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Engaging Youth and Families Within the Context of Evidence-Based Treatment (EBT) Implementation: Examining Integrity of Engagement Practices to Different Ebt Information Sources

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ENGAGING YOUTH AND FAMILIES WITHIN THE CONTEXT OF EVIDENCE-BASED TREATMENT
(EBT) IMPLEMENTATION: EXAMINING INTEGRITY OF ENGAGEMENT PRACTICES TO
DIFFERENT EBT INFORMATION SOURCES

by

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ABSTRACT

Promoting and maintaining client engagement has proven to be a significant challenge across community mental health settings, including within the context of implementing evidence-based treatments (EBTs) (De Haan et al., 2013). Few efforts have been made to equip providers with empirically-sourced engagement strategies outside of the limited set of engagement procedures covered in EBT protocols. To inform efforts for improving EBT accessibility, the current study characterizes the delivery of engagement practices from the literature within the context of EBT implementation, and examines provider integrity of engagement practice use according to two information sources (i.e., the provider's EBT training history and delivered treatment protocol). Engagement practices from the literature were observationally coded in a sample of early treatment sessions ($N=193$) from the Child STEPs effectiveness trial (Chorpita et al., 2017). To assess integrity, EBT protocols that therapists were trained in were coded for engagement practices and two sets of expected values were established for each session according to the presence of different engagement practices in (1) the provider's training history, and (2) the delivered treatment protocol. Fisher's exact tests revealed a greater number of significant associations between provider-delivered protocols and engagement practice occurrence than provider training history and practice occurrence. Additionally, it was found that a narrow subset of engagement practices ($n=5$) from the literature occurred frequently across sessions, while the majority of coded practices ($n=15$) occurred in 30% or less of sessions. These findings highlight the opportunity to train therapists in a wider

set of engagement practices beyond what is typically covered in EBT manuals. Providers' tendency to stick to the protocol for engagement practice delivery indicates that it may be valuable to develop resources that support therapists to select and apply engagement practices that match their client's specific engagement challenges, so to maximize the impact of EBTs on the well being of youth and families.

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CHAPTER 1

INTRODUCTION

One of the greatest factors impeding the reach and impact of community mental health services for youth and families is poor treatment engagement. Engagement can be defined as a client's multidimensional (e.g., cognitive, behavior, social) commitment to treatment (Becker et al., 2018). For decades, low engagement has been documented as a pervasive concern in publicly-funded mental health services, with an average of 50-70% of youth and families dropping out of services prior to the completion of treatment (De Haan et al., 2013; Guo et al., 2014; Nock & Ferriter, 2005; Pellerin et al., 2010; Sparks et al., 2003). These high rates of attrition are due in part to the complexities inherent to community service settings; youth and families receiving community-based services are more likely to face a myriad of structural (e.g., unreliable transportation) and perceptual barriers (e.g., negative past experiences with services) to engagement compared to clients in randomized controlled trials (RCTs) (MacNaughton & Rodrigue 2001; Buckingham et al. 2016; Kazdin et al. 1997). Thus, community therapists are expected to manage a wide range of complex engagement challenges across their cases notwithstanding less resources, less ongoing support, and larger caseloads than therapists in university/research settings (Beidas & Kendall 2010; Langlely et al. 2010).

Fortunately, a large body of empirical work has focused on the development and testing of numerous engagement interventions, and recent research has elucidated how

dozens of engagement procedures from the evidence base may be leveraged to target different kinds of engagement problems. Using a distillation method, Becker and colleagues (2018) reviewed over 50 RCTs testing engagement interventions and identified practices common to interventions effective in improving outcomes within different areas of engagement (e.g., therapeutic alliance, attendance, homework completion). This synthesis of the engagement literature provides important implications for engagement intervention, suggesting that certain practice elements may be best-suited for certain engagement problems.

Despite these developments in research, few efforts have been made to equip community therapists to better address engagement problems in their practice. Rather, in an attempt to improve quality of care, there has been a trend in mental health service systems to institute fiscally-driven initiatives that mandate the implementation of evidence-based treatments (EBTs). Interestingly, attendance in these trials has been used as a quality indicator of services (Barnett, Lau, et al., 2019), and increased treatment retention is often included as a primary objective of EBT implementation (e.g., County of Los Angeles – Department of Mental Health, 2009). This may be logical in theory, since EBTs often prescribe a set of strategies early in treatment that are intended to promote initial engagement (Chorpita & Daleiden, 2009). However, attrition rates in these trials mirror those in usual care (e.g., Chorpita et al., 2017; De Haan et al., 2013), suggesting that the implementation of EBTs in community outpatient settings is not effective in preventing early termination. Given the strong association between low engagement and worse treatment outcomes, addressing engagement problems within the context of EBT

implementation is essential for maximizing the impact of EBTs in community settings (Danko et al. 2016; Kazdin & Wassell 1999; Haine-Schlagel & Walsh, 2015).

In order to identify opportunities for improving engagement within the context of EBT implementation, it may be worthwhile to characterize what therapists are doing to engage youth and families in these contexts, and examine what factors are driving current engagement intervention. Other studies have attempted to characterize usual care treatment delivery with the purpose of identifying opportunities for quality improvement efforts (Garland et al., 2010). However, most of these studies have been exploratory or descriptive in nature. The current study seeks to investigate the “why” behind service delivery, not only to elucidate gaps in current services, but to provide insight into how already existing supports can be leveraged to make targeted service improvements. This approach adds a level of complexity that merits the formulation of falsifiable hypotheses and a methodology to test those hypotheses. With this in mind, we might consider general factors that influence treatment delivery more broadly within the context of EBT implementation.

EBT manuals serve as one source of information that guides which practices are used in treatment. While the mere presence of treatment manuals has shown to be unsuccessful in shifting service delivery in usual care (Herschell et al., 2009), when accompanied by training and structures to support implementation, community therapists demonstrate fairly strong ‘content’ integrity to the protocol selected for delivery (Park et al., 2014). Aside from EBT manuals, therapists frequently use other information sources, such as practices from other treatment modalities (Smith et al., 2017), or consultation input (Regan et al., 2019) to adapt EBTs to better meet the client’s needs and

circumstances. Specifically, it's been found that therapists adapt EBTs by augmenting the content (i.e., tailoring the presentation of practices, integrating practices from outside the protocol, lengthening the time spent on content) or by reducing/reordering the content (i.e., omitting content, changing sequencing of content, shortening the amount of time spent on content) to accommodate the context, client characteristics, or unanticipated events (e.g., emergent life events; Guan et al., 2015) that occur in treatment (Lau et al., 2017). Pulling from the field of information science, services researchers have applied the concepts of design time control and run time control to conceptualize these different aspects of intervention implementation. Design time control refers to the planning of features of an object prior to its placement in an environment, similar to the preplanned procedures outlined in traditional EBT manuals. On the contrary, run time control involves the capacity to adapt an object based on the interactions between its features and the environment (Chorpita & Daleiden, 2014). The services literature has revealed that both design time information sources (e.g., treatment manuals, preplanned procedures) and run time information sources (e.g., consultant input, client preference) contribute to shaping treatment delivery.

The engagement literature suggests that both design time and run time control may serve important functions in engagement intervention. With respect to design time control, experts in the field have underscored the value of delivering a universal set of engagement procedures for all clients at the beginning of treatment in order to promote a minimal level of engagement (Nock & Ferriter, 2005). This concept is often reflected in EBT protocols that prescribe engagement practices at the beginning of treatment. On the other hand, run time control may be of value when therapists are faced with engagement

challenges that are not resolved by strategies delivered with design time supports or that emerge unexpectedly during the course of treatment. In these circumstances, it is recommended that therapists select additional strategies that are tailored to the client's specific concerns and context (Nock & Kazdin, 2001). Given the role of both design time and run time control in engagement intervention, it may be valuable to consider how relevant design time and run time information sources drive engagement practice delivery.

One primary methodology that has been used to examine practice delivery for quality improvement purposes is integrity measurement (Regan et al. 2013; Southam-Gerow & McLeod 2013). Within a traditional research context, treatment integrity is defined as the extent to which a treatment is delivered as intended (e.g., Forgatch et al. 2005; Perepletchikova & Kazdin 2005; Perepletchikova et al. 2009). While treatment integrity is comprised of multiple facets of treatment delivery, adherence, or the frequency and intensity with which the therapist delivers session content prescribed in a given protocol, tends to be most frequently applied in treatment research (Cox et al., 2019). Adherence measures are commonly used to assess internal validity in RCTs so that client outcomes can be correctly attributed to the delivery of a treatment protocol (Proctor, 2004). Accordingly, these measures are often developed in design time environments where preplanned session procedures serve as the benchmark for the level of adherence.

