1-1-2016

Engagement in Behavioral Parent Training: Review of the Literature and Implications for Practice

Anil Chacko
New York University

Scott A. Jensen
University of the Pacific, sjensen@pacific.edu

Lynda S. Lowry
SUNY University at Buffalo

Melinda Cornwell
City University of New York

Alyssa Chimklis
New York University

See next page for additional authors

Follow this and additional works at: https://scholarlycommons.pacific.edu/cop-facarticles

Part of the Psychology Commons

Recommended Citation
https://scholarlycommons.pacific.edu/cop-facarticles/587
Engagement in Behavioral Parent Training:

Review of the Literature and Implications for Practice

Anil Chacko
New York University

Scott A. Jensen
University of the Pacific

Lynda S. Lowry
University at Buffalo, State University of New York

Melinda Cornwell
Queens College, City University of New York

Alyssa Chimklis, Elizabeth Chan, Daniel Lee, Brenda Pulgarin
New York University
Engagement in BPT

Author Note:

Correspondence concerning this article should be addressed to Scott A. Jensen, Department of Psychology, University of the Pacific, 3601 Pacific Ave., Stockton, CA, 95211.

sjensen@pacific.edu

Anil Chacko, Department of Applied Psychology, New York University, 246 Greene Street, Room 702, New York, NY 10003; anil.chacko@nyu.edu

Lynda S. Lowry, Department of Counseling, School, and Educational Psychology, University at Buffalo, State University of New York; sosa.lowry@gmail.com

Melinda Cornwell, Department of Psychology, Queens College, City University of New York, Melindakcornwell@gmail.com

Alyssa Chimklis, Department of Applied Psychology, New York University, 246 Greene Street, New York, NY 10003; achimiklis@gmail.com

Elizabeth Chan, Department of Applied Psychology, New York University, 246 Greene Street, New York, NY 10003; ec1791@nyu.edu

Daniel Lee, Department of Applied Psychology, New York University, 246 Greene Street, New York, NY 10003; daniel.kg.lee@gmail.com

Brenda Pulgarin, Department of Applied Psychology, New York University, 246 Greene Street, New York, NY 10003; brenda.pulgarin@nyu.edu
Abstract

Engagement in Behavioral Parent Training (BPT), including enrollment, attrition, attendance, within session engagement, and homework completion has long been a critical issue in the literature. Several estimates of various aspects of engagement have been suggested in the literature, but a systematic review of the available literature has never been accomplished. This review examines engagement data across 262 studies of BPT. Recruitment attrition, program attrition, attendance, and within-session engagement are examined across studies, with particular emphasis on the impact that SES, study purpose (efficacy vs. effectiveness), treatment format (individual vs. group), and age of child may have on those rates. Results of this review suggest that a significant amount of attrition occurs prior to enrollment in BPT, with at least 25% of those identified as appropriate for BPT not enrolling in such programs. An additional 26% begin, but drop out before completing treatment. Still the combined dropout rate of at least 51% leaves at best half of identified parents completing treatment. While SES status had a small effect on attrition, other variables were not found to meaningfully impact engagement. Information on within session engagement (homework and ratings of participation) was not often reported in studies. Key issues in this literature (e.g., varying definitions of engagement, limited attention to reporting key aspects of engagement) are discussed and recommendations are made to further improve this important area of research and clinical practice.
Engagement in BPT: Review of the Literature and Implications for Practice

Attention-Deficit/Hyperactivity Disorder (ADHD), Oppositional Defiant Disorder (ODD) and Conduct Disorder (CD), collectively referred to as Disruptive Behavior Disorders (DBDs) are prevalent, childhood psychiatric disorders which have multiple detrimental effects upon the child and family unit as well as numerous adverse societal implications (Carlson, Tamm, & Hogan, 1999; Kuhne, Schachar, & Tannock, 1997; Lendingham, 1999; Scholtens, Diamantopoulou, Tillman, & Rydell, 2012; Wehmeier, Schacht, & Barkley, 2010). Moreover, these disorders set the stage for a poor trajectory into adolescence and adulthood, as the impairment associated with DBDs often place these youth at risk for future difficulties such as academic failure, substance use/abuse, and juvenile delinquency (Biederman et. al., 2008; Klein et al., 2012). DBDs present serious treatment challenges within the child mental health field, for while these disorders are common reasons for referrals for psychiatric treatment, they are often difficult to treat, tend to be chronic, and cost billions of dollars each year due to the extensive legal, correctional, educational, and psychological needs of these youth (Doshi et al., 2012; Welsh et al., 2008).

