given the findings of the two abovementioned RCTs, FFT meets criteria as *probably efficacious* for youth presenting serious antisocial behavior (i.e., justice-involved youth).

Aggression Replacement Training + Positive Peer Culture (Equipping Youth to Help One Another [EQUIP])—EQUIP (Gibbs, Potter, & Goldstein, 1995) is a treatment delivered within correctional/detention facilities, targeting disruptive behavior and recidivism through a multicomponent intervention. EQUIP is delivered within mutual help groups with a trained leader (detention facility staff) guiding the group sessions. A team of professionals is not required for EQUIP and the facilitators can be paraprofessionals, but the randomized trial of EQUIP included extensive oversight of the trained leaders. Of note, the most recent clinical study of EQUIP struggled to achieve adherence to the model (Helmond, Overbeek, & Brugman, 2015).

In the initial trial of EQUIP (an efficacy trial in which adherence was high), three mutual help group meetings were held each week to focus on youth helping one another identify and replace cognitive distortions. These sessions and the support of detention facility staff are used to create a Positive Peer Culture (PPC; Vorrath & Brendtro, 1985). The PPC is used as part of EQUIP to increase youths' care and concern for one another, as well as to have youth be responsible to one another. In addition to the three mutual help group meetings, three skill-based group sessions were held each week. These highly structured sessions were guided by Aggression Replacement Training (ART; Glick & Gibbs, 2011) and covered key areas: anger management, social skills, and social decision-making (i.e., moral education). Ten sessions were devoted to each skill area, for a total of 30 skill-based sessions. Thus, the

EQUIP mutual help and skill-based sessions are generally held six times per week, for approximately 3 months. Overall, EQUIP takes a cognitive-behavioral approach to achieving positive behaviors among individuals, but as described above, consists of multiple components.

One RCT meeting the methods criteria showed favorable disruptive behavior outcomes for male youth treated with EQUIP compared to the usual treatment services provided within the juvenile justice facility (Leeman, Gibbs, & Fuller, 1993). This RCT was an efficacy trial. RCTs of EQUIP by independent investigative teams have yet to be conducted. Aside from the single RCT, a clinical study of EQUIP conducted by independent investigators in the Netherlands did not find positive disruptive behavior outcomes for male youth in correctional facilities (Brugman & Bink, 2011). A second clinical study in the Netherlands included both male and female youth in correctional facilities, and also did not generate positive disruptive behavior findings for EQUIP (Helmond, et al., 2015). The Helmond et al. (2015) study was problematic, though, in that there was low adherence even to basic elements of the EQUIP model (e.g., session length was 3/4 what it was supposed to be; number of meetings was less than 1/2 that required; observed ratings averaged 1/3 to 1/2 of intended content coverage). However, there have been no subsequent RCTs focused on disruptive behavior outcomes. Based on the positive findings from the initial RCT, EQUIP meets criteria as a *probably efficacious* treatment for disruptive adolescents detained in correctional facilities. However, more research on this treatment is clearly needed to confirm initial positive findings.

Solution-Focused Group Program—Solution-Focused Group Program (Shin, 2009) is a group-based treatment developed for youth on probation. This is a CBT protocol conducted by two clinical social workers during 2-hour weekly sessions for 6 weeks. Group size is limited to 10 youth. The premise of the Solution-Focused Group Program is that youth already possess the abilities and resources to solve their problems. Thus, the treatment avoids conceptualizing youth as pathological, but rather is focused on uncovering the strengths and resources of a youth. The therapist is framed as a consultant who can assist the youth in finding new solutions to problems that build on each youth's strengths and resources. The following questions are provided as examples the therapist would use in this client-centered treatment: "miracle questions" encourage clients to imagine that their problem has been already solved; "relation questions" help clients consider contextual variables for a negative interaction and generate prosocial alternatives; "exception questions" help clients identify instances in which they have been successful at solving problems; "measurement questions" aid clients in measuring and modifying their problems and goals; and "response questions" reinforce that the clients have the ability to overcome difficult situations. This treatment starts with developing a therapeutic relationship within the group and setting individualized goals for group members. Small changes are reinforced, with continued focus on each group member solving his/her problems using each person's unique characteristics and skills. This process continues through the end of the 6 weeks, helping each youth reach a solution to his/her own problems.

One RCT meeting the methods criteria showed favorable disruptive behavior outcomes for the Solution-Focused Group Program compared with individual supportive sessions for

youth probationers in Korea (Shin, 2009). Gender is not reported in this study. This was an efficacy trial. No additional evaluations, randomized or otherwise, have been conducted by Shin or independent investigators for this treatment. Further, while nearly all of the RCTs described for MST, TFCO, FFT, and EQUIP included follow-up assessments, the RCT of the Solution-Focused Group Program included only a pre-post (i.e., 6 weeks) evaluation. Similarly, the Solution-Focused Group Program evaluation measured outcomes via self-report only, whereas most RCTs of MST, TFCO, FFT, and EQUIP measured outcomes using official records and/or multiple methods. Nevertheless, given the positive findings of the initial RCT and the *JCCAP* criteria, the Solution-Focused Group Program meets criteria as a *probably efficacious* treatment for justice-involved youth. As with EQUIP, however, more controlled evaluations of this treatment are needed, especially those focused on justice-confirmed and post-treatment outcomes.

Multisystemic Therapy (MST) for Disruptive Behavior (Not Juvenile Justice-Involved)—MST (Henggeler, et al., 2009) is described above as a *well-established* treatment for youth presenting serious antisocial behavior (i.e., justice-involved youth). In addition to the RCTs and clinical studies focused on MST for justice-involved youth, a few studies have tested the model with disruptive youth who are not justice involved; although it may appear confusing to see MST listed in separate evidentiary levels based on varying severity of the disruptive behavior, it is important that treatments get used for the specific population for which they are shown effective. The studies of MST for non-justice-involved youth were effectiveness studies and all were conducted by investigators independent of the MST developers. One such RCT met the methods criteria and showed favorable disruptive behavior outcomes for MST (Weiss et al., 2013). In that RCT, MST was applied to youth in a self-contained classroom and was compared to behaviorally focused classroom management. Two other clinical studies (nonrandomized) also showed favorable disruptive behavior outcomes for MST when used for youth who were not justice involved but had disruptive behavior disorders (Painter, 2009) or willful misconduct (Tolman, Mueller, Daleiden, Stumpf, & Pestle, 2008). An additional RCT of youth with conduct disorder (referred by child welfare rather than juvenile justice) met the methods criteria but had low adherence to the MST model and did not achieve positive outcomes (Sundell et al., 2008). In these trials, MST was delivered as described above, aside from the low adherence in the Sundell et al. (2008) study. Thus, although MST was originally designed for justice-involved youth (and is a *well established* treatment for that population), the model meets criteria as *probably efficacious* when considering disruptive adolescents who are not justice involved.

Predictors, Moderators, and Mediators of Treatment Effects

As described above, several treatment models have emerged as having beneficial effects for adolescents with disruptive behavior. In this section, we update the evidence base regarding predictors, moderators, and mediators of disruptive behavior treatments. Within the intervention literature, *predictors* are defined as factors that influence the likelihood of an outcome for a given treatment. For example, predictors might specify that a treatment effect is stronger for a specific subgroup of individuals (e.g., boys vs. girls) or under certain conditions (e.g., higher vs. lower levels of agency support for evidence-based practices). *Moderators*, a special subcategory of predictors, involve factors that influence the *relative*

likelihood of positive outcomes across *two or more* treatments. For example, moderator analyses might indicate that boys and girls show a differential response to treatment A versus treatment B. *Mediators,* on the other hand*,* represent the therapeutic mechanisms through which a treatment produces favorable outcomes (see Kraemer, Wilson, Fairburn, & Agras, 2002 for more detailed definitions of these terms).

In general, predictors and moderators answer the question for whom and in what context does a treatment work. Similar to Eyberg and colleagues (2008), we found only a few studies reporting predictors of treatment outcome, and no studies reporting evidence of moderation. Research indicates that MST is somewhat more effective when fathers participate in treatment (Gervan, Granic, Solomon, Blokland, & Ferguson, 2012) and when youths' negative peer involvement at baseline is low (Boxer, 2011). This later finding is perhaps not surprising given the powerful relation between deviant peer association and disruptive behavior in youth. In another study, White, Frick, Lawing, and Bauer (2013) reported that FFT produced more favorable outcomes among disruptive youth with callous and unemotional (CU) traits. However, this result should be interpreted cautiously because the youth in the sample with CU traits had significantly higher levels of behavior problems at baseline relative to youth without CU traits. Further, because the study by White and colleagues did not have a control group, regression to the mean cannot be ruled out as an explanation for the findings. Finally, it is important to acknowledge that while several studies in our review examined youth demographic characteristics as potential predictors or moderators of treatment effects (e.g., Asscher, et al., 2013; Keiley, 2007; Painter, 2009; Sawyer & Borduin, 2011; Sundell, et al., 2008; Tolman, et al., 2008; Weinblatt & Omer, 2008), results were largely nonsignificant. That is, for the treatments evaluated in those studies, outcomes were generally similar regardless of youth age, gender, or ethnicity.