But what does integrity measurement look like when practices are delivered using run time information that falls outside of a manualized protocol? Regan et al., (2013)

sought to address the broader issue of measuring integrity in run time environments by using the following conceptualization:

“we view integrity as the structured comparison of observed values (i.e., what is happening) with expected values (i.e., what should be happening) within strategically selected domains such as practices or outcomes, for the purposes of managing uncertainty about quality or for informing key questions about system or study performance. (p. 80)”

Under this definition, observed values for treatment delivery may include any measures of what occurred in session (e.g., observed therapist behaviors, list of delivered practices), while expected values may include different information sources used to guide practice delivery. This approach can be particularly helpful when there is both run time and design time information guiding clinical decision making. For example, in one study, researchers investigated the extent to which community mental health therapists delivered practices recommended by consultants (i.e., run time) in addition to what was prescribed in a modular treatment (i.e., design time) (Regan et al., 2019). In doing so, the researchers were able to examine how run time and design time information sources interacted to support practice delivery, finding that therapists were most likely to deliver practices prescribed by an information source when the sources agreed with one another.

Since there are not deliberate supports for engagement intervention within the context of EBT implementation, therapists may rely on design time and run time information sources for EBTs to guide decisions around engagement practice delivery. As we’ve discussed, EBT manuals serve as one source of design time information, since these protocols often prescribe engagement practices, especially in early treatment

sessions. On the contrary, previous research has found that therapists often adapt EBTs by including additional content outside of the protocol to target ecological factors (e.g., homelessness, financial issues) that could interfere with engagement (Barnett, Brookman-Frazee, et al., 2019). With this in mind, it's possible that therapists may utilize engagement practices from other EBTs that they've been trained in to make run time adaptations to the protocol being delivered.

The purpose of the present study is to inform service improvement efforts targeting treatment engagement by measuring therapist integrity to engagement practices according to two information sources. To that end, we first seek to examine the occurrence and extensiveness of engagement practices delivered within the first four sessions of treatment within the context of EBT implementation. Second, we aim to compare the observed delivery of engagement practices to two expected values derived from 1) the therapist's EBT training history, and 2) the EBT protocol being delivered, with the intention of exploring how therapists utilize design time and run time information to guide engagement intervention.

CHAPTER 2

METHOD

The current study utilized data from the Child STEPs effectiveness trial (Chorpita et al., 2017) which compared modular treatment (i.e., MATCH-ATDC) to community-implemented manualized treatment (i.e., CIT) for children in community mental health agencies in Los Angeles county. Data from this study were collected between 2010 to 2014. Study procedures were approved by the institutional review board of the University of California, Los Angeles and by other institutional review boards as requested by participating community mental health agencies.

2.1 Setting

The Child STEPs trial took place within the context of the Prevention and Early Intervention (PEI) transformation of children's services, a policy-driven initiative spearheaded by the Los Angeles County Department of Mental Health (LACDMH) that sought to improve quality of mental health care by promoting the delivery of 52 EBTs in community-based agencies across the county. As a part of this initiative, LACDMH funded the widespread training of therapists in six specific EBTs (i.e., Child-Parent Psychotherapy [CPP; Lieberman et al., 2005], Cognitive Behavioral Intervention for Trauma in Schools [CBITS; Stein et al., 2003], Group Cognitive Behavioral Therapy of Major Depression [GCBT-MD; Lewinsohn et al., 1990], Positive Parenting Program [Triple P; Sanders et al., 2004], Seeking Safety [Najavits et al., 2006], and Trauma-

Focused Cognitive Behavioral Therapy [TFCBT; Cohen & Mannarino, 1996]).

LACDMH also carried out quality improvement procedures including ongoing supervision, continual audits, contract reviews, and reimbursement contingencies to incentivize EBT implementation.

2.2 Participants

All Child STEPs cases ($n=138$) were potentially eligible for the current study; study inclusion required that at least one of the first four treatment sessions had been either audio- or video-recorded. Based on this criterion, our sample included 100 youth cases (72.4%). Similarly, therapists enrolled in the Child STEPs study ($n=50$) were eligible for the current study if at least one of their cases met criterion for inclusion. Based on eligible youths, our sample included 45 therapists (90%).

Therapists. The majority of participating therapists were female (95.4%). The sample of therapists was ethnically and racially diverse, with 46.7% identifying as Latinx or Hispanic, 31.1% as Caucasian, 11.1% as Asian-American, 8.9% as more than one race/ethnicity, and 2.2% as African-American. Therapists were, on average, 32.8 years old ($SD = 5.7$), and had an average of 3.13 years of experience ($SD = 3.0$) delivering services since obtaining their highest degree. Most therapists had a Master's degree (97.8%), and 20% of therapists were licensed. Lastly, therapists ranged in theoretical orientation, with 37.8% reporting their primary orientation as cognitive-behavioral, followed by eclectic (31.1%), humanistic (8.9%), family systems (8.9%), and psychodynamic (8.9%).

As part of the STEPs trial, the 45 therapists in our study were randomly assigned to one of two treatment conditions. Twenty-nine therapists were randomly assigned to the

MATCH-ADTC condition, whereby they were trained in 33 modules corresponding to common procedures in EBTs targeting anxiety, depression, trauma, and conduct problems, with algorithms guiding module sequencing for different treatment targets while allowing for adaptation in response to run time events (Chorpita & Weisz, 2005; Chorpita & Weisz, 2009). Early treatment modules across the different treatment protocols include various engagement practices from the literature, with some modules exclusively dedicated to promoting client engagement. Therapists in the MATCH condition received ongoing consultation to support treatment implementation. Therapists assigned to the CIT condition ($N=16$) were instructed to deliver services as they normally would within the context of the system-wide mandate to deliver manualized EBTs. CIT therapists received ongoing supervision and were trained in a variety of EBTs that included various engagement practices from the literature.

Youths. Participating clients included youth and their respective caregivers seeking mental health treatment. Youth ranged in age from 5.2-15.9 years of age, with an average age of 9.4 years ($SD = 2.8$). Our sample of youth consisted of 56% males. Most (78%) youth were Latino/a or Hispanic, 11% were African-American, 7% were more than one race, and 3% were Caucasian. The primary diagnosis of youth in our sample included conduct disorder (40%), depression (36%), anxiety (23%), and trauma (1%).

2.3 Observational Coding Procedures

Codebook. The codebook was designed to assess the extensiveness of 22 different therapist-delivered engagement practices in child therapy sessions. This coding system was collaboratively developed by four scholars with an expertise in children's mental health, engagement intervention, and evidence-based practice delivery. Practices

were selected for inclusion based on a recent literature review that used a distillation and matching model to identify common elements of effective engagement interventions in children's mental health (i.e., Becker et al., 2015). Specifically, developers chose practices that were in at least 10% or more of "winning groups" that effectively improved attendance outcomes. Additionally, a handful of practices were selected for inclusion that were not evaluated in the review due to poor reliability (*goal setting, performance feedback, psychoeducation about the problem, therapist monitoring*), but that developers concluded were prevalent in the engagement literature. Operational definitions of engagement practices for the coding system were informed by synthesized practice descriptions from Becker et al., (2015).

Modeled after the structure of the Therapy Process Observational Coding System-Strategies Scale (McLeod & Weisz, 2010), this coding system included a Microanalytic Scale and an Extensiveness Scale to measure practice delivery. The Microanalytic Scale examined the occurrence of therapist strategies at different intervals throughout the session, while the Extensiveness scale sought to capture the global breadth and intensity of practice delivery in a given session. Practices were broken down into "steps" or more granular therapist behaviors that represented different aspects of larger practices. The occurrence of steps was measured on the Microanalytic Scale as a means of assessing breadth of delivered practices. Definitions of practices can be found in Table 2.1, while a list of the steps measured within each practice is displayed in Appendix A. To manage coding burden, only a subset of the most prominent steps for each practice were included in the codebook.

Scoring Strategy. On the Microanalytic Scale, the presence or absence of steps was recorded in five-minute intervals throughout treatment sessions. On the Extensiveness Scale, practices were assigned a Likert-scale score ranging from 0 (no occurrence of practice), 1 (low breadth and intensity), 4 (moderate breadth and intensity), and 6 (high breadth and intensity). Coders determined extensiveness ratings based on the occurrence and frequency of steps documented on the Microanalytic Scale; coders assessed the breadth of a practice based on the number of steps within a practice delivered, and assessed the intensity based on the time allotted to the practice and the thoroughness with which the practice was conducted.