Despite the difficulties associated with DBDs, Behavioral Parent Training (BPT) has emerged as a well-established treatment approach for ameliorating these disorders (Daley, van der Oord, Ferrin, Danckaerts, Doepfner, et al., 2014; Evans, Owens, & Bunford, 2014; Eyberg, Nelson, & Boggs, 2008; Pelham & Fabiano, 2008). In fact, BPT is considered the most well-studied and efficacious psychosocial intervention for school-aged children with DBDs (Kazdin, 2000; McCart, Priester, Davies, & Azen, 2006; Nock, 2003). More specifically, BPT has been shown to improve oppositional problems, conduct problems, and associated impairment in youth in numerous studies (Daley et al., 2014; Evans et al., 2014; Eyberg et al., 2008 and Pelham &
Fabiano, 2008 for reviews). Not surprisingly, given the effects of BPT on child behavior, BPT has also been shown to improve aspects of functioning of parents (e.g., parental stress, competence; Anastopoulos, 1993; Chacko et al., 2009; Daley et al., 2014; Pisterman et al., 1992; Sonuga-Barke et al., 2001). Moreover, the effectiveness of BPT for DBDs has been demonstrated in routine, community-based treatment settings when applied by community mental health providers with treatment-referred youth (e.g., Lee, Horvath, & Hunsley, 2013; Michelson, Davenport, Dretzke, Barlow, & Day, 2013).

**Engagement in BPT**

The benefits of BPT are contingent upon parent engagement (Nock & Ferriter, 2005; Ros Hernandez, Graziano, & Bagner, 2016). Engagement is a broad construct, but has been operationalized in three primary domains: attendance, adherence, and cognitions (Becker, Lee, Daleiden, Lindsey, Brandt, & Chorpita, 2015; Staudt, 2007). Attendance describes the rate of enrollment among those eligible to participate from the population, the degree to which enrolled families attend therapy sessions, and completion of treatment. Adherence addresses the degree to which families comply with treatment, which includes utilizing skills between sessions (i.e., “homework”) and participating in within-session activities, such as group discussions or role-plays. Cognitions, a relatively understudied area, are related to agreement with treatment rationale, therapeutic alliance, expectations about treatment outcomes, and satisfaction with treatment.

Unfortunately, engagement remains a significant barrier for families enrolled in BPT (Nock & Ferriter, 2005). For example, it is not uncommon for 50% of families with children diagnosed with DBDs (who are identified as appropriate for BPT) to not enroll in BPT, enroll but never attend treatment, dropout prematurely, or not fully engage in within-session or
Engagement in BPT

between-session skill implementation (Chacko et al., 2012; Fernandez et al., 2011; Peters, Calam, & Harrington, 2005). Moreover, families with greater levels of adversity often have more difficulty engaging in BPT (Chacko et al., 2008; 2009; Chronis, Chacko, Fabiano, Wymbs, & Pelham, 2004; Kazdin & Mazurick, 1994; Kazdin, Mazurick, & Bass, 1993; Miller & Prinz, 1990). Although understudied, some evidence suggests that those families who have poorer engagement to BPT often have poorer outcomes in child and parent behavior (Boggs et al., 2004; Patterson & Chamberlin, 1994).

Issues with Understanding Engagement in BPT

There has been considerable interest in understanding and improving engagement to BPT. Several reviews have been undertaken to develop conceptual models of engagement (Nock & Ferriter, 2005; Staudt, 2007) as well as reviews of methods to improve engagement to BPT (Ingoldsby, 2010; Nock & Ferriter, 2005; Miller & Prinz, 1990; Chronis et al., 2004). Given these notable efforts, it is surprising that there have not been systematic efforts, to our knowledge, in documenting rates of engagement (e.g., attendance, adherence) specifically to BPT. Often, general rates of engagement to mental health services are utilized as parameters of engagement to BPT (e.g., Armbruster & Kazdin, 1994; Pellerin, Costa, Weems, & Dalton, 2010) rather than rates based on a specific review of the BPT literature.

Examining general rates of engagement rather than using systematic review of the BPT literature is problematic for several reasons. First, it is important to understand rates of engagement specific to BPT in order to appreciate the effects of as well as develop interventions focused on improving engagement to BPT at specific key time points (e.g., initial enrollment to BPT, ongoing attendance). Having specific rates of engagement across key time points during BPT can then further allow for determining the effects of various putative factors related to
engagement (e.g., low socioeconomic status [SES]) often hypothesized to impact engagement to
BPT (Chronis et al., 2004; Miller & Prinz, 1990). Further, examining engagement across several
time points can assist in identifying subgroups that may require additional support in order to
more fully engage in BPT as well as determine modification or supports to certain parameters of
BPT to maximize engagement.