Mediators answer the question of how a treatment works. Mediation analyses can help validate an intervention's underlying theory of change. In addition, such analyses clarify a treatment's "active ingredients," which can then be used to refine the treatment and optimize outcomes (Kazdin, 2007). Our literature search identified five studies examining mediators of disruptive behavior treatments. Interestingly, all of those studies focused on mediators for either MST or TFCO. As noted previously, MST and TFCO both conceptualize disruptive behavior as multidetermined and view the family as the primary conduit of change. Thus, those treatments aim to reduce disruptive behavior by improving family functioning and by empowering caregivers to address other risks in the youth's ecology (e.g., associations with deviant peers, poor school performance). Mediation studies have generally supported this theory of change. For example, across two clinical trials of MST for juvenile offenders (Henggeler, et al., 1997; Henggeler, et al., 1999), Huey, Henggeler, Brondino, and Pickrel (2000) demonstrated that high therapist fidelity improved family relations (i.e., quality of family functioning, family cohesion, and parental monitoring) and decreased association with deviant peers, which, in turn, predicted reduced disruptive behavior among the youth. More recently, Dekovic and colleagues (2012) examined mechanism of change in their trial of MST for disruptive youth in Amsterdam. Latent growth modeling indicated that MST led to higher perceptions of competence among caregivers, which, in turn, predicted their increased use of positive discipline (e.g., effective monitoring, consistency, limit setting). Further, these changes in perceived competence and positive discipline mediated the effect

of MST on adolescents' disruptive behavior. Thus, across these two studies, findings support the importance of improved family functioning and decreased association with deviant peers in producing favorable MST outcomes.

Three mediation studies have been conducted for TFCO, and these also have supported the model's theory of change. Using data from Chamberlain and Reid (1998), Eddy and Chamberlain (2000) demonstrated that TFCO's positive effects on disruptive behavior were mediated by improved foster parent supervision, discipline, and relations with the youth, as well as decreased associations with deviant peers. Similarly, based on data from Leve and colleagues (2005), Leve and Chamberlain (2007) showed that the effectiveness of TFCO was mediated by youths' increased homework completion. Finally, in a large sample of girls treated with TFCO, Van Ryzin and Leve (2012) reported that reduced exposure to delinquent peers meditated the effects of the treatment on youth outcomes. These findings are consistent with the vast amount of aforementioned research showing that adolescent disruptive behavior is multidetermined – with key factors pertaining to family, peer, and school functioning.

Discussion

This article updates the two prior *JCCAP* reviews (Brestan & Eyberg, 1998; Eyberg, et al., 2008) of psychosocial treatments for disruptive behavior among adolescents (ages 12–19 years). Treatments were evaluated in accordance with *JCCAP's* level of support criteria (see Table 1). Based on these criteria, treatments can be designated as: *well established, probably efficacious, possibly efficacious, experimental,* or of *questionable efficacy*. To be deemed *well established*, evidence must indicate that a treatment is more efficacious than a psychological placebo or another *well-established* treatment in at least two well-designed studies conducted by separate investigative teams. If a treatment is more efficacious than a psychological placebo or another *well-established* treatment in one or more well-designed studies, but none are by independent investigative teams, then the treatment is deemed *probably efficacious*. Treatments also may be deemed *probably efficacious* if they have evidence of efficacy in two well-designed studies that use only a waitlist comparison (i.e., lower strength of comparison). A treatment is classified as *possibly efficacious* if there is only one well-designed trial demonstrating superiority of the treatment against a waitlist control group, or if superiority has been demonstrated in at least two clinical studies that meet all methods criteria except for randomization. *Experimental treatments* require only one supportive nonrandomized clinical study, and treatments of *questionable efficacy* represent those for which all available evidence suggests they produce no beneficial effect. Using the *JCCAP* criteria as a guide, we examined the empirical literature on adolescent disruptive behavior treatments from 2007 to 2014. We also re-examined all adolescent-focused studies included in the two prior reviews, covering research published during 1966–1995 and 1996–2007, respectively. Thus, our designations are based on cumulative support from research published over a 48-year period.

We acknowledge that some studies might have been missed by our review; however, attempts were made to capture all relevant articles via extensive and varied literature search methods. Of note, preventive interventions and medication treatments for disruptive behavior

were beyond the scope of this review. Large, comprehensive reviews of school-wide and prevention programs can be found in Greenwood (2008), Park-Higgerson, Perumean-Chaney, Bartolucci, Grimley, and Singh (2008), Webster-Stratton and Taylor, (2001), and Wilson and Lipsey (2007). Further, to increase the accessibility of our findings for clinicians, we focus solely on psychosocial treatments, and we exclude interventions requiring an inpatient hospital, specialized school, detention center, or other facility (e.g., wilderness camp) for delivery. Finally, the treatments included in this review were evaluated based on their performance on disruptive behavior outcome measures only. Potential secondary outcomes (e.g., improved parenting, reduced mental health symptoms in youth) were not considered when making the treatment designations; these secondary outcomes might be useful to report in a separate review.

A primary aim of the *JCCAP* updates is to provide user-friendly summaries of evidence-based psychosocial treatments for common presenting problems. Such lists help guide the selection of appropriate treatments by practitioners and consumers, and also shed light on areas in need of additional research. Our final list of evidence-based treatments for adolescents with disruptive behavior is presented in Table 4. In accordance with *JCCAP* guidelines, treatments are organized by type (i.e., theoretical orientation/approach). In addition, we specify each treatment's target population. Two treatments met criteria as *well established* when delivered to justice-involved youth: MST and TFCO. Both are multicomponent treatments integrating behavioral, CBT, and family therapy interventions.

Three treatments met criteria as *probably efficacious* when implemented with justice-involved youth. Two are CBT protocols: ART + PPC (EQUIP) and the Solution-Focused Group Program. The third treatment combines behavioral, CBT, and family therapy approaches: FFT. In addition, MST met criteria as *probably efficacious* when delivered to disruptive youth who are not justice involved.

There are five treatments meeting criteria as *possibly efficacious*. One is a CBT protocol delivered to justice-involved adolescents: Cognitive Mediation. The other four treatments are implemented with non-justice-involved youth. Two are behavioral therapy approaches: Familias Unidas and Non-Violent Resistance. The other two integrate behavioral and CBT techniques: Rational-Emotive Behavior Therapy and Support to Reunite, Involve, and Value Each Other.

A number of models fell into the *experimental treatments* category. Preliminary evidence suggests these treatments might yield beneficial effects. However, it is important to remember that research on these treatments has been limited to quasi-experimental designs, open trials, or randomized trials that were deficient in size and/or methods. Primary limitations of quasi-experimental or open trial designs are the lack of random assignment to treatment conditions and/or the lack of a comparison condition. Without those components, firm conclusions about efficacy cannot be made. Furthermore, open trials often result in erroneous conclusions about therapeutic effectiveness owing to regression to the mean. Similarly, findings from deficient randomized trials (e.g., small sample size, not using intent-to-treat) have a high risk of not being replicable. Thus, more rigorous research is needed on

the experimental treatments before they can be recommended for widespread clinical practice.

Finally, Table 4 includes a list of *treatments of questionable efficacy*. For these treatments, all available evidence suggests they do not yield beneficial effects for disruptive adolescents. Thus, clinicians are advised against using these treatments with disruptive youth, pending additional research.

Current State of the Literature

In addition to updating the evidence base on treatments for adolescent disruptive behavior, our review sheds light on the current state of the treatment literature in this area. Several notable observations are made with regard to the existing treatments and the research that has been completed on those treatments to date. We limit our observations to the studies listed in Table 2, as those were the most rigorously conducted.

Characteristics of the treatments—It is noteworthy that all of the treatment models represented in Table 2 are rooted in behavioral, cognitive-behavioral, and/or family systems theories. Interestingly, this is consistent with the results of another *JCCAP* evidence base update on adolescent substance abuse treatments and, in fact, some of the treatments we identified as having strong empirical support for treating youth disruptive behavior (e.g., FFT, MST) were also identified as having strong support for treating youth substance abuse (Hogue, et al., 2014). Further, as illustrated by our review, the treatments with the most extensive empirical support (i.e., MST and TFCO) are multicomponent in nature, drawing tools and techniques from *all three* of the behavioral, cognitive-behavioral, and family systems orientations. The success of such multicomponent approaches aligns with evidence supporting the multidetermined conceptualization of disruptive behavior among youth (Liberman, 2008; Loeber, et al., 2009). Indeed, MST and TFCO both aim to reduce adolescent disruptive behavior by targeting risk factors across multiple levels of the youth's ecology (i.e., individual, family, peer, and school), and available mediation studies support the underlying theory of change for those two treatments.