Coders and Coder Training. The coding team consisted of seven undergraduate students, six psychology doctoral students, and one faculty member with expertise in treatment engagement. Coder training materials were developed by the study team and consisted of the codebook and scoring form, a didactic presentation, and treatment sessions that had been previously coded by the study team. Coder training first involved a didactic review of coding procedures and codebook definitions, along with a presentation led by a doctoral student that showcased various excerpts from treatment sessions in a series of activities designed to help coders recognize codes. At a subsequent time, coders independently listened to the audio-recording of a session that had been coded by the training team and attempted to score codes for this session. Following practice coding, coders reviewed the training team's codes, with a particular focus on identifying their own discrepancies and reviewing the audio-recording for additional clarification of challenging segments. Coders were certified to begin coding after reaching 80% agreement on practice extensiveness ratings (agreement was defined as coding within 1-

point on the Likert scale from the gold-standard rating) with gold-standard extensiveness ratings generated by project principal investigators (PIs) for three treatment sessions. Following certification, coders attended weekly meetings to address questions about codes and reduce coder drift.

Therapy Session Recordings. For the current study, 193 therapy sessions within the first four sessions of treatment were behaviorally coded for engagement practice delivery. Table 2.2 displays the characteristics of therapy session recordings in the study. In our sample, there was an average of 2.22 cases per therapist ($SD=1.44$), with an average of 1.93 early therapy session recordings per client ($SD=.84$). Therapy session recordings averaged 47.84 minutes in length ($SD=20.64$).

Inter-rater Reliability. Approximately 21% of all sessions were double-coded ($N=40$). Inter-rater reliability was evaluated using Interclass Correlations (ICCs). A two-way random effects model was used since sessions selected for reliability coding were randomly assigned to a large pool of coders. Table 2.3 displays the specific ICCs for each practice along with how many times each practice was observed by the index coder. As displayed, there were five practices with reliability estimates lower than .4, indicating poor inter-rater agreement (Cicchetti, 1994). These estimates were thought to be affected by the low base rate of occurrence for these practices. Subsequently, interpretation of the findings for these practices were done so with caution.

2.4 Other Measures

Evidence-Based Practice Training Survey (EBPTS; Park et al., 2018). This survey was administered to therapists at the beginning, end, and one year following the completion of the STEPs trial. This survey consisted of checklist items that ask about the

therapist's prior formal training in specific EBTs, and if applicable, the dates in which they were trained. The survey probed for training history in ten of the most commonly-delivered EBTs in Los Angeles County (i.e., Trauma-Focused Cognitive Behavioral Therapy [TF-CBT; Cohen & Mannarino, 1996], Parent-Child Interaction Therapy [PCIT; e.g., Eyberg et al., 1995], Functional Family Therapy [FFT; e.g., Alexander & Robbins, 2011], Cognitive Behavioral Intervention for Trauma in Schools [CBITS; Stein et al., 2003], Incredible Years [IY; Webster-Stratton & Reid, 2011], Positive Parenting Program [Triple P; Sanders et al., 2004], Seeking Safety [Najavits et al., 2006], Child-Parent Psychotherapy [CPP; Lieberman et al., 2005], Depression Treatment Quality Improvement [DTQI; Asarnow et al., 2005], and Managing and Adapting Practice [MAP; Chorpita et al., 2014]). It also provided four additional items for therapists to write in other EBTs not listed in which they have received formal training. Table 2.4 displays the session frequencies in which the ten most common treatment protocols were in the therapist's training history according to the EBPTS.

Consultation Record (Ward et al., 2013). The Consultation Record was used in the current study to assess the EBTs that therapists reported delivering in treatment sessions. The Consultation Record was a form completed by study personnel during weekly consultation meetings with therapists to document information regarding session attendance, problem focus, and interventions delivered in recent sessions. Staff were trained to collect information through semi-structured interviews with therapists using neutral, unbiased probes. Prior research has found this method of information gathering to be congruent with observational coding methods used to detect intervention delivery (Mean ICC = .71; Ward et al., 2013; κ = .62; Park et al., 2018). Table 2.4 displays the

session frequencies in which the ten most common treatment protocols were reported as delivered in session according to the Consultation Record.

2.5 Data Preparation and Procedures

Observed Values. The current study sought to compare observed values of practice delivery to expected values derived from two information sources. For the purposes of this study, observed values equated to the dichotomous occurrence (i.e., presence/absence) of coded engagement practices. A practice met criteria for being ‘present’ in the session if at least one step of the practice occurred. For example, if a therapist explained the gradual process of building a therapeutic relationship but did not complete the other steps of *rappport building* (i.e., selects conversation topics unrelated to therapy, uses developmentally appropriate activities), then *rappport building* would still be considered as ‘present’ in the session.

Expected Values. Integrity of engagement practices was assessed according to two sets of expected values that were calculated using two separate information sources: (1) the therapist’s training history and (2) the protocol that the therapist reported delivering in-session. For the first set of expected values, a practice was coded as ‘expected’ for a session if the therapist was trained before the session date in at least one treatment protocol that prescribed that practice, as indicated on the EBPTS. Thus, if an engagement practice in the therapist’s training history was observed in session, then that session was considered to meet criteria for integrity to the therapist’s training history. For the second set of expected values, a practice was coded as ‘expected’ for a session if the therapist reported on the Consultation Record delivering a treatment protocol prescribing that practice in at least one session during treatment. Therefore, a session was considered

to meet criteria for integrity to the session-level protocol if an engagement practice prescribed in the session-level protocol was observed in session.

In order to identify engagement practices included in relevant treatment protocols, ten EBT protocols were coded for presence of engagement practices using codebook definitions from the developed coding system. Protocols were selected based on their prevalence in the training history of therapists in the current sample and the larger STEPs trial. Initially, protocols were consensus coded between the first author and a co-author with an expertise in engagement intervention. After establishing consensus agreement, treatment protocols were coded by the first author. Questions were discussed periodically throughout the coding process between the first author and co-author. Table 2.5 displays the presence of different engagement practices in each of the coded treatment protocols, along with the frequencies of engagement practices across the ten different protocols. As shown, the three most frequent engagement practices prescribed in these protocols were *Psychoeducation: Problem* (9 manuals), *Psychoeducation: Services* (9 manuals), and *Rehearsal* (8 manuals).

2.6 Data Analysis and Rationale

Total sample description of practice delivery. Descriptive statistics and frequencies were calculated to characterize the occurrence and extensiveness of engagement practices across 193 sessions, as well as the number of engagement practices delivered in sessions.

Measurement of integrity to information sources. To assess integrity to expected values, we compared practice occurrence between sessions in which the practice was expected and sessions in which the practice was not expected. This approach differs

from previous integrity measurement approaches, which have focused predominantly on examining observed values (e.g., practice occurrence) solely when the practice was expected to occur (e.g., due to prescription in a manual). For purposes of the current study, we designated the absence of an expected value (e.g., ‘unexpected’) an expected value itself. By comparing observed values when the practice was expected to when it was unexpected we have the opportunity to examine how the chosen information sources may influence practice delivery beyond what is already occurring in their absence. Thus, for the current study, Fisher’s exact tests were conducted to examine the association between expected values derived from therapist training history and individual practice occurrence, as well as the association between expected values derived from reported session treatment protocol and individual practice occurrence. Adjustments for multiple comparisons were unaccounted for since this study focused on a global interpretation of results from inferential analyses.

Table 2.1 Coded Engagement Practices and Definitions

Practice	Definition
Accessibility Promotion	Therapist uses features of the service model (e.g., childcare, food, transportation support) to make services more convenient and accessible for the client.
Appointment Reminders	Therapist provides information about the day, time, or location of the next session.
Assessing Barriers to Treatment	Therapist conducts a formal assessment or discussion with the youth/family to elicit barriers to participation in treatment.
Behavioral Contracting	Therapist establishes an explicit agreement of terms regarding a specific therapeutic plan or behavioral goal.
Cultural Acknowledgement	Therapist uses strategies to explore the client's culture, broadly defined as the client's race/ethnicity, age, sexual orientation, religion, or other aspect of identity.
Change Talk	Therapist elicits from the client talk regarding disadvantages of the status quo, advantages of change, optimism about change, and intention to change.
Empowerment	Therapist validates the experiences, role in treatment, and perspectives of the youth and family. Therapist empowers or supports self-efficacy by providing opportunities for family choice and involvement in decision-making (e.g., service planning, therapeutic activities, out-of-session practice, etc.).
Managing Expectations	Therapist discusses or provides corrective information to help the family have realistic expectations for treatment (pace, duration, improvement progress).
Goal Setting	Therapist collaboratively selects a therapeutic goal for the purpose of working toward achieving that goal. Therapist defines success and what that looks like in terms of goals.
Homework Assignment	Therapist sets up skills practice to occur outside of the therapeutic contact.
Instilling Hope	Therapist instills hope or confidence about change.
Modeling	Therapist demonstrates a desired behavior, typically performed by a therapist, peers, or other actors to promote imitation and performance of that behavior by client.