**Moderating Factors to Engagement in BPT**

Reviews and meta-analyses suggest that there are moderators to response to BPT, such as
severity of child behavioral difficulties, socioeconomic status of the family, maternal mental
health (Lovejoy et al., 2006; McGrath & Rayno, 2006). Similarly, there may be moderators to
engagement in BPT. SES is one of the most common factors found to impact outcomes and
attrition from BPT programs (Lavigne, LeBailly, Gouze, Binns, Keller, & Pate, L., 2010; Leijten
Raaijmakers, de Castro, & Matthys, 2013). Findings are equivocal, however, with studies
finding no impact of SES on attendance (Jensen & Lowry, 2012), and most significant findings
being relatively small or specific in effect (Lavigne et al 2010). Additionally, there has been
increasing interest in determining whether benefits of BPT found in controlled efficacy trials
generalize when BPT is applied under more routine contexts (i.e., effectiveness trials), which
focus on clinic-referred youth receiving services in a routine service setting by mental health
staff within those settings (Weisz et al., 2013). Weisz and colleagues (2013) assert that results of
effectiveness trials are likely to demonstrate weaker effects of a treatment given the notable
challenges that families who receive care in routine mental health settings experience (e.g., lower
SES, higher rates of parent and child psychopathology). Similarly, it may be the case that
effectiveness trials result in lower rates of engagement to BPT compared to efficacy trials. A
review of the moderating role of trial type (efficacy versus effectiveness) on engagement to BPT has not yet been systematically evaluated.

Similarly, BPT format (i.e., individual or group) may potentially moderate engagement. For example, group formats allow for the benefits of peer support, information sharing and development of ecologically valid ways in which core BPT skills can be implemented in “everyday life” (Chacko et al., 2009). However, groups follow a fixed schedule, content and pace. As such, there is inflexibility when conducting a group, which may pose difficulties in engagement for some families. Individual formats allow for the therapist and family to conduct BPT in a more tailored and self-paced manner. However, individual formats do not offer peer support and may be viewed as more stigmatizing to some families (McKay et al., 2011). Collectively, format may pose as a significant moderator to engagement in BPT. This differential effect of BPT format on engagement outcomes has yet to be explored.

The purpose of this review is to detail the extant data on engagement to BPT in the DBD literature. We review herein the rates of attendance and adherence associated with engagement in the empirical literature on BPT for DBDs (i.e., ADHD, ODD, CD) and conduct/behavioral problems. Included are comparisons based on the potential moderators detailed above: SES, efficacy vs. effectiveness, and individual vs. group format.

**Method**

Studies relevant to the issues of engagement in BPT programs for children with DBDs were identified through a systematic process. A comprehensive search was done through PsychINFO using the following search terms, *oppositional defiant disorder or conduct disorder or disruptive behavior disorder or attention-deficit/hyperactivity disorder or child behavior*
Engagement in BPT

disorder or behavior problem and parent training or parent management. Studies were included through 2014, and this search resulted in an initial 1,169 studies. The abstracts of these studies were reviewed to rule out those not meeting the following inclusion criteria. To be included, each study had to:

1. Use a behavioral parent training intervention as a primary method of treatment
2. Have a target treatment population of children between the ages of 2 and 12
3. Have a primary target treatment population with ADHD, ODD, CD, or conduct/behavioral problems

This resulted in 447 eligible studies. Subsequent review of the text of these papers found that an additional 136 studies did not meet inclusion criteria. Studies that contained duplicate data from the same authors were also excluded (n = 49) in favor of the study that provided the most data. This resulted in a total of 262 studies. Seven studies provided separate data on multiple BPT groups (eight total), which were included separately for a total of 270 BPT groups including 29,452 participants. Studies included were published between 1974 and 2014 (see Figure 1).

Relevant information was then extracted from the studies and entered into a database. Data was extracted by a combination of Ph.D. psychologists and graduate and undergraduate level trainees. Most studies were reviewed by two or more individuals and disagreements were resolved by the authors. The following information on recruitment methods, attendance, attrition, and engagement, was gathered and is defined below. Some alterations were made to the format of reporting of engagement data to create uniformity that would allow comparisons across studies. Conversion of reported data to percentages was the most common alteration made, as this seemed the most universal method of comparison. Cohen’s d and as appropriate Hedges’ g were used as effect size measures.
Engagement Domains

*Recruitment Attrition* – Percentage of individuals that would have or did meet inclusion criteria (identified as potentially benefitting from treatment) but who declined participation in the study. This included those who met inclusion criteria, but refused participation as well as a similar percentage of individuals that refused to participate in screening for inclusion criteria. The recruitment attrition percentage for studies in which participants refused or dropped out before screening was estimated by multiplying the inclusion rate for those identified within the study by the number of participants that refused screening.

*Attrition from BPT* – Attrition from BPT includes the percentage of participants that discontinued participation either before BPT began, or who attended at least one session, but did not complete the full treatment.

*Attendance in BPT* – Attendance is the percentage of total treatment sessions attended by the average participant, or the percentage of participants that attended at least a specified percentage of treatment sessions. Attendance differs from attrition in that rather than being a percentage of those that did not complete treatment, it provides information on how much of the treatment both completers and non-completers received.

*Between- and Within-Session Engagement in BPT* – Within-session engagement includes any data beyond attendance/attrition that gives insight into the participant’s involvement in BPT, including: on-time attendance, in-session behavioral observation of skills implementation (e.g., *in-session role-play*), homework completion, and ratings of participation (by parents and therapists).
Information regarding the following key moderating characteristics of the studies was extracted in order to allow for comparison across studies. Information on inter-rater reliability is included below.