Table 2 also includes several promising treatments that target factors at only one or two of the abovementioned risk levels. For example, the CBT-only protocols intervene primarily at the level of the individual, with strategies geared toward remediating youths' cognitive and affect regulation deficits. However, CBT has not amassed as much empirical support as the multicomponent, family-based approaches. Of course, this might simply be an artifact of more studies having been conducted on MST and TFCO relative to CBT-only treatments. Nevertheless, the multidetermined nature of behavior problems in youth, as well as limitations introduced by the cognitive developmental stage of adolescents, suggests that disruptive behavior treatments might need to go beyond basic CBT. Emerging research on the role of contextual factors in maintaining cognitive deficits further highlights the importance of multicomponent treatments. For example, maladaptive parenting has been linked to hostile attribution biases among youth (Nelson & Coyne, 2009). Peer factors, such as rejection from mainstream peers (Lansford, Malone, Dodge, Pettit, & Bates, 2010) and association with deviant peers (Werner & Hill, 2010) contribute to and are exacerbated by

cognitive deficits. In fact, two experimental studies have demonstrated that hostile attributions and positive attitudes toward aggression can be caused by peer endorsement of such beliefs (G. L. Cohen & Prinstein, 2006; Freeman, Hadwin, & Halligan, 2011). Broader contextual factors, such as school monitoring and consequences (Farrell et al., 2010) and community violence exposure (McMahon, Felix, Halpert, & Petropoulos, 2009), also make both cognitive deficits and disruptive behavior more likely. In light of this research, CBT programs that focus primarily on youths' cognitive deficits might be insufficient to ameliorate serious behavior problems among adolescents. Without changing the contextual factors that instill and reinforce maladaptive social decision-making, as well as factors that provide opportunities for continued behavior problems (e.g., time with delinquent peers, school expulsion), disruptive behavior is more likely to persist. Following this notion, many of the studies in Table 2 that use CBT combine it with other intervention protocols.

The variation in treatment format (i.e., family, parent group, family group, youth group, and/or individual) also is noteworthy. Of the 12 treatments represented in Table 2, 3 (25%) use a mix of different formats, but the majority use some form of intervention that includes parents. Specifically, 6 (50%) are delivered in a family format, 1 (8%) is delivered in a parent group format, and 2 (17%) are implemented in a family group format. Among the treatments that exclude parents, 5 (42%) are delivered in a youth group format and 2 (17%) are implemented in an individual format. The use of youth groups by some treatment programs is notable in light of research indicating that the aggregation of disruptive youth might exacerbate their problem behavior. For example, in the trial of the Positive Family Support-Family Check-Up (formerly Adolescent Transitions Program; Dishion & Andrews, 1995), adolescents assigned to youth groups (either as part of a youth group only condition or a youth group + parent group condition) exhibited worse outcomes at post-treatment. The authors hypothesized that the youth groups might have had a "peer contagion" effect, whereby group members positively reinforce each other's deviant talk and actions (Dodge, et al., 2007). Additional evidence for such "peer contagion" comes from a large randomized prevention trial, which found that the aggregation of high-risk youth in groups yielded iatrogenic effects (Metropolitan Area Child Study Research Group, 2002). Indeed, programs such as MST and TFCO are explicitly designed to minimize youths' associations with deviant peers; and such efforts to reduce deviant peer contact represent a central change mechanism for those two treatment models (Eddy & Chamberlain, 2000; S. Huey, J., et al., 2000; Van Ryzin & Leve, 2012). However, as illustrated by several studies in Table 2 (e.g., Guerra & Slaby, 1990; Kumar, 2009; Leeman, et al., 1993; Shin, 2009), the negative effects of adolescent group treatment are not necessarily universal. In fact, researchers have argued that deviant peer influence might be most pronounced in situations where treatment is either not present or is implemented poorly (see Helseth et al., 2015; Weiss et al., 2005). Clearly, more research is needed to elucidate the processes whereby youth experience reinforcement for deviant talk and behavior as well as the contexts (both within and outside of treatment) that increase the likelihood and strength of such reinforcement.

Characteristics of the research—Several important observations relate to characteristics of the research on disruptive behavior treatments. First, it is important to make a distinction between treatment outcomes that have been achieved in efficacy contexts

versus those achieved in real-world effectiveness contexts, as these have important implications for the transport of evidence-based treatments to community-based settings (Weisz & Kazdin, 2010). Efficacy studies optimize the probability of observing treatment effects by, for example, including highly motivated therapists (e.g., graduate students, therapists employed by the treatment developer) with intensive training, supervision, and fidelity monitoring from the treatment developer and removing organizational barriers to treatment implementation (e.g., embedding services within a university clinic). On the other hand, in effectiveness research, therapists are typically employed by community-based provider organizations, caseloads can have greater heterogeneity and co-occurrence of problems, clinical supervision is often minimal or nonexistent, and therapists have organizational demands that often have little to do with achieving favorable outcomes for youth (e.g., meeting billing requirements). Treatments that have proven successful in effectiveness research, therefore, are more likely to be transported effectively to real-world settings. Of the 27 studies listed in Table 2, 12 (44%) represent effectiveness trials. Treatment models evaluated in the context of those 12 effectiveness studies included MST and TFCO (both *well-established* treatments), FFT (a *probably efficacious* treatment), and the Positive Family Support-Family Check-Up (formerly Adolescent Transitions Program; a *treatment of questionable efficacy*). In light of this finding, it is not surprising that MST, TFCO, and FFT represent the three most widely transported evidence-based treatments for adolescent disruptive behavior in the field. Nevertheless, for the other treatments in Table 2 that have achieved positive effects in efficacy studies only, attempts at replicating those effects in community-based effectiveness trials represents a critical, though highly complex next research step.

A second observation relates to evidence for maintenance of treatment gains, or what Eyberg and colleagues (2008) refer to as “treatment durability.” Interestingly, of the 27 studies in Table 2, only 8 (30%) included extended follow-up assessments (1 study for SafERteens, 2 for TFCO, and 5 for MST). In fact, many studies were limited to a posttreatment only assessment, placing significant limits on the conclusions one can make about a treatment. Of note, we contacted treatment developers in an attempt to identify any follow-up studies that our review procedures might have overlooked. Maintaining treatment gains should be a critical consideration for determining the preference for a treatment, but research that includes long-term follow-up evaluations is clearly scarce.

A third observation pertains to the various methods used to measure adolescent disruptive behavior, including self-report, parent-report, teacher-report, and official records. Multiple measures help to confirm results from different perspectives and were used in just over one half (15 of 27; 56%) of the studies in Table 2. Self-report was used in 16 studies (59%), parent-report was used in 16 studies (59%), and teacher-report was used in just 5 studies (19%). Official records were used in 13 studies (48%). Use of official records takes on heightened importance for treatments devoted to juvenile justice samples, especially since those treatments often are funded through juvenile justice system dollars. Of the 18 studies conducted with justice-involved youth, 12 (67%) measured outcomes via official records.

A final set of important observations pertain to characteristics of the study samples. Such information speaks to the generalizability of the research findings and also sheds light on

potential population gaps. Interestingly, of the 27 studies in Table 2, 9 (33%) were conducted outside of the United States, which is a significant advancement in our field, especially since the prior review. Of the remaining 18 studies conducted within the United States, samples were predominantly white, but a few had substantial minority representation. For example, African American youth made up at least 20% of the sample in 9 of the 18 studies. Three studies included predominately Hispanic samples, although representation from other racial/ethnic groups was quite low. Finally, across all 27 studies, conducted both within and outside the United States, we estimate that approximately 40% of participants were female. These data suggest girls are being adequately included in disruptive behavior treatment trials. In the United States, African American youth also appear to be adequately included, although other minority groups are not well represented. Lastly, a review of the studies in Table 2 indicates that most (67%) focused on justice-involved youth. Relative to youth with no justice involvement, justice-involved youth are more concerning from a societal perspective, so having sound evidence-based treatments for that population is critical. However, conduct-related problems are the most frequent presenting concern to community mental health centers (Foster, Kelsch, Kamradt, Sosna, & Yang, 2001). Thus, treatment providers need evidence-based treatments for youth whose disruptive behavior does not rise to the level of justice involvement. As illustrated by our review, far less research has focused on that group.

Research and Clinical Implications

One purpose of this review is to provide next steps for the research field. Although research has advanced rapidly since the two prior reviews (Brestan & Eyberg, 1998; Eyberg, et al., 2008), there is still a very long way to go, particularly in specific areas. For example, as noted previously, more effectiveness trials are needed – as are studies that assess the maintenance ("durability") of treatment gains and that measure disruptive behavior outcomes using multiple methods. In particular, these studies should be applied to treatments for which we already have promising evidence, to increase the options for clinicians in the field. More conscious efforts are needed to increase the representation of minority groups in research samples. In addition, much more attention should be devoted to the development and evaluation of treatments for disruptive adolescents who are not involved with the juvenile justice system. There is a clear need for more research on the therapeutic mechanisms and therapeutic process variables that mediate favorable youth and family outcomes. Other key areas for research include an examination of the most effective and efficient methods for disseminating evidence-based treatments for disruptive youth to community settings, exploration of organizational and service system factors that are critical for sustaining high-quality programs, and cost-benefit evaluations.