Performance Feedback	Therapist provides information about performance to the youth/family based on assessment and/or observation and relative to some identified standard (e.g., past performance, established goal, best practice, peer norms, etc.)
Psychoeducation: Problem	Therapist reviews information with the client about the development of a problem and its relation to a proposed intervention.
Psychoeducation: Services	Therapist provides information about the steps to obtaining services, roles (of therapist, youth, caregiver), content of sessions, frequency of sessions, out-of-session practice of skills, agency policies regarding attendance, etc.
Rapport Building	Therapist utilizes strategies to increase the quality of the relationship between the therapist and client, with a focus on use of developmentally appropriate activities, engaging in discussion about non-treatment related topics, and explaining that building a therapeutic relationship is a gradual process.
Rehearsal	Therapist guides client to practice therapeutic skill.
Therapist Reinforcement	Therapist uses reinforcers (i.e., social, tangible) to promote a desired behavior.
Support Networking	Therapist includes formal or informal helpers (relatives, friends, neighbors, faith leaders) in service planning and delivery, or connects the client or caregiver with others for the purpose of developing supportive networks.
Therapist Monitoring	Therapist repeatedly reviews a target process or behavior, or introduces a monitoring procedure.

Table 2.2. Characteristics of Session Recordings

Characteristic	N (%)
Recording Type	
Audio-recording	177 (91.7)
Video-recording	16 (8.3)
Session Number	
1	45 (23.3)
2	58 (30.0)
3	60 (31.1)
4	30 (15.5)
Participant	
Youth	103 (53.4)
Caregiver	46 (23.8)
Youth + Caregiver	33 (17.1)
Unspecified	1 (.5)

Table 2.3 ICCs for Coded Engagement Practices

Practice	ICC	Observed (N) by index coder across reliability sample
Accessibility Promotion	.62	7
Appointment Reminders	.56	13
Assessing Barriers to Treatment	.78	3
Behavioral Contracting	-.04	1
Cultural Acknowledgement	-.07	1
Change Talk	.44	5
Empowerment	.79	5
Managing Expectations	-.09	6
Goal Setting	.67	5
Homework Assignment	.84	11
Instilling Hope	.54	9
Modeling	.66	5
Performance Feedback	.09	1
Psychoeducation: Problem	.82	24
Psychoeducation: Services	.74	26
Rapport Building	.86	31
Rehearsal	.76	8
Reinforcement	.53	28
Support Networking	.16	4
Therapist Monitoring	.75	21

Table 2.4 Prevalence of Treatment Protocols in Session Training History and Reported Delivery on Consultation Record

Treatment Protocol	Sessions in Which Protocol Existed in Training History	Sessions for Which Therapist Reported Delivering Protocol
MATCH	124	124
TF-CBT	110	6
Seeking Safety	104	0
Triple P	69	1
PCIT	24	8
IPT-A	24	0
CBITS	17	0
Incredible Years	14	0
DTQI	13	1
CPP	1	0
No EBT	8	53

Table 2.5 Mapping of Engagement Practices onto Treatment Protocols

Engagement Practices	Treatment Protocol										Number of Protocols in Which Practice Was Indicated
	MATCH	TFCBT	Triple P	SS	IY	PCIT	CBITS	IPTA	DTIQ	CPP	
Accessibility Promotion											0
Appointment Reminders											0
Assessing Barriers to Treatment	x					x					2
Behavioral Contracting				x				x			2
Cultural Acknowledgment	x	x								x	3
Eliciting Change Talk											0
Instilling Hope	x	x								x	3
Empowerment	x							x			2
Goal Setting	x		x	x	x		x	x		x	7
Homework Assignment	x	x	x		x	x			x		6
Managing Expectations	x		x			x					3
Modeling	x	x	x		x	x	x				6
Performance Feedback	x				x	x		x			4
Psychoeducation: Problem	x	x	x	x	x		x	x	x	x	8

Psychoeducation: Services	x	x	x	x		x	x	x	x	x	9
Rapport Building	x	x		x		x	x				5
Rehearsal	x	x	x	x	x	x	x	x			8
Support Networking											0
Therapist Monitoring	x		x			x	x	x	x		6
Therapist Reinforcement	x	x	x		x	x				x	6

CHAPTER 3

RESULTS

3.1 Practice Delivery Across the Total Sample

Across 193 treatment sessions, the number of engagement practices that occurred in sessions ranged from 1 to 13, with a mean number of 5.97 engagement practices per session ($SD=2.75$). Table 3.1 displays the occurrence and extensiveness for each engagement practice across all treatment sessions. Practices in the table are listed in descending order by practice occurrence. Occurrence represents the proportion of treatment sessions in which a practice was observed out of the total sample of treatment sessions. Occurrence of individual engagement practices across sessions ranged from 3.6% to 76.6%. As displayed in Table 3.1, the top five most frequently delivered practices were *psychoeducation: services* (76.6%), *rappport building* (73.1%), *therapist reinforcement* (70.0%), *therapist monitoring* (66.8%), and *psychoeducation: problem* (60.6%).

Mean extensiveness scores were calculated by averaging extensiveness ratings only across sessions in which the practice was observed. Mean extensiveness for individual engagement practices ranged from 1.29 to 3.25 ($SD=.48$). The five practices delivered with the highest extensiveness on average, were *rappport building* (3.25), *therapist monitoring* (2.57), *behavioral contracting* (2.57), *homework assignment* (2.52), and *psychoeducation:services* (2.48).

3.2 Associations Between Practice Occurrence and Training History Expected Values

Fisher's exact tests were conducted to examine associations between engagement practice occurrence and expected values derived from therapist training history. Table 3.2 displays the results from Fisher's exact tests for sixteen engagement practices. Four practices were excluded from these analyses, since they were not prescribed in any coded treatment protocols in the training history of therapists (*appointment reminders, accessibility promotion, change talk, support networking*). Table 3.2 also displays the frequencies of sessions in which practices were 'expected' for training history, along with the percentage of sessions in which practices were observed when expected, and the percentage of sessions in which practices were observed when unexpected.

Expected occurrence for individual practices based on training history ranged from 104 to 183 sessions, with *psychoeducation: problem, rehearsal, psychoeducation: services, rapport building, therapist reinforcement, homework assignment* and *modeling* having the highest expected occurrence. As shown, significant associations were found between expected values derived from training history and practice occurrence for three practices (*managing expectations, therapist monitoring, empowerment*). Table 3.2 displays odds ratios for tests yielding significance. This number indicates the size of the effect, with larger numbers indicating that expected occurrence is associated with greater observed occurrence. Odds ratios smaller than 1 indicate that the direction of the effect is contrary to our hypothesis, suggesting that expected occurrence is associated with lower observed occurrence. As displayed, odds ratios for this set of analyses ranged from 6.19-7.2 for significant associations.

3.3 Associations Between Practice Occurrence and Session-Level Protocol Expected Values

Fisher's exact tests were conducted to examine associations between engagement practice occurrence and expected values derived from the protocol that the therapist reported delivering in the session. Table 3.3 displays the results from Fisher's exact tests for fifteen engagement practices. Five engagement practices were excluded from these analyses since they did not occur in any treatment protocols reported as delivered by therapists (*appointment reminders, accessibility promotion, behavioral contracting, change talk, support networking*). Table 3.3 also displays the frequencies of sessions in which practices were 'expected' for session-level protocol, the percentage of sessions in which practices were observed when expected, and the percentage of sessions in which practices were observed when unexpected.

Expected occurrence for individual practices based on session-level protocol ranged from 6 to 140 sessions, with *psychoeducation: services, homework assignment, therapist reinforcement, rehearsal, and modeling* having the highest expected occurrence. Significant associations were found between expected values derived from session-level protocol and practice occurrence for eight out of fifteen practices (*psychoeducation: services, rapport building, therapist reinforcement, therapist monitoring, psychoeducation: problem, homework assignment, managing expectations, empowerment*). As displayed, odds ratios for this set of analyses ranged from .19-7.52. *Rapport building* was the only practice with a significant association in which the odds ratio was less than 1, suggesting that for this practice, expected occurrence was significantly associated with lower observed occurrence.