Moderators of BPT Engagement

*SES Group status* – Studies were categorized as Low SES, Not Low SES, or Insufficient Information. The determination of Low SES was made if any of the following criteria were met 1) author indicated the majority of the participants were low income, 2) a majority of participants had an income below 33% above the poverty line based on Federal Income Guidelines using a family size of 4 (based on year the study was published; [http://www.census.gov/hhes/www/poverty/data/threshld/index.html](http://www.census.gov/hhes/www/poverty/data/threshld/index.html)), or 3) at least 50% of participants had a Hollingshead index of 30 or lower. Inter-rater reliability was 94%. Disagreements were resolved by a third, Ph.D. level researcher.

*Efficacy vs. Effectiveness* - Raters differentiated between Efficacy, Effectiveness, or Insufficient information, based on the six distinction criteria provided by Weisz, Weiss, and Donnengberg (1992). Inter-rater reliability was 90%, with disagreements again being resolved by a third, Ph.D. level researcher.

*Treatment Format* – whether the intervention used an individual family, group, or combined group and individual approach was noted. Inter-rater reliability was 100%.

We considered several additional factors including severity of problem behavior, presence of diagnosis, and comorbidity, but the inconsistent manner in which such data was presented prevented a meaningful comparison of data across such factors.

**Results**
Of the 262 studies reviewed, 15.2% reported no engagement data. Reporting of attrition information has improved over time, with more recent studies (since 2000) being more likely to report attrition data (90% vs. 70%; $\chi^2 [1, N = 269] = 16.59, p < .001$). The following analyses examined only the 220 studies that provided information on attrition, attendance, and/or within-session engagement.

**Recruitment Attrition**

In seeking to determine how well effective treatments are reaching and enrolling those who will benefit from intervention, it is just as important to consider numbers of those that were identified as needing the treatment but who never received it, as it is to count those who dropped out after enrolling. This includes tracking percentages of potential subjects that were never screened to participate, and especially those that were found to be appropriate for the study, but did not enroll, or never participated in any services. Only 32% of studies ($n = 85$) provided information on the recruitment process. Twenty-six of those studies (10% of total) included information on recruitment attrition.

The refusal rate for those that met study criteria, but chose to not enroll was 25% ($SD = 20\%, n = 76$). An additional 23% ($SD = 20\%; n = 26$) of the sample were not able to be screened and the overall inclusion rate, or those that met criteria was 66% ($SD = 23\%, range = 5\% - 100\%; n = 54$). Given that those who refuse to be screened likely differ in important ways from those that are screened, it is difficult to estimate dropout rates based on this percentage. Assuming a similar inclusion rate would suggest an additional 15% dropping out before treatment. Because such assumptions cannot be made, we use the 25% as a conservative estimate.

**Attrition from BPT**
Attrition data was the most common engagement data provided with 69% of studies (n = 181) providing data from which an attrition percentage could be calculated. Some studies distinguished those participants that dropped out without attending any sessions, from those who dropped out during the course of BPT. Among the 54 studies from which a percentage of pre-treatment attrition could be calculated, pre-treatment attrition ranged from 2% to 91% with a mean of 13% (SD = 15%). When calculating total attrition amongst the 181 studies, including those who dropped out pre-treatment, the average attrition rate was 26% (SD = 18%; range = 0% - 87%). When weighted based on the sample size in each study, the mean attrition rate is 20%, suggesting larger studies had lower attrition rates. As noted by the range, attrition varied widely across studies. Seven studies (4%) reported no attrition, and 13% of studies reported a dropout greater than 50%.

Of the three moderator variables, only SES was significantly correlated with attrition rates (See Table 1). Those studies which included a sample of lower SES participants consistently had higher attrition rates (34%) than those that included participants that were not low SES (24%), with a moderate effect (d = .58). Efficacy and Effectiveness studies did not differ meaningfully in attrition rate, nor did individual vs. group formats.

When combining data on recruitment attrition, pretreatment attrition, and attrition during treatment, it appears that approximately 39% of those that would benefit from treatment never attend a single session of BPT. An additional 13% drop out during treatment, suggesting that at least 51% percent of individuals appropriate for parent training do not complete the treatment.

**Attendance in BPT**

Data on attendance was provided in 56% of studies (n = 120). Unfortunately, of the 120 studies reporting data on attendance, average attendance data could only be calculated for 61 of
those studies (23% of total). Studies from which attendance data could not be extracted usually reported attendance rates as a percent of participants that attended a percentage of sessions (e.g. 81% completed at least 75% of sessions), and thus did not allow for a true attendance percentage to be calculated. For the 61 studies that reported average attendance rates (percentage of sessions attended), the average attendance was 72% ($SD = 18$%; $range 29$%-100%). Efficacy and effectiveness studies did not differ significantly in attendance rates (72% vs. 72%; see Table 2). Those who participated in individual formats attended a higher percentage of sessions than did those in group formats (84% vs. 71%), though it is notable that this comparison included only seven studies using individual formats. Studies targeting those of Low SES tended to have lower attendance rates than those of higher SES. Though this was not significant it was a moderate effect (66% vs. 75%; $d = -.54$).