Another purpose of this review is to summarize a large and varied body of empirical literature so it can be useful to a clinical audience. This review identifies a number of *well-established* and *probably efficacious* treatments that a clinical audience could employ, especially for youth with serious disruptive behaviors, as well as a set of *possibly efficacious* treatments (and one *probably efficacious* treatment) for youth with less serious disruptive behavior. On the one hand, there is great promise based on the conclusions of this review, particularly for the riskiest populations of adolescent juvenile offenders. However, there are

a few important caveats. First, and as noted previously, the treatments achieving consistent results, especially for the most damaging and costly behaviors (i.e., juvenile offending), tend to be multicomponent, complex treatment models. And, when these models are delivered with poor adherence, research confirms that they generate worse outcomes than when delivered with high adherence (e.g., Helmond, et al., 2015; Henggeler, et al., 1997; Henggeler, et al., 1999; Sundell, et al., 2008). In fact, at least one study indicated that implementing a specified treatment with low adherence generated significantly poorer outcomes than the comparison condition (Sexton & Turner, 2010). In light of these findings, clinicians should be cautioned to prioritize adherence rather than delivering a "watered down" version of a treatment, at least until that version of the treatment has undergone efficacy testing or until research can uncover the minimum set of active ingredients for a given treatment (i.e., therapeutic mechanisms research). Otherwise, it is unknown if positive outcomes can be achieved. The important take-home message is that the treatments described here that achieved positive outcomes for youth disruptive behaviors were delivered with high adherence to the treatment model.

So, where does this leave clinicians and organizations that do not have the resources to import one of the treatments and achieve high adherence to the model? For some treatments, extensive descriptions, including treatment manuals, have been published and are available for public consumption. Organizations and individual clinicians are free to borrow from these manuals and to adopt and adapt the concepts and clinical procedures they view as most useful for their purposes. However, the second important caveat is that clinicians or organizations are not free to conclude that they are implementing the identified treatments in the absence of validated verification of such. The two *well-established* treatments, as well as many of the other treatments with positive results, require a quality assurance system to be engaged, often with contracting of a purveyor organization (e.g., see www.mstservices.com, www.tfcoregon.com, www.functionalfamilytherapy.com). Other treatments would require consulting with the original developers to plan carefully for training and potentially for quality assurance.

Another important caveat for a clinical audience is to be conscientious in considering the population that one is aiming to serve. As described previously, the identified treatments vary widely in the severity level of the behaviors effectively treated and, in most cases, vary correspondingly in their treatment intensity and thus their cost. As described subsequently, it is critical to compare the cost to the potential societal and cost benefit, but it may be unreasonable to direct the highest intensity treatments to the lowest severity problems (e.g., mild classroom behavior problems in the absence of other disruptive behaviors). Likewise, it is unrealistic to assume that a treatment tested only on less severe disruptive behaviors (e.g., Familias Unidas, Nonviolent Resistance) could achieve positive outcomes with severe disruptive behaviors until such was tested.

One additional consideration for a clinical audience is to encourage partnering with investigators to conduct clinical research, whether it be RCTs or lesser designs. Several recent studies, both randomized and quasi-experimental, were conducted in community-based settings. With appropriate resources and supportive partners, it is clear that

collaborations between clinical organizations and researchers can advance our knowledge base on methods of reducing disruptive behavior among adolescents.

Summary and Conclusions

As a whole, the treatment and research fields for adolescent disruptive behavior should be mindful of some key points as we move ahead. First, a wealth of knowledge has emerged during the past several decades on the key risk factors for disruptive behaviors in adolescence. Yet, some treatment approaches in the field might not be fully leveraging this knowledge base. To use an analogy, it seems logical that someone recovering from a heart attack should address the known risk factors to effectively reduce the probability of a second attack. Indeed, for a heart attack victim, increased exercise alone would be unlikely to produce a sizeable reduction in heart attack risk if the victim fails to address concurrent problems such as hypertension, obesity, smoking, and/or substance use (Leon et al., 2005). Similarly, it makes sense for our disruptive behavior treatments, whenever possible, to focus on all known risk factors for that presenting problem. For example, if a disruptive behavior treatment simply targeted youths' cognitive impairments while ignoring other well-established risk factors that are present (e.g., maladaptive parenting and poor family relations, deviant peer influence, and low school involvement), that treatment would not be expected to yield substantial or durable effects.

Second, the identified treatments that have achieved widespread dissemination have been highly specified for a community-based audience, with their protocols including clearly defined treatment procedures and standardized training and quality assurance systems. Notably, these systems began at the entreaty of the field rather than simply as a pursuit of the treatment developers. As treatments have gained increasing empirical support and as researchers have discovered the tendency for drops in outcomes related to low adherence, more programs are moving toward this enhanced quality assurance paradigm. While this approach may vary from a traditional "workshop" or "train-and-hope" model, awareness for the need of such quality assurance protocols, or development of the means to generate model adherence, is steadily growing. This awareness, however, must expand to include embracing such training and quality assurance systems philosophically, as well as valuing such protocols enough to fund and even require their utilization.

Third, it may seem as though the field has made giant strides in increasing the delivery of evidence-based treatments to adolescents with disruptive behavior, but the reality is that we have a minority of youth receiving our best treatments. For example, estimates indicate that 95% of serious juvenile offenders do not receive an evidence-based treatment (Greenwood, 2008; Henggeler & Schoenwald, 2011). Although there are numerous reasons why evidence-based treatments for disruptive youth are not getting to those who most need it (e.g., complexity of service delivery, little research on key therapeutic mechanisms, policy/political decisions and financial priorities, competing system/organizations' emphases and funding), this fact is lamentable at best and a disservice at worst; as Hogue and colleagues (2014) stated, the low utilization of evidence-based treatments is "dramatically undercutting the potential public health benefits afforded by the advances in treatment research." The economic impact is quite staggering, considering the public cost per child with conduct

disorder is over $10,000 annually in special education, mental health, juvenile justice, child welfare services (Foster, Jones, & The Conduct Problems Prevention Research Group, 2005), and the cost for a single lifetime of crime is over $1 million (M. A. Cohen, 1998). While implementing the treatments identified in this review might create costs for a community, the potential economic and public health payoffs of reducing disruptive behavior among adolescents is clear. Notably, for the first time since the comprehensive *JCCAP* reviews began, we have *well-established* psychosocial treatments for some portion of adolescents engaged in disruptive behaviors (i.e., justice-involved); this is particularly important given evidence that some juvenile justice interventions, including intensive supervision, "shock" incarceration, and boot camps have actually been shown to *increase* the criminal behavior of juvenile offenders (Drake, Aos, & Miller, 2009; Greenwood, 2008; Howell, 2008). In addition, we have several *probably* and *possibly efficacious* treatments for the segment of adolescents with less severe disruptive behaviors. While significant gaps remain in our knowledge base, we hope this paper serves as a call to action to continue improving the quality and reach of psychosocial treatments for disruptive behavior among adolescents.

Acknowledgments

The authors' effort in the preparation of this publication was supported by grants from the National Institutes of Health (P50DA035763, R01DA025616). The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health. The authors would like to thank Jennifer Smith-Powell and Kevin Armstrong for assisting with the literature review and data management.

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Table 1

Journal of Clinical Child and Adolescent Psychology Evidence Base Update Evaluation Criteria

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, treated for specified problems, 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

Level 1: Well-Established Treatments

Evidence criteria

1.1 Efficacy demonstrated for the treatment by showing the treatment to be:

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 (2) independent research settings and by two (2) independent investigatory teams demonstrating efficacy

AND

1.2 All five (5) of the ***Methods criteria***

Level 2: Probably Efficacious Treatments

Evidence criteria

2.1 There must be at least two good experiments showing the treatment is superior (statistically significantly so) to a wait-list control group

OR

2.2 One (or more) good experiments meeting the Well-Established Treatment level except for criterion 1.1c (i.e., Level 2 treatments will not involve independent investigatory teams)

AND

2.3 All five (5) of the ***Methods criteria***

Level 3: Possibly Efficacious Treatments

Evidence criteria

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 (5) 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

Evidence criteria

4.1 Not yet tested in a randomized controlled trial

OR

4.2 Tested in one (1) or more clinical studies but not sufficient to meet Level 3 criteria

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

Note: Adapted from Silverman and Hinshaw (2008) and Division 12 Task Force on Psychological Interventions' reports (Chambless, et al., 1998; Chambless, et al., 1996), from Chambless and Hollon (1998), and from Chambless and Ollendick (2001).

Table 2

Well-Conducted Studies Comprising the Evidence Base for Psychosocial Treatments of Disruptive Behavior among Adolescents (by Treatment Type[a])

