

PEERING INTO THE BLACK BOX: AN EXAMINATION OF  
COMMUNITY-BASED THERAPISTS' INTENTIONS FOR TREATING YOUTH

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## **Abstract**

The construct of behavioral intentions is a key component across theories of behavior. Despite its frequent application to innovation-adoption behaviors of health care providers, the study of behavioral intentions has not yet been applied to community mental health care providers' adoption of practice elements (PE) and specifically, to their adoption of practices derived from the evidence base (PDEBs). There were three main purposes of the current examination: (a) to develop a novel survey for assessing therapists' PE-related intentions for treatment, (b) to examine patterns across therapists' PE intentions across different youth diagnoses (i.e., anxiety [ANX] versus disruptive behavior [DBD]) with a relatively uncomplicated and single-diagnosis presentation, and (c) to evaluate the extent to which therapists' intentions reflect use of PDEBs for each problem area.

Regarding the first aim, the measure was developed and feedback from pilot participants (N = 11) suggested some preliminary support for test-retest reliability and face validity of the measure. Descriptive analyses and a series of multiple regressions, respectively, were used to examine the last two aims of the study. Participants were 79 youth therapists currently providing public sector mental health services. Results from the second aim of the study indicated that for both the ANX and DBD cases, therapists reported the intention to use a wide range of PEs both typically and not typically associated with the evidence base for that problem area. Overall, the most commonly endorsed PE intentions for each problem area were predominantly PDEBs. In addition, therapists' PE intentions for the single-diagnosis ANX youth tended to be characterized by an overgeneralized application of DBD PDEBs, suggesting therapists may pull from a general toolbox of strategies that, at times, may not be supported by the literature or indicated by the specific case presentation.

Results from the third aim of this study suggest that neither the Theory of Planned Behavior predictors (i.e., attitudes, SN, and PBC toward using evidence-based practices) nor demographic predictors were significant predictors of therapists' intention to use PDEBs with either the ANX or DBD clients. Interestingly, across both ANX and DBD cases, the only significant predictor of intention to use PDEBs was participant intention to use practices with minimal evidence support (PMESs). This finding indicates that therapists in this sample reported intentions to use a treatment approach characterized by applying the "kitchen sink" (i.e., a large quantity and diversity of practices) with these relatively straightforward, single-diagnosis cases. Taken together, it appears that the study of therapist intentions at this PE level may be a fruitful direction for helping better understand the nature of UC treatment and therapist decision-making, as well as provide valuable insights for future training efforts.

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## List of Abbreviations

ANX.....	Anxiety
CAMHD.....	Child and Adolescent Mental Health Division
CCBT.....	Center for Cognitive Behavior Therapy
DBD.....	Disruptive Behavior Disorder
DIS.....	Dissemination and Implementation Science
DOH.....	Department of Health
EBP(s).....	Evidence-Based Practice(s)
EBPAS.....	Evidence-Based Practice Attitude Scale
ICC.....	Intraclass Correlation
ISP-D.....	Intentions Scale for Providers – Direct Items
MTPS.....	Monthly Treatment Progress Summary
PBC.....	Perceived Behavioral Control
PDEB(s).....	Practice Elements Derived From the Evidence-Base
PE(s).....	Practice Element(s)
PMES(s).....	Practices with Minimal Evidence Support
RCTs.....	Randomized Controlled Trials
SN.....	Subjective Norms
T-BIS.....	Therapist Behavioral Intention Survey
TBQ.....	Therapist Background Questionnaire
TPB.....	Theory of Planned Behavior
UC.....	Usual Care
UHM.....	University of Hawai‘i at Mānoa

## Introduction

### Background

Although the research support for effective youth mental health treatments has continued to proliferate over the past several decades, there has been a persistent gap between this growing body of evidence and what is typically practiced by youth mental health practitioners in community-based “usual care” (UC) settings<sup>1</sup>. Along with generally low evidence-based practice (EBP) usage rates in UC, research continues to suggest limited effectiveness of mental health treatment for the majority of children receiving these public sector services (Warren, Nelson, Mondragon, Baldwin, & Burlingame, 2010; Weisz, 2004; Weisz & Jensen, 2001; Weisz, Jensen-Doss, & Hawley, 2005, 2006). This is especially problematic given the high prevalence of youth mental health disorders (Brauner & Stephens, 2006; Costello, Egger, & Angold, 2005; Merikangas et al., 2010) and the high cost of publicly funded services (National Research Counsel & Institute of Medicine, 2009; Stagman & Cooper, 2010), thus increasing the importance that such services provide the maximum gain in the most cost- and time-efficient manners.