**Between- and Within-Session Engagement in BPT**

Only 10% of studies ($n = 27$) provided data on within session engagement. Homework completion rates were available from eight studies. From these, the average homework completion rate was 48% (range = 14%–95%). Eight additional studies reported homework completion rates, but in a way that an overall percentage could not be calculated. These suggested similarly low rates of homework completion (e.g. 72% completed at least half of the homework assignments).

Fifteen studies reported additional information on within session engagement, with therapist rated participation being the most common ($n = 7$). In the three studies with ratings by therapists, parents were rated to be highly engaged, with an average engagement of 88%. Parents rated their own engagement slightly lower at 71% in one study. On-time attendance at
sessions was reported for eight BPT groups. On-time attendance ranged from 32% - 66% with an average of 50%. None of the four moderator variables were related to recruitment attrition.

**Discussion**

The purpose of this paper was to provide a systematic review of various aspects of engagement to BPT for youth with DBDs and to ascertain the moderating role of three key factors (i.e., SES; efficacy versus effectiveness focus; and treatment format) on engagement. A significant issue evident in this review was that insufficient information is being reported in regards to engagement in BPT for youth with DBDs. While there has been an improvement over time, still 17% of studies published in the past 12 years have ignored the issue of engagement, despite the long standing recognition of the importance of engagement in BPT (Forehand, Middlebrook, Rogers, & Steffe, 1983; Miller & Prinz, 1990).

Based on the average rates of attrition across the various phases of BPT studies, the current findings suggest that less than half of those that need BPT are receiving the full benefits of treatment. Specifically, approximately 25% of those meeting inclusion criteria do not enroll in the study, and this estimate does not account for those that refused to participate in screening. An additional 26% dropout during treatment, almost half of who drop out before attending the first session, leaving at best, just under half of those attempted to be recruited to attend BPT actually completing treatment. Among participants who attend at least one session of BPT, the mean attendance rate is approximately 73%, but the variability was high with attendance rates across studies ranging from 37% to 98%. This suggests that some studies have virtually no attrition when families attend BPT, while others have more than half of the participants drop out after starting BPT.
Studies that included a sample with low SES had higher attrition rates (32% vs. 24%). Previous research on the impact of SES and attendance at BPT and other child-focused treatments has been mixed with several researchers finding a significant impact (Jensen & Lowry, 2012; Kazdin, Mazurick, & Bass, 1993; Lavigne et al., 2010; Walitzer, Dermen, & Connors, 1999) and others finding little relationship between SES and attendance (Dumas, Nissley-Tsiopinis, & Moreland, 2007; Littlejohn, 2006). These results support a previous meta-analysis by Reyno and McGrath (2006) in which they found a small effect size ($r = .21$) for the relationship of SES variables and attrition. Results from this review again suggest a moderate ($d = .58$), and consistent effect of SES on treatment engagement (attrition).

The two other variables included in analyses in this study (efficacy versus effectiveness focus; treatment format) did not demonstrate a consistent moderating relationship with engagement in BPT. Given the greater level of control over treatment in efficacy studies, one could hypothesize that there would be a lower rate of attrition from these studies. However, no such difference was found despite the inclusion of a large number ($n = 100$) of studies examining effectiveness of BPT in community settings. This is particularly surprising as effectiveness studies are often considered to include families who have higher rates of putative factors that impact engagement to treatments (e.g., more severe psychopathology and greater rates of comorbidity in youth, higher rates of parental stress and psychopathology). These data suggest that BPT is an equally engaging intervention modality for a wide range of families and youth (see Lee et al., 2013 and Michelson et al., 2013 for similar conclusions) and that perhaps there are likely fewer differences between efficacy studies and effectiveness studies on key characteristics (e.g., comorbidity) often thought to moderate treatment outcomes (Ollendick et al., 2008). These data increase confidence in utilizing BPT as a viable treatment in community-
Engagement in BPT

Based settings. Similarly, there was no effect of treatment format (group vs. individual) on engagement to BPT, though there was a small effect for attendance percentage favoring individual format. This finding is also surprising given that group based interventions are inherently rigid relative to individual-based BPT and as such should result in greater attrition and not just small differences in attendance rates. It may be that aspects of group-based BPT (e.g., peer support) may enhance treatment engagement and limit the effects of proscribed schedule, content, and duration of group-based BPT.