Target Treatment [Treatment Format[b]]	Study Authors[c]	Sample Type[d]	Demographic Characteristics[e,f]	Therapists [Setting]	Treatment Conditions[g]	Types of Disruptive Behavior Measures[h]	Trial Type	Significant Differences Favoring Target[i]	Supportive[j]
Behavioral Therapy or Parenting Skills									
Familias Unidas [Family Group & Family]	(Pantin et al., 2009)	Youth with disruptive behavior (rated by teachers, parents)	Age 8th grade (M = 13.8) Male = 64% Ethnicity: 100% H	Master's and PhD Professionals [Setting NR]	Referrals to community programs (n = 104)[k] Familias Unidas (n = 109)	P	Efficacy	1/2	Y
Non-Violent Resistance (NVR) [Family]	(Weinblatt & Omer, 2008)	Youth in Israel with disruptive behavior	Age 4–17 yrs (M = 12.6) Male = 68% Ethnicity: NR	Professional therapist [Clinic and Phone]	Waitlist (n = 20) NVR (n = 21)	P	Efficacy	2/2	Y
Positive Family Support-Family Check-Up (formerly Adolescent Transitions Program (ATP)) [Family and Parent Groups]	(Irvine, Biglan, Smolkowski, Metzler, & Ary, 1999)	Youth with disruptive behavior referred by schools or community social workers	Age M = 12.2 Male = 61% Ethnicity: 88% C, 12% NR	Paraprofessional [Clinic]	Waitlist (n = 152) ATP (n = 151)	P	Effectiveness	2/5	N
Positive Family Support-Family Check-Up (formerly Adolescent Transitions Program (ATP)) [Family and Parent Groups Only]	(Dishion & Andrews, 1995)	Youth with disruptive behavior	Age 10–14 yrs (M = 12.4) Male = 53% Ethnicity: 95% C, Remainder NR	Professional and parent co-leader [Setting NR]	Self-directed Parenting Bibliotherapy (n = 29) ATP-Parent Only (n = 26)	P, T	Efficacy	1/4	N
Positive Family Support-Family Check-Up (formerly Adolescent Transitions Program (ATP)) [Youth Group Only]	See Dishion & Andrews (1995) above	See above	See above	Therapists NR [Setting NR]	Self-directed Parenting Bibliotherapy (n = 29) ATP-Youth Only (n = 32)	P, T	See above	0/4	N
Positive Family Support-Family Check-Up (formerly Adolescent Transitions Program (ATP)) [Family and Parent Groups + Youth Group]	See Dishion & Andrews (1995) above	See above	See above	Professional and parent co-leader + Therapists NR [Setting NR]	Self-directed Parenting Bibliotherapy (n = 29) ATP-Parent and Youth (n = 31)	P, T	See above	0/4	N
Cognitive-Behavioral Therapy (CBT)									
Aggression Replacement Training + Positive Peer Culture (Equipping Youth to Help One Another (EQUIP)) [Youth Group]	(Leeman, et al., 1993)	JJ Youth in correctional placement for nonviolent crime	Age 15–18 yrs (M = 16.0) Male = 100% Ethnicity: 67% C, 32% AA, 1% H	Paraprofessionals (Facility staff) [Detention facility]	TAU juvenile justice facility (n = 37) EQUIP (n = 20)	R	Efficacy	1/2	Y
Cognitive Mediation [Youth Group]	(Guerra & Slaby, 1990)	JJ Youth incarcerated for violent crime	Age 15–18 yrs (M = 17.0) Male = 50%	Students [Detention facility]	Attention Control (Academic Skills) (n = 40)	T, R	Efficacy	1/2 1/2	Y Y

Target Treatment [Treatment Format[b]]	Study Authors[c]	Sample Type[d]	Demographic Characteristics[e,f]	Therapists [Setting]	Treatment Conditions[g]	Types of Disruptive Behavior Measures[h]	Trial Type	Significant Differences Favoring Target[i]	Supportive[j]
			Ethnicity: Primarily AA and H		No Treatment (n = 40) Cognitive Mediation (n = 40)				
SafERteens Delivered by Therapists [Individual]	(Walton et al., 2010)	Youth in emergency room who screened positive for violence and alcohol use	Age 14–18 yrs (M = 16.8) Male = 44% Ethnicity: 39% C, 56% AA, 7% H	Professional social workers [Emergency Room]	No treatment (brochure) (n = 235) Therapist delivered SafERteens (n = 254)	S	Efficacy	4/12	N
Same sample 1 yr post-treatment	(Cunningham, Foster, & Warner, 2010)					S		2/3	Y
SafERteens Delivered by Computer [Individual]	See Walton et al., (2010) above	See above	See above	Computer [Emergency Room]	No treatment (brochure) (n = 235) Computer delivered SafERteens (n = 237)	S	See above	1/12	N
Same sample 1 yr post-treatment	See Cunningham et al., (2012) above					S		0/3	N
Solution-Focused Group Program [Youth Group]	(Shin, 2009)	JJ Youth in South Korea on probation	Age M = 17.0 Male = NR Ethnicity: NR	Professional social workers [NR]	Individual supportive sessions (n = 20) Solution-focused group program (n = 20)	S	Efficacy	1/1	Y
Combined Behavioral Therapy and Cognitive-Behavioral Therapy (CBT)									
Rational-Emotive Behaviour Therapy (REBT) [Youth Group]	(Kumar, 2009)	Youth in India with conduct disorder (per self-report)	Age 11–18 yrs (M = NR) Male = 50% Ethnicity: 100% Indian	Therapist NR [School]	No treatment (n = 100) REBT (n = 100)	S	Efficacy	1/1	Y
Support to Reunite, Involve, and Value Each Other (STRIVE) [Family]	(Milburn et al., 2012)	Youth who had run away from home	Age 12–17 yrs (M = 14.8) Male = 34% Ethnicity: 11 % C, 21% AA, 62% H	Therapists NR [Home]	Continued care from referral agency or referral to community program (n = 83)[k] STRIVE (n = 68)	S	Efficacy	1/1	Y
Combined Behavioral Therapy, Cognitive-Behavioral Therapy (CBT), and Family Therapy									
Functional Family Therapy (FFT) [Family]	(Alexander & Parsons, 1973)	JJ Youth arrested or detained for behavioral offense	Age 13–16 yrs (M = NR) Male = 44% Ethnicity: NR	Students [Clinic]	Client-centered family groups (n = 19) Psychodynamic family therapy (n = 11) No treatment (n =10) FFT (n = 46)	R	Efficacy	1/2	Y
Functional Family Therapy (FFT) [Family]	(Sexton & Turner, 2010)	JJ Youth sentenced to probation	Age 13–17 yrs (Mdn = 15.0) Male = 79%	Professional counselor [Home]	TAU probation services (n = 331)	R	Effectiveness	1/1	Y

Target Treatment [Treatment Format[b]]	Study Authors[c]	Sample Type[d]	Demographic Characteristics[e,f]	Therapists [Setting]	Treatment Conditions[g]	Types of Disruptive Behavior Measures[h]	Trial Type	Significant Differences Favoring Target[i]	Supportive[j]
			Ethnicity: 78% C, 10% AA, 3% Nat A, 5% Asian		FFT-high adherent therapists (n = 211)				
Multisystemic Therapy (MST) [Family]	(Henggeler, et al., 1992)	JJ Youth at risk of placement for serious criminal activity	Age M = 15.2 Male = 77% Ethnicity: 42% C, 56% AA	Master's Professionals [Home]	TAU (n = 41) MST (n = 43)	S, P, R	Efficacy	4/5	Y
Same sample M = 2.4 yrs post-referral	(Henggeler, Melton, Smith, Schoenwald, & Hanley, 1993)					R		1/1	Y
Multisystemic Therapy (MST) [Family] Note that the MST dose was less than half what was used in most other studies	(Borduin, et al., 1995)	JJ Youth in court for serious and chronic offending	Age 12–17 yrs (M = 15.0) Male = 69% Ethnicity: 76% C, 22% AA, 1% H, 1% Asian	Students [Home]	Individual Therapy (blend of psychodynamic, client-centered, and behavioral) (n = 84) MST (n = 92)	P, T, R	Efficacy	3/4	Y
Same sample M = 13.7 yrs post-treatment	(Schaeffer & Borduin, 2005)					R		5/6	Y
Same sample M = 21.9 yrs post-treatment	(Sawyer & Borduin, 2011)					R		9/16	Y
Multisystemic Therapy (MST) [Family]	(Henggeler, et al., 1997)	JJ Youth at risk of placement for violent or chronic offenses	Age 10–17 yrs (M = 15.2) Male = 82% Ethnicity: 19% C, 81% AA	Master's Professionals [Home]	Usual community services (n = 73) MST delivered with low adherence (n = 82)	S, P, R	Effectiveness	1/7	N
Multisystemic Therapy (MST) [Family]	(Henggeler, et al., 1999)	JJ Youth on probation with disruptive behavior who had substance abuse disorders	Age 12–17 yrs (M = 15.7) Male = 79% Ethnicity: 47% C, 50% AA, 1% H, 1% Asian	Master's Professionals [Home]	Usual community services (n = 59) MST delivered with low adherence (n = 59)	S, R	Efficacy	0/2	N
Same sample 4 yrs post-treatment	(Henggeler, Clingempeel, Brondino, & Pickrel, 2002)					S, R		2/4	Y
Multisystemic Therapy (MST) [Family]	(Ogden & Halliday-Boykins, 2004)[c]	JJ Youth in Norway with serious disruptive behavior	Age 12–17 yrs (M = 15.0) Male = 63% Ethnicity: 95% Norwegian background	Bachelors and Master's Professionals [Home]	Usual child welfare services (n = 38) MST (n = 62)	S, P, T	Effectiveness	2/3	Y
Same sample 2 yrs post-recruitment	(Ogden & Hagen, 2006)[c]					S, P, T		3/8	N
Multisystemic Therapy (MST) [Family]	(Timmons-Mitchell, et al., 2006)[c]	JJ Youth at risk of placement for felony offenses	Age 12–17 yrs (M = 15.1) Male = 88% Ethnicity: 78% C, 16% AA, 4% H	Master's Professionals [Home]	Usual community services (n = 45) MST (n = 48)	R	Effectiveness	5/6	Y