Table 3.1 Occurrence and Extensiveness of Engagement Practices Across All Sessions

Practice	Percent of Sessions in Which Practice Occurred	Average Extensiveness When Practice Occurred (SD)
Psychoeducation: Services	75.7	2.48 (1.54)
Rapport Building	73.1	3.25 (1.61)
Therapist Reinforcement	70.0	1.95 (1.42)
Therapist Monitoring	66.8	2.57 (1.52)
Psychoeducation: Problem	60.6	2.36 (1.48)
Goal Setting	30.1	2.24 (1.51)
Homework Assignment	30.1	2.52 (1.42)
Appointment Reminders	29.0	1.29 (.85)
Accessibility Promotion	27.5	1.62 (1.18)
Managing Expectations	19.2	2.02 (1.32)
Empowerment	18.1	1.89 (1.35)
Instilling Hope	17.6	1.44 (.89)
Rehearsal	16.6	2.28 (1.53)
Support Networking	14.5	1.64 (1.13)
Modeling	14.0	2.40 (1.58)
Performance Feedback	11.4	1.95 (.90)
Assessing Barriers to Treatment	10.9	1.9 (1.51)
Change Talk	4.7	1.44 (1.01)
Cultural Acknowledgement	3.6	2.00 (1.41)
Behavioral Contracting	3.6	2.57 (1.40)

Table 3.2 Associations of Expected Values Derived from Therapist Training History and Practice Occurrence (Observed Values)

Practice	Observed Values (Practice Occurrence) N(%)	Sessions Where Practice Was 'Expected' N (%)	Occurrence When 'Expected' (%)	Occurrence When 'Unexpected' (%)	<i>p</i>	Odds Ratio
Psychoeducation: Services	146 (76.6)	183 (94.8)	76.0	70.0	.71	n/a
Rapport Building	141(73.1)	183 (94.8)	71.6	100	.06	n/a
Therapist Reinforcement	135 (69.9)	183 (94.8)	71.0	50.0	.17	n/a
Therapist Monitoring	129 (66.8)	178 (92.2)	70.2	26.7	.001*	6.49
Psychoeducation: Problem	117 (60.6)	185 (95.9)	60.0	75.0	.48	n/a
Goal Setting	58 (30.05)	179 (92.6)	29.6	35.7	.63	n/a
Homework Assignment	58 (30.05)	183 (94.8)	31.1	10.0	.29	n/a
Managing Expectations	37 (19.17)	166 (86.0)	21.7	3.7	.03*	7.2

Empowerment	35 (18.13)	132 (68.4)	24.2	4.9	.001*	6.19
Instilling Hope	34 (17.62)	111 (57.5)	21.6	12.2	.13	n/a
Rehearsal	32 (16.58)	185 (95.6)	16.2	25.0	.62	n/a
Modeling	27 (13.99)	183 (94.8)	14.2	10.0	1	n/a
Performance Feedback	22 (11.40)	147 (76.2)	12.9	6.5	.30	n/a
Assessing Barriers to Treatment	21 (10.88)	139 (72.0)	12.9	5.6	.20	n/a
Cultural Acknowledgement	7 (3.63)	111 (57.5)	4.5	2.4	.70	n/a
Behavioral Contracting	7 (3.63)	104 (53.9)	4.8	2.2	.45	n/a

Note: An asterisk () indicates significance at $p = .05$.*

Table 3.3 Associations of Expected Values Derived from Session-Level Protocol and Practice Occurrence (Observed Values)

Practice	Sessions with Practice N(%)	Sessions Where Practice Was 'Expected' N (%)	Occurrence When 'Expected' (%)	Occurrence When 'Unexpected' (%)	<i>p</i>	Odds Ratio
Psychoeducation: Services	146 (76.6)	140 (72.5)	80.0	64.2	.03*	2.24
Rapport Building	141(73.1)	138 (71.5)	65.9	90.9	<.001*	.19
Therapist Reinforcement	135 (69.9)	139 (72.0)	75.5	55.6	.008*	2.47
Therapist Monitoring	129 (66.8)	134 (69.4)	80.6	35.6	<.001*	7.52
Psychoeducation: Problem	117 (60.6)	132 (68.4)	68.9	42.6	<.001*	2.99
Goal Setting	58 (30.05)	125 (64.8)	32.0	26.5	.51	n/a
Homework Assignment	58 (30.05)	140 (72.5)	35.7	15.1	.005*	3.13

Managing Expectations	37 (19.17)	133 (68.9)	25.6	5.0	<.001*	6.53
Empowerment	35 (18.13)	124 (64.2)	25.0	5.8	<.001*	5.42
Instilling Hope	34 (17.62)	6 (3.1)	0	18.2	.59	n/a
Rehearsal	32 (16.58)	139 (72.0)	18.0	13.0	.52	n/a
Modeling	27 (13.99)	139 (72.0)	15.8	9.3	.35	n/a
Performance Feedback	22 (11.40)	132 (68.4)	12.9	8.2	.47	n/a
Assessing Barriers to Treatment	21 (10.88)	132 (68.4)	13.6	4.9	.08	n/a
Cultural Acknowledgement	7 (3.63)	6 (3.1)	0	3.7	1	n/a

Note: An asterisk () indicates significance at $p = .05$.*

CHAPTER 4

DISCUSSION

The current study had two primary aims. The first aim was to characterize the delivery of engagement practices drawn from the literature within the context of EBT implementation. The second aim was to examine the integrity of engagement practice occurrence according to two EBT information sources, namely the therapist's training history, and the treatment protocol that was reportedly delivered.

Regarding our first aim, we found that there was a narrow subset of engagement practices utilized frequently across the entire sample, and a larger subset of engagement practices that occurred considerably less frequently. Specifically, the five most frequently delivered engagement practices occurred in 60% or more of sessions, and the remaining fifteen engagement practices occurred in 30% or less of sessions. This finding points to the possibility that there is a discrete set of 'respected' engagement practices that are ubiquitous in community mental health treatment, and a larger group of 'neglected' practices' that are less frequently utilized to promote engagement early in treatment. Furthermore, the distribution of practices across these two groups is interesting to consider in the context of their presence in EBT protocols, one hypothesized driver of practice delivery. As shown in Table 2.5, some common engagement practices in EBT protocols such as *psychoeducation: problem* and *psychoeducation: services* were among the most frequently delivered practices in our sample. However, other practices common to EBT protocols, such as *rehearsal* and *modeling* did not occur with high frequency.

While the reasons for this are unclear, it may lend credence to the roles of these practices in different phases of treatment, given that our study focused on early treatment sessions. Experts in the field have highlighted the value of delivering psychoeducation in the first few treatment sessions in order to establish client understanding and establish expectations for treatment (Nock & Ferriter, 2005). *Rehearsal* and *modeling*, however, function to support the client's acquisition of skills, a task that may be more relevant in later sessions as treatment progresses into skill-building (Gittelman et al., 1965). Considering these different functions, it may be valuable for future research to explore the sequencing of different engagement practices in treatment and how this affects engagement.

The average extensiveness in which engagement practices were delivered was relatively invariable across practices, with the majority of average scores falling within the 1.5-2.5 range on the Likert scale. As shown in Table 3.1, one practice that deviated in average extensiveness from other practices was *rappport building*. Further investigation revealed that *rappport building* was delivered with high intensity (a score of a 4 or higher, according to the anchors of the coding system) in 60% of the sessions that the practice was delivered, suggesting that this practice is not only delivered frequently, but that therapists may allocate significant time and attention to this practice. This finding aligns with the field's emphasis on working alliance, as prior research has found early working alliance to be one of the strongest predictors of symptom reduction, oftentimes over and above the treatment modality used (McLeod, 2011; Karver et al., 2018). It also sheds light on the possibility that this practice can be delivered extensively with less implementation support compared to more technical engagement procedures.

To pursue our second aim, this study followed a previous line of research (Regan et al., 2019) by examining the integrity of engagement practices to two separate information sources relevant to EBT implementation. In addition to adopting a broad conceptualization of integrity, we used a novel approach for evaluating integrity by comparing the observed delivery of a practice when it was expected to when the practice was not expected. While previous integrity measurement studies often lack a “control” condition, this aspect of our study was instrumental to our investigation since several factors shape practice delivery outside of the information sources focused on in the current study. To that end, we believe this approach expands the potential implications for quality improvement, since our findings highlight the impact of the pertinent information sources *beyond* that of other factors that influence engagement practice delivery.