Studies within each of the engagement domains offer insights into strategies to improve engagement. Studies that have found low rates of recruitment attrition (i.e., those that have enrolled greater than 90% of the targeted population) have been diverse, including those targeting specific target cultural populations (McCabe & Yeh, 2009), transition periods (e.g., divorcing families; Stallman & Sanders, 2014), or diagnostic groups (e.g., ADHD; Ferrin et al., 2014; Pfiffner et al., 2014). Unfortunately, there is very little written in these publications that highlight strategies for improving enrollment to the BPT intervention. However, as suggested in recent practice-based reviews of this literature (e.g., Axford et al, 2012), efforts at improving initial enrollment to BPT should likely include collaborative efforts and the development of relationships between BPT providers and key stakeholders (e.g., educators, community-leaders) that interface with the target population. In particular, BPT must be well-integrated into routine service settings for large scale dissemination efforts. This will require multiple and clear recruitment efforts and opportunities to enroll in BPT, inclusion of individuals in recruitment efforts who have the interpersonal skills and training in identifying barriers to family involvement, framing BPT in a manner that resonates with the needs of parents, and flexible scheduling of BPT to increase accessibility. Data from this review suggest that at least 25% of
potential eligible families do not enroll in BPT when it is offered, and this could be as high as 40%. For larger-scale dissemination of BPT to meet its intended goal, efforts at initial enrollment must more carefully attended to, documented, and systematically evaluated.

Several studies have been successful in reducing initial and ongoing attrition from BPT. As is the case with studies reporting low rates of recruitment attrition, the vast majority of studies reporting significant attenuated initial and ongoing dropout do not provide information on explicit methods utilized to improve rates of dropout from BPT. Exemplars in this area offer some important insights for attenuating initial and ongoing dropout. As an example, Chacko and colleagues (2009), utilized methods to actively engage parents in understanding how BPT matches their current needs, clarifying expectations regarding the content, process and expected benefits from BPT and problem solving practical obstacles to attendance to BPT (e.g., child care, transportation). In a randomized controlled trial, they found that these additional approaches lead to a significant improvement in attrition prior to the start of BPT (2%) compared to families who did not receive these additional approaches (30%).

Moreover, several studies suggest that ongoing attendance can be improved by utilizing multiple methods that address barriers to participation, readiness to participate in treatment, and provide parents skills in problem solving and coping (Chacko et al., 2009; Cunningham et al., 1995; Nock & Kazdin, 2005; Pfiffner et al., 1990; Prinz & Miller, 1994). Nock and Kazdin (2005) implemented enhancements to address practical barriers to treatment, maladaptive cognitions, and motivation for treatment during the course of individually administered BPT. In this study, the enhancement intervention was implemented over three individual sessions interspersed throughout BPT. The enhancement sessions consisted of the therapist eliciting self-motivational statements to enhance attributions about treatment from parents (e.g., “What steps
can you take to help change your child’s behavior?”). Therapists also inquired about practical barriers to participation (e.g., transportation) and assisted parents in problem solving these barriers. Results of this study demonstrated that compared to an individually administered BPT-alone group, families in the enhanced individually administered BPT group had greater attendance to treatment. Collectively, it appears that approaches that focus on preparing parents for BPT, addressing practical barriers to engagement, assisting in aligning parent’s involvement with their own goals for treatment, and providing parents skills in managing their own problems can significantly impact initial and ongoing attendance to BPT.

As detailed earlier, there are very few studies that report between- and within-session engagement, and of those, very few discuss explicit methods to improve this aspect of engagement. Interestingly, studies that report higher levels of between- and within-session engagement suggest that methods to problems solve practical barriers to between session engagement (e.g., homework completion) and explicit discussion of the purpose and goals of homework completion can improve these engagement outcomes (Chacko et al., 2009; Nock & Kazdin, 2005).

**Future Directions**

Collectively, this review points toward significant limitations in the current BPT literature regarding both documenting and defining engagement outcomes and explicating methods used to enhance engagement in BPT. Perhaps one of the strongest findings of the present study was the limited attention to capturing data on and variability in how recruitment, attrition, and attendance data were defined and presented. As noted, most studies provide no information on how participants were recruited, or how many may have refused to participate. It is clear from many studies that participant data includes only those that started and/or completed
Engagement in BPT

treatment and no mention is made of those that may have dropped out during treatment or before
treatment began. As such, for many studies, there is likely an overestimate of rates of
engagement to BPT. Trying to quantify the tendency, or the impact on the data reported (or not
reported) seems impossible, though it must be stated in a review such as this. Moreover, lack of
attention to capturing enrollment and pretreatment attrition data likely affects interpretation of
subsequent data on attrition from BPT, as overall engagement during BPT is best interpreted as a
continuous process. Most of the percentages on recruitment, attrition, and attendance data were
calculated by the authors based on varying availability of information. Based on this, it is likely
that the above numbers are underestimates (possibly large underestimates) of the actual rates of
attrition and attendance. It behooves the field for BPT studies to report on all key engagement
domains to capture the true nature of engagement issues. Doing so will allow the field to better
identify engagement domains that require more attention and to better understand the effects of
methods to improve engagement outcomes.

An important issue demonstrated by these data is the importance of uniformity in
reporting practices. A third of the studies that reported on attendance could not be compared
with other studies due to study-specific reporting of attendance data. These studies would report
attendance usually by reporting a percentage of participants that attended a percentage of the
overall sessions (e.g. 70% attended at least 50% of the sessions). To some extent, the variance in
reporting suggests differences across researchers and interventions in how completion of an
intervention is defined. These definitions ranged from 50% to 90% attendance as the criteria.
While it seems appropriate that there be some variation in completion criteria across different
interventions or even intervention settings, better definition and agreement is needed so that the
Engagement in BPT

important issue of engagement can be addressed through continued research, a recommendation made by other researchers (Lindsey et al., 2014).