Target Treatment [Treatment Format[b]]	Study Authors[c]	Sample Type[d]	Demographic Characteristics[e,f]	Therapists [Setting]	Treatment Conditions[g]	Types of Disruptive Behavior Measures[h]	Trial Type	Significant Differences Favoring Target[i]	Supportive[j]
Multisystemic Therapy (MST) [Family]	(Sundell, et al., 2008)[c]	Youth in Sweden with conduct disorder, referred by child welfare system	Age 12–17 yrs (*M* = 15.0) Male = 61% Ethnicity: 53% Swedish, 16% European, 9% African, 19% Asian	Bachelors and Master's Professionals [Home]	TAU child welfare services in Sweden (*n* = 77) MST delivered with low adherence (*n* = 79)	S, P, R	Effectiveness	0/7	N
Multisystemic Therapy (MST) [Family]	(Glisson, et al., 2010)	JJ Youth offenders at risk of placement	Age 9–17 yrs (*M* = 14.9) Male = 69% Ethnicity: 91% C, 5% AA, 1% H, 1% Nat A	Master's and other Professionals [Home]	TAU (*n* = 299) MST (*n* = 316)	P	Effectiveness	1/4	N
Multisystemic Therapy (MST) [Family]	(Butler, et al., 2011)[c]	JJ Youth offenders in Great Britain	Age 13–17 yrs (*M* = 15.0) Male = 82% Ethnicity: 38% White British/ European; 33% Black African/Afro-Caribbean British; 5% Asian British	Master's Professionals [Home]	Youth Offending Teams (*n* = 52) MST (*n* = 56)	S, P, R	Effectiveness	7/14	Y
Multisystemic Therapy (MST) [Family]	(Asscher, et al., 2013)[c]	JJ Youth in The Netherlands with severe and violent disruptive behavior	Age 12–18 yrs (*M* = 16.0) Male = 73% Ethnicity: 55% Dutch; 15% Moroccan; 14% Surinamese	Therapists NR [Home]	TAU (*n* = 109) MST (*n* = 147)	S, P	Effectiveness	5/6	Y
Same sample 3 yrs post-treatment	(Asscher et al., 2014)[c]					S, P, R		5/15	N
Multisystemic Therapy (MST) [Family]	(Weiss, et al., 2013)[c]	Youth in self-contained behavior intervention classrooms; Note that this diverges from other MST studies	Age 11–18 yrs (*M* = 14.6) Male = 83% Ethnicity: 40% C, 60% AA	Bachelors and Master's Professionals [Home & School]	Behaviorally focused classroom management plan (*n* = 80) MST + Behaviorally focused classroom management plan (*n* = 84)	S, P, T	Effectiveness	2/4	Y
Treatment Foster Care Oregon (TFCO; formerly Multidimensional Treatment Foster Care (MTFC)) [Family & Individual]	(Chamberlain & Reid, 1998)	JJ Youth mandated to placement for serious delinquency	Age 12–17 yrs (*M* = 14.9) Male = 100% Ethnicity: 85% C, 6% AA, 6% H, 3% Nat A	Trained foster parents, case managers, and therapists [Home]	TAU juvenile justice group care (*n* = 42) TFCO (*n* = 37)	S, R	Efficacy	4/4	Y
Same sample 2 yrs post-baseline	(Eddy, et al., 2004)					S, R		4/4	Y
Treatment Foster Care Oregon (TFCO; formerly Multidimensional Treatment Foster Care (MTFC)) [Family & Individual]	(Leve, et al., 2005)	JJ Youth mandated to placement for serious delinquency	Age 13–17 yrs (*M* = 15.3) Male = 0% Ethnicity: 74% C, 2% AA, 9% H, 1% Asian, 12% Nat A	Trained foster parents, case managers, and therapists [Home]	TAU juvenile justice group care (*n* = 44) TFCO (*n* = 37)	S, P, R	Efficacy	2/4	Y
Same sample 2 yrs post-baseline	(Chamberlain, et al., 2007)					S, R		2/2	Y

Target Treatment [Treatment Format[b]]	Study Authors[c]	Sample Type[d]	Demographic Characteristics[e,f]	Therapists [Setting]	Treatment Conditions[g]	Types of Disruptive Behavior Measures[h]	Trial Type	Significant Differences Favoring Target[i]	Supportive[j]
Treatment Foster Care Oregon (TFCO; formerly Multidimensional Treatment Foster Care (MTFC)) [Family & Individual]	(Westermark, et al., 2011)[c]	JJ Youth in Sweden with conduct disorder and risk of placement	Age 12–18 yrs (*M* = 15.4) Male = 51% Ethnicity: 74% Swedish, 26% Immigrant	Trained foster parents, case managers, and therapists [Home]	TAU (*n* = 15) TFCO (*n* = 20)	S, P	Effectiveness	3/4	Y
Treatment Foster Care Oregon (TFCO; formerly Multidimensional Treatment Foster Care (MTFC)) [Family & Individual]	(Hansson & Olsson, 2012)[c]	JJ Youth in Sweden with conduct disorder and risk of placement	Age 12–17 yrs (*M* = 15.0) Male = 61% Ethnicity: 65% Swedish, 35% Immigrant	Trained foster parents, case managers, and therapists [Home]	TAU (*n* = 27) TFCO (*n* = 19)	S, P	Effectiveness	2/6	N

Notes:

[a] Type refers to Behavioral Therapy or Parenting Skills, Cognitive-Behavioral Therapy (CBT), Combined Behavioral Therapy and Cognitive-Behavioral Therapy (CBT), and Combined Behavioral Therapy, Cognitive-Behavioral Therapy (CBT), and Family Therapy.

[b] Format refers to Family, Individual, Youth Group, Parent Group, and/or Family Group.

[c] Indicates studies that are by investigators independent from the treatment developers.

[d] Samples denoted as JJ contain primarily juvenile justice-involved participants.

[e] NR = Not Reported

[f] Primary ethnicities are reported. AA = African American; C = Caucasian; H = Hispanic; Nat A = Native American.

[g] TAU = Treatment as Usual

[h] S = Self-report; P = Parent- or caregiver-report; T = Teacher-report; R = Official records.

[i] This column indicates the number of disruptive behavior measures in the study that showed a statistically significant ($p < .05$) between-group difference favoring the target treatment. For example, an entry of 2/3 would indicate that the study included 3 measures of disruptive behavior and that the experimental treatment showed significantly better outcomes than the control condition on 2 of the measures.

[j] This column includes Y = Yes or N = No to indicate if a study is supportive of the target treatment as a treatment for disruptive behaviors. A study is considered supportive of the target treatment if it found the treatment to be either (a) superior to a psychological placebo/another active treatment, (b) superior to a waitlist or no treatment comparison, or (c) equivalent to an already well-established treatment on at least 50% of the disruptive behavior outcome measures.

[k] Although referrals were made to community programs, no information was provided on participants' actual receipt of services.

Table 3

Other Studies Comprising the Evidence Base for Psychosocial Treatments of Disruptive Behavior among Adolescents

Target Treatment [Treatment Format[a]]	Study Authors[b]	Sample Type[c]	Treatment Type	M.1[d]	M.5	Trial Type	Supportive[e]
Aggression Replacement Training + Token Economy [Youth Group]	(Holmqvist, Hill, & Lang, 2009)	JJ Youth in Sweden in residential facility for criminal activity	Behavioral CBT	N	Y	Efficacy	N
Aggression Replacement Training (Learned Resourcefulness) [Youth Group]	(Ronen & Rosenbaum, 2010)	Youth in Israel with school aggression	CBT	N	Y	Efficacy	Y
Aggression Replacement Training + Positive Peer Culture (Equipping Youth to Help One Another (EQUIP)) [Youth Group]	(Brugman & Bink, 2011)[b]	JJ Youth (boys) in the Netherlands in correctional facilities	CBT	N	N	Effectiveness	N
Aggression Replacement Training + Positive Peer Culture (Equipping Youth to Help One Another (EQUIP)) [Youth Group]	(Helmond, et al., 2015)[b]	JJ Youth in the Netherlands in correctional facilities	CBT	N	N	Effectiveness	N
Anger Control Training with Behavioral Management [Classroom]	(Robinson, Smith, & Miller, 2002)	Youth with chronic behavior problems	Behavioral CBT	N	Y	Efficacy	N
Anger Control Training with Contingency Management (CM) [Youth Group]	(Feindler, et al., 1984)	Youth with disruptive behavior	Behavioral CBT	Y	N	Efficacy	Y
Anger Management for Female Juvenile Offenders [Youth Group]	(Goldstein, Dovidio, Kalbeitzer, Weil, & Strachan, 2007)	JJ Youth (girls) in residential facility	Behavioral CBT	Y	N	Efficacy	Y
Anger Management + Think Good, Feel Good [Youth Group]	(Ruttledge & Petrides, 2011)	Youth in Ireland with school behavior problems	CBT	N	N	Efficacy	Y
Assertive Training [Counselor Led Youth Group]	(W. C. Huey & Rank, 1984)	Youth with chronic classroom disruption	CBT	Y	N	Efficacy	Y
Assertive Training [Peer Led Youth Group]	See W. C. Huey & Rank (1984) above	See above	CBT	Y	N	See above	Y
Behavior Management Training + Problem-Solving Communication Training [Family]	(Barkley, Edwards, Laneri, Fletcher, & Metevia, 2001)	Youth with opposition defiant disorder + ADHD	Behavioral Parenting Skills	N	N	Efficacy	Y
Brief Strategic Family Therapy [Family]	(Santisteban et al., 2003)	Youth (Hispanic) with externalizing behavior	Family therapy	Y	N	Efficacy	Y
Cognitive-Behavioral Therapy [Youth Group]	(Karataş & Gökçakan, 2009)	Youth in Turkey with aggression	CBT	Y	N	Efficacy	Y
Cognitive Training + Phone Coaching (RealVictory Program) [Youth Group & Individual]	(Burraston, Cherrington, & Bahr, 2012)	JJ Youth on probation	CBT	N	Y	Efficacy	Y