In analyses examining integrity to session-level protocol, significant associations between expected values and practice occurrence were found for more than half of practices, while a lower number of significant associations were found between expected values derived from training history and practice occurrence. Although the majority of findings parallel ad-hoc predictions, the significant association between session-level protocol and the occurrence of *rappport building* suggests a relation contrary to what was expected. This perhaps indicates that therapists rely heavily on this practice in the absence of EBTs, as 53 out of 56 sessions in the ‘unexpected’ comparison group for *rappport building* did not include the delivery of any treatment protocol, according to the therapist’s report. This finding provides further evidence that *rappport building* may require less implementation support compared to other practices, and therefore

improvement efforts may be best allocated to supporting the implementation of other engagement procedures.

Overall, these findings illuminate the strength with which these different information sources influence engagement practice delivery, indicating that EBT protocols generally serve as a stronger predictor of what engagement practices are used in session. This may suggest that therapists utilize design time control more often than run time control when selecting engagement practices to deliver, although further research is needed to confirm this hypothesis. As mentioned, run-time control seems to be central to effective engagement intervention, since engagement problems often emerge unexpectedly throughout the course of treatment. Thus, it may be advantageous to develop resources that help therapists to first detect engagement-related problems that occur in run-time, and then respond to such problems using clinical procedures derived from the engagement literature. Furthermore, it's important to consider that the effectiveness of engagement strategies may vary depending on the engagement domain being targeted (Becker et al., 2018). Thus, it may be beneficial that such resources provide therapists with guidance on selecting engagement practices that match their client's specific engagement needs.

In the current study, it was found that therapists routinely delivered a narrow subset of engagement practices in sessions, while underutilizing several practices from the evidence-base. This finding highlights an opportunity for improving current services by equipping therapists with a larger toolbox of engagement strategies to address the array of engagement concerns they might encounter. However, because dozens of engagement practices have been identified in the evidence base, it is worth considering

how these practices may be packaged to make them accessible and useful to therapists. EBT manuals serve as one potential mechanism for doing so, but the prospect of cramming all relevant engagement procedures from the literature into manuals designed to primarily tackle clinical problems seems undesirable and infeasible.

Another option that the field could consider is developing a system that links together each of the aforementioned supports so that therapists know when engagement practices are needed, what practices might be useful for a particular problem, and how to deliver those practices effectively. Such a system would be compatible with EBTs and would not require modification to those manualized interventions. Working in the field of knowledge translation, Graham et al., (2006) created a model that details some of the key decisions for clinicians that might offer important considerations for the functions of this system, such as a resource to help with identification of a problem, followed by the consideration of the context for adapting knowledge, and then the application of evidence to guide the selection, tailoring and implementation of the intervention. Decisions in this model are hierarchically structured, with later processes utilizing evidence surveyed in previous steps. For engagement intervention, this may involve linking together supports for evaluating engagement concerns (i.e., assessment tools) with tailored recommendations for engagement practices based on practice-problem associations in the literature. Through developing a unified system of resources, we may harness the untapped potential of the evidence base to treat the myriad of complex engagement concerns that occur in community mental health services. Recent efforts have been made to assemble a “toolbox” of resources similar to the system described, and a preliminary study has shown that it has promising effects on how providers assess and intervene on

engagement problems (Becker et al., 2019). The potential contribution of such a system does not negate the value of treatment manuals that function to set up minimally sufficient engagement at the beginning of treatment. Rather, such a system may be particularly helpful for clients who are experiencing outstanding concerns not addressed by engagement procedures prescribed in EBTs. Thus, by leaning on the strengths of both run time and design time control, we may equip providers to promote and maintain engagement in a way that is both efficient and effective.

4.1 Limitations

While this study provides a novel examination of engagement intervention within the context of EBT implementation, there are several limitations to address, particularly regarding our analysis of integrity to expected values. First, for the purposes of this study, we assessed integrity based on the occurrence of a given practice, which was indicated by the presence of at least one step in the session. Thus, the threshold to meet criteria for integrity was very low, and integrity in this study did not indicate *sufficient* delivery of a practice, thereby limiting the implications of our findings. Additionally, we did not consider other components of treatment integrity outlined in the literature (e.g., extensiveness, therapist competence). Given the importance of these components in measuring quality of care, their exclusion from our study limits the extent to which these findings call for future action. Future research should prioritize examining extensiveness and competence of engagement practices, and their integrity to different expected values within the context of EBT implementation. An additional limitation pertains to the analysis of integrity to the delivered treatment protocol. Specifically, for this set of analyses, the majority of sessions where a practice was ‘expected’ were sessions in the

MATCH condition, since many of the CIT therapists did not report delivering any treatment protocol. This confound may limit the generalizability of our findings to other EBTs and contexts, since therapists in the MATCH condition had implementation supports unique to the STEPs trial (e.g., ongoing consultation in MATCH) which likely supported greater fidelity that may be misrepresentative of other implementation trials. Lastly, the statistical power of our integrity analyses was low, due to the unbalanced number of cases in the ‘expected’ and ‘unexpected’ groups. This was particularly pervasive for the analyses examining integrity to training history. Although the null findings for this set of analyses aligns with previous research regarding the effects of workshop trainings on fidelity (Herschell et al., 2010), these findings should be interpreted with caution. Contrarily, despite low statistical power, 53% of the tests examining integrity to session-level protocol were significant, highlighting the robustness of these effects. To build on the contributions of this study, future research should examine these questions with a more rigorous design to optimize statistical power and minimize the effects of confounding factors.

4.2 Conclusions

Despite these limitations, this study is the first of its kind to explore engagement intervention within the context of EBT implementation, paving a path forward for integrating these two areas of research. As evidenced in the current study, there is ample opportunity to improve engagement intervention within implementation trials. However, more importantly, this study points to the possibility of maximizing the impact of EBTs in community settings by improving engagement intervention and thereby expanding the accessibility of those services. Treatment developers and engagement researchers have

long utilized different means of working toward the same end of ameliorating children's mental health problems. The extent to which this objective is fulfilled greatly hinges on the efficacy of the other person's efforts; namely, high engagement is futile without an effective treatment for the client to engage in, and the effects of a treatment protocol are severely limited without strong client engagement. In service of maximizing the impact of our efforts, it's time that these siloed areas of research link hands to work towards a common goal.

REFERENCES

- Alexander, J. F., & Robbins, M. S. (2011). Functional family therapy. In *Clinical handbook of assessing and treating conduct problems in youth* (pp. 245-271). Springer, New York, NY.
- Asarnow, J. R., Jaycox, L. H., Duan, N., LaBorde, A. P., Rea, M. M., Murray, P., ... & Wells, K. B. (2005). Effectiveness of a quality improvement intervention for adolescent depression in primary care clinics: a randomized controlled trial. *Jama*, 293(3), 311-319. <https://doi.org/10.1001/jama.293.3.311>
- Barnett, M. L., Brookman-Frazee, L., Gonzalez, J. C., Zhan, C., Rodriguez, A., Stadnick, N. A., & Lau, A. S. (2019). Qualitative reports of how and when therapists adapt children's evidence-based practices during community implementation. *Journal of Clinical Child and Adolescent Psychology*, 48(6), 894-905. <https://doi.org/10.1080/15374416.2018.1485107>
- Barnett, M. L., Lau, A. S., Lind, T., Wright, B., Stadnick, N. A., Innes-Gomberg, D., ... & Brookman-Frazee, L. (2019). Caregiver Attendance as a Quality Indicator in the Implementation of Multiple Evidence-Based Practices for Children. *Journal of Clinical Child & Adolescent Psychology*, 1-15. Advance online publication. <https://doi.org/10.1080/15374416.2019.1683851>
- Becker, K. D., Lee, B. R., Daleiden, E. L., Lindsey, M., Brandt, N. E., & Chorpita, B. F. (2015). The common elements of engagement in children's mental health services: Which