For many studies that have high levels of engagement in a particular engagement domain, there are no methods explicitly detailed regarding how these outcomes were achieved. It is likely that engagement may have been considered a secondary outcome and no specific efforts were made to improve the engagement domain. However, given that engagement to BPT is likely a necessary component to achieve improved child outcomes, details regarding all methods used to engage families in BPT should be uniformly reported. In addition, research studies often use methods to engage and retain families that are not as commonly reported (e.g. level of study support for attendance, financial incentives, offering meals during BPT, the frequency of between session contacts with parents). Given that some of these methods address putative barriers to BPT participation (e.g., offering meals to families address practical barrier to treatment participation), it is important to document these consistently and explicitly.

Importantly, documenting all efforts that are employed to impact engagement, whether directly or indirectly, allows the field to understand the full range of these methods and to better determine which factors are contributing to improvements in particular engagement domains.

The data suggest that there is considerable room for improvement to engagement in BPT across key phases of BPT. In particular, data suggest that 55% of families who are eligible and likely can benefit from BPT do not enroll in and attend any BPT sessions. On average, a quarter of families who attend BPT dropout from treatment, with families from lower SES background having a higher rate of attrition (i.e., 32%). These data are sobering and suggest that more attention to both engagement prior to the start of BPT as well as during BPT is necessary, particularly for families from lower SES background. In particular, engagement to BPT at the
earliest time point (initial recruitment and contact) is the least understood aspect of the engagement process. This review clearly suggest a significant number of families dropout from BPT through the recruitment/enrollment process. As such, it is likely that there are many families for whom BPT may be a viable treatment approach but these families choose not to enroll in BPT. Unfortunately, it was not possible through this review of the literature to obtain an estimate of how significant this issue is. Advancing the science of engagement to BPT, as well as mental health treatment in general, will require a greater understanding of this subpopulation of families. Many efforts have been made to identify methods that may improve engagement to youth mental health services (Becker et al., 2013; Lindsey et al., 2014); however, increased efforts in applying and systematically studying these methods with the context of BPT for DBDs is needed (e.g., Chacko et al., 2009; Nock & Kazdin, 2005). We offer below two methods that may aide in advancing the field of engagement in BPT.

One method that may prove beneficial in better understanding and improving engagement to BPT involves consumer-driven approaches to ascertaining preferences for the goals and parameters of BPT. As an example, Wymbs and colleagues (2015) utilized consumer preference methods (i.e., discrete-choice experiments) to examine how parent preferences for treatment format (group versus individual) influenced participation in BPT. In a large sample of treatment-seeking families of children with ADHD, the investigators found a greater preference for individual (58.7%) compared to group based BPT (19.4%), with further data suggesting that parents also have different preferences for the goal of BPT (e.g., acquisition of information and understanding versus active skill development and problem solving). This study highlights the potential of utilizing parent preferences in the development/implementation of BPT as a function of the population and setting. Future studies utilizing consumer preference methods to explore
preferences by key factors (e.g., family/child demographics, presenting problem, setting of intervention) may allow for more systematic evaluation of these factors and its relationship with engagement to BPT and may ultimately prove useful in better tailoring/matching BPT to different families/children.

With recent advances in mobile health (mHealth) strategies, facilitated through smartphone technology, there may be unique opportunities to capture real-time, ongoing data on a large scale to better understand, and perhaps ultimately support, engagement to BPT (Chacko et al., 2013; Mohr et al., 2013). For instance, through features available on smartphones (e.g., camera/video/voice recording; internet-access; global positioning system; bio-sensing technology) there are increasingly novel methods to interface with people and obtain data. Through the use of these features, mHealth applications can be used to facilitate systematic, periodic assessment of factors that often impede upon engagement to BPT (e.g., ongoing perceptual and practical barriers to engagement; Kazdin & Wassell, 2000), offer opportunities to initially educate parents about BPT (e.g., provide psychoeducation through written/audio/visual methods to be utilized based on parents schedule), and remind parents about BPT sessions/homework implementation. These methods may be particularly helpful during the early stages of the engagement process by allowing families an opportunity to better understand the content, process and the potential benefits of BPT as well as allow for BPT developers and therapists to better understand which families may benefit from BPT but are at higher risk for not enrolling in BPT. As in other areas (e.g., see substance use; Gustafson et al., 2011), mHealth applications may offer the unique opportunity to capture ongoing relevant information that can be utilized to develop predictive models to intervene immediately to improve engagement throughout the process of BPT.
Interestingly, BPT is a skilled-based intervention and the mechanism of action of BPT is hypothesized to occur through between-session parent implementation of skills taught during BPT (‘homework’). This review suggest that the inclusion of homework completion is not often done—only seven studies reported data on homework completion. Moreover, rate of homework completion is poor (41% completion). Given the hypothesized mediating role of skill implementation and response to BPT (Chacko et al., 2013), greater efforts must be made to document homework completion in a systematic manner in BPT, which will more accurately allow for determining the impact of homework enhancement interventions within the context of BPT (Chacko et al., 2013).