Target Treatment [Treatment Format[a]]	Study Authors[b]	Sample Type[c]	Treatment Type	M.1[d]	M.5	Trial Type	Supportive[e]
Connect Program [Parent Group]	(Moretti & Obsuth, 2009)	Youth in Canada with behavior problems or conduct disorder	Behavioral Attachment	N	Y	Efficacy	Y
Contingency Management (CM) * [Family]	(Hughes & Wilson, 1988)	Youth in Australia with conduct problems	Behavioral	Y	N	Efficacy	N
Counseling Intervention [Youth Group]	(Shechtman & Ifargan, 2009)	Youth in Israel with school aggression	Humanistic Bibliotherapy Psychodynamic CBT	N	N	Efficacy	N
Dialectical Behavioral Therapy (DBT) [Individual & Youth Group]	(Marco, García-Palacios, & Botella, 2013)[b]	Youth (girls) in Spain with oppositional defiant disorder and comorbid psychiatric problems	Behavioral CBT	N	N	Effectiveness	Y
Dialectical Behavior Therapy DBT-Corrections Modified [Youth Group]	(Shelton, Kesten, Zhang, & Trestman, 2011)	JJ Youth (boys) in correctional facility with behavior problems	Behavioral CBT	N	N	Efficacy	Y
Dialectical Behavior Therapy (DBT) Skills Training Only [Youth Group]	(Nelson-Gray et al., 2006)	Youth with oppositional defiant disorder or conduct disorder	Behavioral CBT	N	N	Efficacy	Y
Family Centered Treatment [Family]	(Sullivan, Bennear, Honess, Painter, & Wood, 2012)	JJ Youth adjudicated for delinquency	Family therapy Emotionally focused	N	Y	Effectiveness	Y
Functional Family Therapy (FFT) [Family]	(Baglivio, et al., 2014)[b]	JJ Youth referred by juvenile justice	Behavioral CBT Family therapy	N	Y	Effectiveness	Y
Integrated Families and Systems Treatment (I-FAST) [Family]	(Lee et al., 2013)	Youth with disruptive behavior disorders	Behavioral CBT Family therapy	N	N	Effectiveness	Y
Juvenile Cognitive Intervention [Youth Group]	(Bogestad, Kettler, & Hagan, 2010)	JJ Youth in correctional facilities	CBT	N	Y	Effectiveness	Y
Juvenile Probation Services Intervention [Youth Group]	(Khoury-Kassabri, Sharvet, Braver, & Livneh, 2010)	JJ Youth (boys) in Israel on probation for violent offenses	CBT	N	N	Efficacy	Y
Life Skills (Psychoeducation) [Youth Group]	(Lancaster, Balkin, Garcia, & Valarezo, 2011)	JJ Youth on probation and school behavior problems	CBT	N	Y	Efficacy	Y
Meditation on the Soles of the Feet [Individual]	(Singh et al., 2007)	Youth with conduct disorder	CBT Mindfulness	N	N	Efficacy	Y
Mindfields [Individual]	(Carroll, Ashman, Hemingway, Bower, & Houghton, 2012)	JJ Youth in Australia with a history of delinquency	CBT	N	N	Efficacy	Y
Monitored Youth Mentoring Program [Individual]	(Boras & Zuckerman, 2008)	Youth in Croatia with school behavior problems	Mentoring	N	N	Efficacy	Y**
Motivational Interviewing (Personal Aspiration and Concerns)	(Kearney & Sellen, 2013)	JJ Youth (Males) in the United Kingdom incarcerated for offending	CBT	Y	N	Efficacy	N

Target Treatment [Treatment Format[a]]	Study Authors[b]	Sample Type[c]	Treatment Type	M.1[d]	M.5	Trial Type	Supportive[e]
[Individual & Youth Group]							
Motivational Interviewing + Solution-Focused Counseling + Behavioral Shaping [Youth Group]	(Enea & Dafinoui, 2009)	Youth in Romania with school truancy	Behavioral CBT	N	N	Efficacy	Y
Multi-Family Group Counseling [Family Group]	(Canfield, Ballard, Osmon, & McCune, 2004)	Youth with school aggression	CBT	N	Y	Effectiveness	Y
Multiple-Family Group Intervention [Family Group]	(Keiley, 2007)	JJ Youth in correctional facilities	CBT Attachment	N	N	Efficacy	Y
Multisystemic Therapy (MST) [Family]	(Ogden, et al., 2007)[b]	JJ Youth in Norway with serious antisocial behavior	Behavioral CBT Family therapy	N	Y	Effectiveness	Y
Multisystemic Therapy (MST) [Family]	(Stambaugh, et al., 2007)[b]	JJ Youth at risk of placement for antisocial behavior	Behavioral CBT Family therapy	N	Y	Effectiveness	Y
Multisystemic Therapy (MST) [Family]	(Tolman, et al., 2008)[b]	Children and Youth with willful misconduct; Note that age and presenting problem diverge from other MST studies	Behavioral CBT Family therapy	N	Y	Effectiveness	Y
Multisystemic Therapy (MST) [Family]	(Curtis, et al., 2009)[b]	JJ Youth in New Zealand at risk of placement for behavior problems	Behavioral CBT Family therapy	N	Y	Effectiveness	Y
Multisystemic Therapy (MST) [Family]	(Painter, 2009)[b]	Youth with disruptive behavior disorders in a community mental health setting with no history of JJ involvement; Note this diverges from other MST studies	Behavioral CBT Family therapy	N	Y	Effectiveness	Y
Multisystemic Therapy (MST) [Family]	(Fain, et al., 2014) [b]	JJ Youth chronically on probation and in need of intensive services	Behavioral CBT Family therapy	N	Y	Effectiveness	Y
Multisystemic Therapy (MST) [Family]	(Smith-Boydston, et al., 2014) [b]	JJ Youth with justice involvement or at risk of placement for externalizing problems	Behavioral CBT Family therapy	N	Y	Effectiveness	Y****
Non-Violent Resistance (NVR) [Family]	(Newman, Fagan, & Webb, 2014)[b]	Youth in the United Kingdom with aggression	Behavioral Parenting Skills	N	Y	Efficacy	Y
Parent Management + Problem-Solving + CBT [Individual & Family]	(Wolff & Ollendick, 2012)	Youth with opposition defiant/ conduct disorder + depression	Behavioral Parenting Skills CBT	N	N	Efficacy	Y
Parenting with Love and Limits [Parent Group]	(Baruch, Vrouva, & Wells, 2011)[b]	Youth with behavior problems	Behavioral Parenting Skills	N	Y	Effectiveness	Y

J Clin Child Adolesc Psychol. Author manuscript; available in PMC 2017 September 01.

Target Treatment [Treatment Format[a]]	Study Authors[b]	Sample Type[c]	Treatment Type	M.1[d]	M.5	Trial Type	Supportive[e]
Parenting with Love and Limits Re-Entry [Individual, Parent Group, Family]	(Early, Chapman, & Hand, 2013)[b]	JJ Youth returning from placement (Aftercare)	Behavioral Parenting Skills CBT Wraparound	N	Y	Effectiveness	Y
Positive Life Changes [Youth Group]	(Williamson, Dierkhising, & Guerra, 2013)	Youth attending an alternative school for behavior problems	CBT	N	Y	Efficacy	N
Psychodynamic (Human Relations Training) [Youth Group]	(Block, 1978)	Youth with disruptive behavior	Psychodynamic	Y	N	Efficacy	N
Rational-Emotive Mental Health Program [Youth Group]	See Block (1978) above	See above	CBT	Y	N	See above	Y
Relaxation Breathing Exercise [Individual]	(Gaines & Barry, 2009)	JJ Youth (Males) in residential placement	Behavioral	N	N	Efficacy	N
Treatment Foster Care Oregon (TFCO; formerly Multidimensional Treatment Foster Care (MTFC)) [Family & Individual]	(Rhoades, et al., 2013)	JJ Youth (girls) in England in foster care with behavioral difficulties and/or history of offending	Behavioral CBT Family therapy	N	N	Efficacy	Y
Treatment Foster Care Oregon (TFCO; formerly Multidimensional Treatment Foster Care (MTFC)) [Family & Individual]	(Green, et al., 2014)[b]	JJ Youth in the United Kingdom at risk of placement for antisocial behavior	Behavioral CBT Family therapy	N	Y	Effectiveness	Y***
Treatment Foster Care Oregon (TFCO; formerly Multidimensional Treatment Foster Care (MTFC)) + Trauma-Focused CBT [Family & Individual]	(Smith, et al., 2012)	JJ Youth (Females) court mandated to placement for delinquency	Behavioral CBT Family therapy	Y	N	Efficacy	Y
Triple P Teen (Self-Directed Enhanced with Phone Consultations) [Self-Directed & Parent]	(Stallman & Ralph, 2007)	Youth in Australia with behavior problems	Behavioral Parenting Skills	Y	N	Efficacy	Y*****

Notes:

[a] Format refers to Family, Individual, Group, Parent Group, and/or Family Group.