- elements for which outcomes?. *Journal of Clinical Child & Adolescent Psychology*, 44(1), 30-43. <https://doi.org/10.1080/15374416.2013.814543>
- Becker, K. D., Boustani, M., Gellatly, R., & Chorpita, B. F. (2018). Forty years of engagement research in children's mental health services: Multidimensional measurement and practice elements. *Journal of Clinical Child & Adolescent Psychology*, 47(1), 1-23. <https://doi.org/10.1080/15374416.2017.1326121>
- Becker, K. D., Park, A. L., Boustani, M. M., & Chorpita, B. F. (2019). A pilot study to examine the feasibility and acceptability of a coordinated intervention design to address treatment engagement challenges in school mental health services. *Journal of School Psychology*, 76, 78-88. <https://doi.org/10.1016/j.jsp.2019.07.013>
- Beidas, R. S., & Kendall, P. C. (2010). Training therapists in evidence-based practice: A critical review of studies from a systems-contextual perspective. *Clinical Psychology: Science and Practice*, 17(1), 1-30. <https://doi.org/10.1111/j.1468-2850.2009.01187.x>
- Buckingham, S., Brandt, N., Becker, K. D., Gordon, D., & Cammack, N. (2016). Collaboration, empowerment, and advocacy: Consumer perspectives about treatment engagement. *Journal of Child and Family Studies*, 25, 3702-3715. <https://doi.org/10.1007/s10826-016-0507-5>.
- Chorpita, B. F., & Daleiden, E. L. (2009). Mapping evidence-based treatments for children and adolescents: Application of the distillation and matching model to 615 treatments from 322 randomized trials. *Journal of Consulting and Clinical Psychology*, 77(3), 566. <https://doi.org/10.1037/a0014565>

- Chorpita, B. F., Daleiden, E. L., & Collins, K. S. (2014). Managing and adapting practice: A system for applying evidence in clinical care with youth and families. *Clinical Social Work Journal*, 42(2), 134-142.
<https://doi.org/10.1007/s10615-013-0460-3>
- Chorpita, B. F., Daleiden, E. L., Park, A. L., Ward, A. M., Levy, M. C., Cromley, T., ... & Krull, J. L. (2017). Child STEPs in California: A cluster randomized effectiveness trial comparing modular treatment with community implemented treatment for youth with anxiety, depression, conduct problems, or traumatic stress. *Journal of Consulting and Clinical Psychology*, 85(1), 13.
<https://doi.org/10.1037/ccp0000133>
- Chorpita, B. F., & Weisz, J. R. (2005). Modular approach to therapy for children with anxiety, depression, or conduct problems. Boston, MA: Harvard Medical School.
- Chorpita, B. F., & Weisz, J. R. (2009). MATCH-ADTC: Modular Approach to Therapy for Children with Anxiety, Depression, Trauma, or Conduct Problems. Satellite Beach, FL: PracticeWise.
- Cohen, J. A., & Mannarino, A. P. (1996). A treatment outcome study for sexually abused preschool children: Initial findings. *Journal of the American Academy of Child & Adolescent Psychiatry*, 35(1), 42-50. <https://doi.org/10.1097/00004583-199601000-00011>
- Cox, J. R., Martinez, R. G., & Southam-Gerow, M. A. (2019). Treatment integrity in psychotherapy research and implications for the delivery of quality mental health services. *Journal of Consulting and Clinical Psychology*, 87(3), 221.
<https://doi.org/10.1037/ccp0000370>

- County of Los Angeles - Department of Mental Health. (2009). *Mental Health Services Act - Prevention and Early Intervention Plan for Los Angeles County*. Retrieved from: http://file.lacounty.gov/SDSInter/dmh/159376_LACPEI_Plan_Final_8-17-2009.pdf
- Danko, C., Garbacz, L., & Budd, K. (2016). Outcomes of parent–child interaction therapy in an urban community clinic: A comparison of treatment completers and dropouts. *Children and Youth Services Review*, 60, 42–51. <https://doi.org/10.1016/j.chidyouth.2015.11.007>.
- De Haan, A. M., Boon, A. E., de Jong, J. T., Hoeve, M., & Vermeiren, R. R. (2013). A meta-analytic review on treatment dropout in child and adolescent outpatient mental health care. *Clinical Psychology Review*, 33(5), 698-711. <https://doi.org/10.1016/j.cpr.2013.04.005>
- Eyberg, S. M., Boggs, S. R., & Algina, J. (1995). Parent-child interaction therapy: A psychosocial model for the treatment of young children with conduct problem behavior and their families. *Psychopharmacology Bulletin*, 31(1), 83–91.
- Garland, A. F., Brookman-Frazee, L., Hurlburt, M. S., Accurso, E. C., Zoffness, R. J., Haine-Schlagel, R., & Ganger, W. (2010). Mental health care for children with disruptive behavior problems: A view inside therapists' offices. *Psychiatric Services*, 61(8), 788-795. <https://doi.org/10.1176/ps.2010.61.8.788>
- Gittelman, M. (1965). Behavior rehearsal as a technique in child treatment. *Journal of Child Psychology & Psychiatry*. <https://doi.org/10.1111/j.1469-7610.1965.tb02164.x>

- Graham, I. D., Logan, J., Harrison, M. B., Straus, S. E., Tetroe, J., Caswell, W., & Robinson, N. (2006). Lost in knowledge translation: time for a map?. *Journal of Continuing Education in the Health Professions*, 26(1), 13-24. <https://doi.org/10.1002/chp.47>
- Herschell, A. D., Kolko, D. J., Baumann, B. L., & Davis, A. C. (2010). The role of therapist training in the implementation of psychosocial treatments: A review and critique with recommendations. *Clinical Psychology Review*, 30(4), 448-466. <https://doi.org/10.1016/j.cpr.2010.02.005>
- Herschell, A. D., McNeil, C. B., Urquiza, A. J., McGrath, J. M., Zebell, N. M., Timmer, S. G., & Porter, A. (2009). Evaluation of a treatment manual and workshops for disseminating, parent-child interaction therapy. *Administration and Policy in Mental Health and Mental Health Services Research*, 36(1), 63-81. <https://doi.org/10.1007/s10488-008-0194-7>
- Langley, A. K., Nadeem, E., Kataoka, S. H., Stein, B. D., & Jaycox, L. H. (2010). Evidence-based mental health programs in schools: Barriers and facilitators of successful implementation. *School Mental Health*, 2(3), 105-113. <https://doi.org/10.1007/s12310-010-9038-1>
- Lewinsohn, P. M., Clarke, G. N., Hops, H., & Andrews, J. (1990). Cognitive-behavioral treatment for depressed adolescents. *Behavior Therapy*, 21(4), 385-401. [https://doi.org/10.1016/S0005-7894\(05\)80353-3](https://doi.org/10.1016/S0005-7894(05)80353-3)
- Lieberman, A. F., Van Horn, P., & Ippen, C. G. (2005). Toward evidence-based treatment: Child-parent psychotherapy with preschoolers exposed to marital violence. *Journal of the American Academy of Child & Adolescent*

- Psychiatry*, 44(12), 1241-1248.
- <https://doi.org/10.1097/01.chi.0000181047.59702.58>.
- Karver, M. S., De Nadai, A. S., Monahan, M., & Shirk, S. R. (2018). Meta-analysis of the prospective relation between alliance and outcome in child and adolescent psychotherapy. *Psychotherapy*, 55(4), 341. <https://doi.org/10.1037/pst0000176>
- Kazdin, A., Holland, L., & Crowley, M. (1997). Family experience of barriers to treatment and premature termination from child therapy. *Journal of Consulting and Clinical Psychology*, 65, 453. <https://doi.org/10.1037/0022-006X.65.3.453>
- Kazdin, A., & Wassell, G. (1999). Barriers to treatment participation and therapeutic change among children referred for conduct disorder. *Journal of Clinical Child Psychology*, 28, 160–172. https://doi.org/10.1207/s15374424jccp2802_4.
- MacNaughton, K. L., & Rodrigue, J. R. (2001). Predicting adherence to recommendations by parents of clinic-referred children. *Journal of Consulting and Clinical Psychology*, 69, 262–270. <https://doi.org/10.1037/0022-006X.69.2.262>.
- McLeod, B. D. (2011). Relation of the alliance with outcomes in youth psychotherapy: A meta-analysis. *Clinical Psychology Review*, 31(4), 603-616.
- <https://doi.org/10.1111/j.1469-7610.2008.01996.x>
- McLeod, B. D., & Weisz, J. R. (2010). The therapy process observational coding system for child psychotherapy strategies scale. *Journal of Clinical Child & Adolescent Psychology*, 39(3), 436-443. <https://doi.org/10.1080/15374411003691750>
- Najavits, L. M., Gallop, R. J., & Weiss, R. D. (2006). Seeking safety therapy for adolescent girls with PTSD and substance use disorder: A randomized controlled