This review suggests that engagement to BPT for the treatment of DBDs is a notable issue that requires systematic and uniform attention in future research. Variability in how various aspects of engagement are defined, assessed and documented in this literature poses a significant limitation in understanding how families engage in BPT and in identifying subgroups of families/youth or BPT treatment parameters that moderate engagement. This review suggests that there is indeed room for improving engagement to BPT. Given that BPT is one of the most well-studied and robust psychosocial interventions for the treatment of DBDs, poor engagement, and resultant poorer outcomes to BPT limits the utility of this treatment approach for ameliorating the poor longer-term outcomes associated with DBDs in youth.
Engagement in BPT

References


from kindergarten risk factors and impact of the Fast Track prevention program.

*Aggressive Behavior, 39(2), 114-130. doi:10.1002/ab.21467


Engagement in BPT


Engagement in BPT


Engagement in BPT


Engagement in BPT


Engagement in BPT


doi:10.1136/bmj.39451.609676.AE

doi:10.1097/00004583-199909000-00022


doi:10.1017/S1352465802003041


doi:10.1017/S1352465803002017


Engagement in BPT


Engagement in BPT


Engagement in BPT


Engagement in BPT


Engagement in BPT

doi:10.1207/s15374424jccp2701_4


Engagement in BPT


**Engagement in BPT**


Engagement in BPT


* = study included in analysis
Figure 1. Gathering and Inclusion/Exclusion of Studies.

Studies from PsycInfo search
(n = 1,169)

Abstracts indicated did not meet criteria
(n = 722)

Total Studies Reviewed
(n = 447)

Did not meet criteria
(n = 136)

Met criteria
(n = 311)

Duplicate Data
(n = 49)

Included in Review
(n = 262)
groups examined = 270
Table 1

Comparison of Attrition Rate by Treatment Variables.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Category</th>
<th>Total Studies included</th>
<th>Attrition Rate</th>
<th>$F$</th>
<th>$p$</th>
<th>Cohen's $d$</th>
</tr>
</thead>
<tbody>
<tr>
<td>SES</td>
<td>Low</td>
<td>44</td>
<td>34%</td>
<td>8.68</td>
<td>&lt;.01**</td>
<td>.58</td>
</tr>
<tr>
<td></td>
<td>Not Low</td>
<td>59</td>
<td>24%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Study Intent</td>
<td>Efficacy</td>
<td>84</td>
<td>25%</td>
<td>.847</td>
<td>.36</td>
<td>-.14</td>
</tr>
<tr>
<td></td>
<td>Effectiveness</td>
<td>100</td>
<td>28%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Format</td>
<td>Individual</td>
<td>41</td>
<td>26%</td>
<td>.028</td>
<td>.87</td>
<td>-.03</td>
</tr>
<tr>
<td></td>
<td>Group</td>
<td>92</td>
<td>27%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Child Age</td>
<td>0-6</td>
<td>86</td>
<td>25%</td>
<td>.006</td>
<td>.939</td>
<td>.01</td>
</tr>
<tr>
<td></td>
<td>7-12</td>
<td>71</td>
<td>25%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

** $p < .01$
Table 2

*Comparison of Attendance Rate by Treatment Variables.*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Category</th>
<th>Total Studies included</th>
<th>Attendance Rate</th>
<th>$F$</th>
<th>$p$</th>
<th>Cohen’s $d$</th>
</tr>
</thead>
<tbody>
<tr>
<td>SES</td>
<td>Low</td>
<td>18</td>
<td>66%</td>
<td>2.89</td>
<td>.10</td>
<td>-.54</td>
</tr>
<tr>
<td></td>
<td>Not Low</td>
<td>22</td>
<td>75%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Study Intent</td>
<td>Efficacy</td>
<td>36</td>
<td>72%</td>
<td>.024</td>
<td>.88</td>
<td>-.04</td>
</tr>
<tr>
<td></td>
<td>Effectiveness</td>
<td>30</td>
<td>72%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Format</td>
<td>Individual</td>
<td>7a</td>
<td>84%</td>
<td>4.24</td>
<td>&lt;.05*</td>
<td>.83 (Hedges g)</td>
</tr>
<tr>
<td></td>
<td>Group</td>
<td>41</td>
<td>71%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Child Age</td>
<td>0-6</td>
<td>21</td>
<td>67%</td>
<td>1.56</td>
<td>.218</td>
<td>-.36</td>
</tr>
<tr>
<td></td>
<td>7-12</td>
<td>26</td>
<td>74%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* $p < .05$; a = homogeneity of variance assumed (Levene’s $F = .324; p = .725$)