[b] Indicates studies that are by independent investigators.

[c] Samples denoted as JJ contain primarily juvenile justice-involved participants.

[d] Methods criteria M.2 (independent variable defined), M.3 (population clarified), and M.4 (outcomes assessed) were met for all studies listed in this table. These columns denote whether studies met or did not meet:

M.1 Group design: Study involved a randomized controlled design

M.5 Analysis adequacy: Appropriate data analyses were used and sample size was sufficient to detect expected effects

[e] This column includes Y = Yes or N = No to indicate if a study is supportive of the target treatment as a treatment for disruptive behaviors. A study is considered supportive of the target treatment if it found the treatment to be either (a) superior to a psychological placebo/another active treatment, (c) superior to a waitlist or no treatment comparison, or (b) equivalent to an already well-established treatment on at least 50% of the disruptive behavior outcome measures.

* Previously mislabeled as Parent Management Training in Eyberg, Nelson, and Boggs (2008).

** Treatment was supported only for youth with behavior problems, not behavior disorders.

*** Treatment was supported only for youth in this study who were antisocial at baseline.

**** MST conducted with a quality assurance system was compared to MST without quality assurance.

***** Treatment was supported only for Enhanced Self-Directed Triple P version, not Standard Self-Directed version.

Table 4

Level of Support Designations for Adolescent Disruptive Behavior Treatments[a]

Type[b]	Treatment Name[c]	Target Population
Level 1: Well-Established Treatments		
Combined Behavioral Therapy, Cognitive-Behavioral Therapy (CBT), and Family Therapy		
	Multisystemic Therapy[ci,d]	JJ-Involved
	Treatment Foster Care Oregon (TFCO; formerly Multidimensional Treatment Foster Care (MTFC))[cii]	JJ-Involved
Level 2: Probably Efficacious Treatments		
Cognitive-Behavioral Therapy (CBT)		
	Aggression Replacement Training + Positive Peer Culture (Equipping Youth to Help One Another)[ciii,d]	JJ-Involved
	Solution-Focused Group Program[civ]	JJ-Involved
Combined Behavioral Therapy, Cognitive-Behavioral Therapy (CBT), and Family Therapy		
	Functional Family Therapy[cv,d]	JJ-Involved
	Multisystemic Therapy[cvi,d]	Disruptive Behavior (not JJ-Involved)
Level 3: Possibly Efficacious Treatments		
Behavioral Therapy or Parenting Skills		
	Familias Unidas[ciii]	Disruptive Behavior (not JJ-Involved)
	Non-Violent Resistance[ciii]	Disruptive Behavior (not JJ-Involved)
Cognitive-Behavioral Therapy (CBT)		
	Cognitive Mediation[ciii]	JJ-Involved
Combined Behavioral Therapy and Cognitive-Behavioral Therapy (CBT)		
	Rational-Emotive Behavior Therapy[civ]	Disruptive Behavior (not JJ-Involved)
	Support to Reunite, Involve, and Value Each Other[civ]	Disruptive Behavior (not JJ-Involved)
Level 4: Experimental Treatments		
Behavioral Therapy or Parenting Skills		
	Behavior Management Training + Problem-Solving Communication Training	Disruptive Behavior (not JJ-Involved)
	Parenting with Love and Limits	Disruptive Behavior (not JJ-Involved)
	Triple P Teen (Self-Directed Enhanced with Phone Consultations)	Disruptive Behavior (not JJ-Involved)
Cognitive-Behavioral Therapy (CBT)		
	Aggression Replacement Training (Learned Resourcefulness)	School/Classroom Disruption
	Anger Management + Think Good, Feel Good	School/Classroom Disruption
	Assertive Training	School/Classroom Disruption
	Cognitive-Behavioral Therapy	Disruptive Behavior (not JJ-Involved)
	Cognitive Training + Phone Coaching (RealVictory Program)	JJ-Involved
	Juvenile Cognitive Intervention	JJ-Involved
	Juvenile Probation Services Intervention	JJ-Involved
	Life Skills (Psychoeducation)	JJ-Involved

Type[b]	Treatment Name[c]	Target Population
	Mindfields	JJ-Involved
	Multi-Family Group Counseling	School/Classroom Disruption
	Rational-Emotive Mental Health Program	Disruptive Behavior (not JJ-Involved)
Family Therapy		
	Brief Strategic Family Therapy	Disruptive Behavior (not JJ-Involved)
Mentoring		
	Monitored Youth Mentoring Program	School/Classroom Disruption
Combined Behavioral Therapy and Cognitive-Behavioral Therapy (CBT)		
	Anger Control Training with Contingency Management	Disruptive Behavior (not JJ-Involved)
	Anger Management for Female Juvenile Offenders	JJ-Involved
	Dialectical Behavioral Therapy	Disruptive Behavior (not JJ-Involved)
	Dialectical Behavior Therapy-Corrections Modified	JJ-Involved
	Dialectical Behavior Therapy-Skills Training Only	Disruptive Behavior (not JJ-Involved)
	Motivational Interviewing + Solution-Focused Counseling + Behavioral Shaping	Disruptive Behavior (not JJ-Involved)
	Parent Management + Problem-Solving + Cognitive-Behavioral Therapy	Disruptive Behavior (not JJ-Involved)
Combined Cognitive-Behavioral Therapy (CBT) and Mindfulness		
	Meditation on the Soles of the Feet	Disruptive Behavior (not JJ-Involved)
Combined Behavioral Therapy and Attachment-Based		
	Connect Program	Disruptive Behavior (not JJ-Involved)
	Multiple-Family Group Intervention	JJ-Involved
Combined Family Therapy and Emotionally Focused Approaches		
	Family Centered Treatment	JJ-Involved
Combined Behavioral Therapy, Cognitive-Behavioral Therapy (CBT), and Family Therapy		
	Integrated Families and Systems Treatment	Disruptive Behavior (not JJ-Involved)
	Treatment Foster Care Oregon (TFCO; formerly Multidimensional Treatment Foster Care (MTFC)) + Trauma-Focused CBT	JJ-Involved
Combined Behavioral Therapy, Cognitive-Behavioral Therapy (CBT), and Wraparound		
	Parenting with Love and Limits-Re-Entry	JJ-Involved
Level 5: Treatments of Questionable Efficacy		
Behavioral Therapy or Parenting Skills		
	Positive Family Support-Family Check-Up (formerly Adolescent Transitions Program)[cvii]	Disruptive Behavior (not JJ-Involved)
	Contingency Management	Disruptive Behavior (not JJ-Involved)
	Relaxation Breathing Exercise	JJ-Involved
Cognitive-Behavioral Therapy (CBT)		
	Motivational Interviewing (Personal Aspiration and Concerns)	JJ-Involved
	Positive Life Changes	Disruptive Behavior (not JJ-Involved)
	SafERteens	Disruptive Behavior (not JJ-Involved)
Psychodynamic		
	Human Relations Training	Disruptive Behavior (not JJ-Involved)
Combined Behavioral Therapy and Cognitive-Behavioral Therapy (CBT)		
	Aggression Replacement Training + Token Economy	JJ-Involved
	Anger Control Training with Behavior Management	Disruptive Behavior (not JJ-Involved)

Type[b]	Treatment Name[c]	Target Population
Combined Humanistic, Bibliotherapy, Psychodynamic, and Cognitive Behavioral Therapy (CBT)		
	Counseling Intervention	School/Classroom Disruption

[a] Cumulative support from studies included in Brestan and Eyberg (1998), Eyberg and colleagues (2008), and the current review.

[b] Type refers to Behavioral Therapy or Parenting Skills, Cognitive-Behavioral Therapy (CBT), Family Therapy, Mentoring, Psychodynamic, Combined Behavioral Therapy and Cognitive-Behavioral Therapy (CBT), Combined Cognitive-Behavioral Therapy (CBT) and Mindfulness, Combined Cognitive-Behavioral Therapy (CBT) and Attachment-Based, Combined Family Therapy and Emotionally Focused Approaches, Combined Behavioral Therapy, Cognitive-Behavioral Therapy (CBT), and Family Therapy, Combined Behavioral Therapy, Cognitive-Behavioral Therapy (CBT), and Wraparound, and Combined Humanistic, Bibliotherapy, Psychodynamic, and Cognitive Behavioral Therapy (CBT).

[c] For treatments evaluated in one or more randomized controlled trials (RCTs), the number of supportive and non-supportive studies are indicated.

[c i] 6 supportive RCTs, 3 non-supportive RCTs

[c ii] 3 supportive RCTs, 1 non-supportive RCT

[c iii] 1 supportive RCT

[c iv] 1 supportive RCT, outcome measured via self-report only

[c v] 2 supportive RCTs

[c vi] 1 supportive RCT, 1 non-supportive RCT

[c vii] 2 non-supportive RCTs

[d] For this particular treatment, one or more studies directly evaluated model adherence, and low adherence was shown to impact treatment effectiveness.

JJ = Juvenile justice