- trial. *The Journal of Behavioral Health Services & Research*, 33(4), 453-463.
<https://doi.org/10.1007/s11414-006-9034-2>
- Nock, M. K., & Ferriter, C. (2005). Parent management of attendance and adherence in child and adolescent therapy: A conceptual and empirical review. *Clinical Child and Family Psychology Review*, 8(2), 149–166. <https://doi.org/10.1007/s10567-005-4753-0>
- Park, A. L., Moskowitz, A. L., & Chorpita, B. F. (2018). Community-based providers' selection of practices for children and adolescents with comorbid mental health problems. *Journal of Clinical Child & Adolescent Psychology*, 47(5), 796-807. <https://doi.org/10.1080/15374416.2016.1188706>
- Park, A. L., Chorpita, B. F., Regan, J., Weisz, J. R., & Research Network on Youth Mental Health. (2015). Integrity of evidence-based practice: Are providers modifying practice content or practice sequencing?. *Administration and Policy in Mental Health and Mental Health Services Research*, 42(2), 186-196. <https://doi.org/10.1007/s10488-014-0559-z>
- Pellerin, K., Costa, N., Weems, C., & Dalton, R. (2010). An examination of treatment completers and non-completers at a child and adolescent community mental health clinic. *Community Mental Health Journal*, 46(3), 273–281. <https://doi.org/10.1007/s10597-009-9285-5>
- Proctor, E. K. (2004). Leverage points for the implementation of evidence-based practice. *Brief Treatment and Crisis Intervention*, 4(3), 227. <https://doi.org/10.1093/brief-treatment/mhh020>

- Regan, J., Daleiden, E. L., & Chorpita, B. F. (2013). Integrity in mental health systems: An expanded framework for managing uncertainty in clinical care. *Clinical Psychology: Science and Practice*, 20(1), 78–98.
<https://doi.org/10.1111/cpsp.12024>
- Regan, J., Park, A. L., & Chorpita, B. F. (2019). Choices in treatment integrity: Considering the protocol and consultant recommendations in child and adolescent therapy. *Journal of Clinical Child and Adolescent Psychology*, 48(Suppl 1), S79-S89. <https://doi.org/10.1080/15374416.2016.1212360>
- Sanders, M. R., Markie-Dadds, C., Turner, K. M., & Ralph, A. (2004). Using the Triple P system of intervention to prevent behavioural problems in children and adolescents. *Handbook of interventions that work with children and adolescents: Prevention and treatment*, 489-516. <https://doi.org/10.1002/9780470753385.ch20>
- Smith, M. M., McLeod, B. D., Southam-Gerow, M. A., Jensen-Doss, A., Kendall, P. C., & Weisz, J. R. (2017). Does the delivery of CBT for youth anxiety differ across research and practice settings?. *Behavior Therapy*, 48(4), 501-516.
<https://doi.org/10.1016/j.beth.2016.07.004>
- Sparks, W. A., Daniels, J. A., & Johnson, E. (2003). Relationship of referral source, race, and wait time on preintake attrition. *Professional Psychology: Research and Practice*, 34(5), 514. <https://doi.org/10.1037/0735-7028.34.5.514>
- Southam-Gerow, M. A., & McLeod, B. D. (2013). Advances in applying treatment integrity research for dissemination and implementation science: Introduction to special issue. *Clinical Psychology: Science and Practice*, 20, 1–13.
<https://doi.org/10.1111/cpsp.12019>

Stein, B. D., Jaycox, L. H., Kataoka, S. H., Wong, M., Tu, W., Elliott, M. N., & Fink, A.

(2003). A mental health intervention for schoolchildren exposed to violence: a randomized controlled trial. *Jama*, 290(5), 603-611.

<https://doi.org/10.1001/jama.290.5.603>

Ward, A. M., Regan, J., Chorpita, B. F., Starace, N., Rodriguez, A., Okamura, K.,

Daleiden, E. L., Bearman S. K., Weisz, J. R., & Research Network on Youth Mental Health. (2013). Tracking evidence based practice with youth: Validity of the MATCH and Standard Manual Consultation Records. *Journal of Clinical Child & Adolescent Psychology*, 42(1), 44-55.

<https://doi.org/10.1080/15374416.2012.700505>

Webster-Stratton, C. H., & Reid, M. J. (2011). The Incredible Years Program for children

from infancy to pre-adolescence: Prevention and treatment of behavior problems.

In *Clinical handbook of assessing and treating conduct problems in youth* (pp. 117-138). Springer, New York, NY.

APPENDIX A

STEPS WITHIN CODED ENGAGEMENT PRACTICES

Below are the engagement practices coded in the current study and a list of respective therapist behaviors or “steps” that constitute each practice.

Accessibility Promotion:

1. Therapist and family discuss child care during therapeutic contacts and child care services are offered by therapist/agency.
2. Therapist and family discuss fees and if the family indicates a financial burden, flexible payment plans or sliding scale fees are offered.
3. Therapist elicits family’s scheduling preferences and therapist offers flexibility in order to accommodate family’s preferences and obligations.
4. Therapist and family discuss the convenience of the location of services and if applicable, therapist offers to meet at a more convenient location.
5. Therapist and family discuss transportation and things the therapist or agency can do to facilitate travel (e.g., provide bus tokens, parking vouchers, etc.).
6. Therapist offers or has food or drinks available during the session.
7. Other

Appointment Reminders

1. Therapist provides info (e.g., day, time, and location) about next session during current session
2. There is evidence that the therapist provided an appointment reminder via mail, text, phone, email, in person, etc. in between sessions

Assessing Barriers to Treatment

1. Therapist asks about previous experiences (e.g., with services, out of session practice, etc.)
2. Therapist inquires generally about barriers
3. Therapist inquires specifically about family’s perspectives and potential ambivalence or resistance such as by asking them about their prior experiences with services, concerns about treatment relevance, stigma, cultural differences, etc.
4. Therapist inquires specifically about practical barriers (e.g., transportation, competing demands, scheduling, etc.)

5. Therapist inquires specifically barriers to out-of-session practice (e.g., not enough time, forgetting)

Behavioral Contracting

1. Therapist helps specify rules and roles for contract
2. Therapist helps memorialize the contract
3. Therapist documents contract in writing

Cultural Acknowledgement

1. Therapist asks questions to learn about culture
2. Therapist explains treatment in a way that acknowledges influence of culture
3. Therapist inquires about and uses language, examples, or analogies appropriate to client's culture

Eliciting Change Talk

1. Therapist asks about disadvantages of status quo
2. Therapist asks about advantages of change
3. Therapist asks about optimism about change
4. Therapist asks about intention to change

Empowerment

1. Therapist explicitly remarks about the expertise and invaluable role of youth and family in treatment
2. Therapist explicitly refers to the efforts of youth and family towards improving their situation

Instilling Hope

1. Therapist expresses confidence in client
2. Therapist expresses confidence in therapeutic strategies or general hopefulness for a positive outcome
3. Therapist expresses confidence or general hopefulness for a positive outcome AND provides basis for confidence (e.g., citing research, sharing a success story)

Goal Setting

1. Therapist asks the youth or family to identify goals or changes they would like to see occur during treatment
2. Therapist helps youth or family prioritize goals
3. Therapist identifies timeline
4. Goals are concrete, specific, and/or behavioral

Homework Assignment

1. Therapist identifies skill or behavior
2. Therapist provides concrete framework (eg, worksheet)

3. Therapist explains worksheet
4. Therapist helps identify practice times

Managing Expectations

1. Therapist validates expectations
2. Therapist provides corrective information

Modeling

1. Therapist provides handout
2. Therapist models behavior/skill
3. Therapist models common thoughts associated with the skill

Performance Feedback

1. Therapist asks client(s) about their self-assessment of their own performance
2. Therapist provides information about performance strengths
3. Therapist provides information about areas for improvement
4. Therapist refers to at least 1 identified standard

Psychoeducation: Problem

1. Therapist describes problem area in general (e.g., what anxiety looks like in kids)
2. Therapist describes problems specific to the child (e.g., specific symptoms, diagnoses, impairment)
3. Therapist discusses general factors that may contribute to identified problem in children
4. Therapist elicits/reflects/summarizes/discusses how specific factors may directly contribute to child's identified problem

Psychoeducation: Services

1. Therapist describes treatment model or describes specific strategies or skills
2. Therapist discusses service characteristics (e.g., location, frequency, duration, session activities)
3. Therapist describes participants and their roles
4. Therapist describes policies

Rapport Building

1. Therapist warms up by selecting conversation topics unrelated to therapy
2. Therapist uses developmentally appropriate activities
3. Therapist explains gradual process of building a therapeutic relationship

Rehearsal

1. Therapist has client practice skill
2. Therapist inquires about the client's perspective about practice

3. Therapist identifies strengths of rehearsal
4. Therapist provides constructive feedback

Support Networking

1. Therapist asks for suggestions or refers to others
2. Therapist plans for inclusion of others
3. During session, therapist includes others

Therapist Reinforcement

1. Therapist uses praise or other reinforcement contingent on behavior
2. Therapist uses a reward system