Towards this aim, dissemination and implementation science (DIS) researchers and other stakeholders (e.g., policy makers, federal and statewide regulatory agencies) have focused their efforts on ways to improve the dissemination and implementation of evidence-base practices (EBPs) into large-scale community mental health settings. This includes research and related

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<sup>1</sup> UC is a term that is commonly used in research to describe mental health services that represent the current standard of care in clinical practice (i.e., treatment as usual; TAU), and in psychotherapy research, this type of care is often utilized as a control group for an experimental intervention (Freeland, Mohr, Davidson, & Schwartz, 2011). Throughout this manuscript, the terms “usual care” (UC) and “treatment as usual” (TAU) will be utilized interchangeably to refer to routine psychotherapeutic care in community mental health clinics.

initiatives focused on developing measurement feedback systems (MFS) and other forms of routine outcome monitoring (Bickman, 2008; Garland, Bickman, & Chorpita, 2010; Kelley & Bickman, 2009); implementing evidence-based training of EBPs for clinicians (e.g., Beidas & Kendall; 2010; Herschell et al., 2010; Nakamura et al., 2014); establishing organizational- and systems-level initiatives and guidelines (e.g., Bruns et al., 2008; Chambers, Ringeisen, & Hickman, 2005; NICE, 2013); and improving the accessibility of EBP literature for clinicians via research synthesis initiatives (e.g., the “Blue Menu”, Chorpita et al., 2002; Nakamura et al., 2011). While some of these efforts have been met with success, the field has not yet seen the widespread changes necessary for a global shift towards more fully integrating science and practice in public sector mental health. For example, results from Cooper and Aratani’s (2009) national survey indicate that while 94% of US states and territories report encouraging the use of EBP in youth mental health (e.g., training for providers, technical assistance), the strategies used to promote EBP use were still limited in scope (e.g., only 11 states mandate the use of EBP and only 10 provide fiscal incentives for EBP use).

There have been and continue to be considerable research efforts and advances in these DIS areas, with many of them focused on developing theoretical models to predict EBP use, understanding hypothesized predictors of EBP use (e.g., attitudes, knowledge, organizational factors), and refining interventions to modify UC practice (e.g., EBP training). However, some researchers caution that this might be putting the cart before the horse, calling for researchers to lift the proverbial veil on UC practice, and asserting that it is an economical and ethical imperative that we first seek to understand what it is we are attempting to “fix” (Hoagwood & Kolko, 2009; see also Bickman, 2000; Bickman, 2013; Garland, Bickman, & Chorpita, 2010). Progress has been more gradual in advancing the field’s knowledge of what UC treatment

actually entails, the way in which treatments are implemented, and which components of UC treatments are effective (Garland, Hurlburt, Brookman-Frazee, Taylor, & Accurso, 2010; Gifford et al., 2012; Hoagwood and Kolko, 2009; Love, Mueller, Tolman, & Powell, 2014; Orimoto, Higa-McMillan, Mueller, & Daleiden, 2012; Orimoto, Mueller, Hayashi, & Nakamura, 2013). One hypothesis for continued difficulties with the research-practice gap may be that by not seeking to understand current UC practice prior to attempting to change it, we, as a field, have not laid the groundwork necessary to effectively fit evidence-based initiatives into the pre-existing landscape of UC; an important component of our field's implementation initiatives.

There are numerous reasons why this research area has been disproportionately understudied within DIS, many of which relate to methodological challenges stemming from the complex array of factors involved in public sector mental health. First, it can be challenging to identify and study the multiplicity of influences on therapist/patient interactions and youth outcomes within the public sector context. Public sector service delivery occurs within a multi-layered system with each layer impacting the other, extending far beyond the aspects related to the individual therapeutic interaction (e.g., therapist practices, client outcome) to outer context factors, such as government policy, funding decisions, or networks of agencies (Aarons, Hurlburt, & Horwitz, 2011). Even if a study is focused on only one layer of the mental health system (e.g., individual adopter), this can become easily complicated by the lack of consensus in the field on important methodological decisions, such as how to define EBP (e.g., manual, treatment components), which measures to use, and which therapist or client characteristics to study. In addition, there are practical challenges, which make it difficult to utilize more traditional, controlled research designs. For example, it is not always practical within a public mental health clinic to randomize clients to therapists and it can be challenging to methodologically account for

unforeseen comorbidity or external stressors that can arise during the course of therapy. Furthermore, high turnover rates of therapists and clients in community mental health clinics and the management of missing data present additional challenges to research in this area of study. These are only a few of the many methodological obstacles facing researchers aiming to shed light into the black box of UC (see Garland, Hurlburt, et al., 2010 for a more comprehensive review). As a result, UC research is tasked with utilizing creative strategies to overcome these challenges in order to advance our understanding of public sector mental health service delivery.

### **Patterns in Usual Care Service Delivery**

Although considerably more research is needed to understand UC, a few patterns of UC service delivery have come to light. First, a number of different measures have been designed to assess therapists' practices with their clients, such as the Monthly Treatment Progress Summary (MTPS; Child and Adolescent Mental Health Division [CAMHD], 2005) and the Therapy Procedures Checklist (Weersing, Weisz, & Donenberg, 2002), which both utilize retrospective therapist-report, and the Therapy Process Observational Coding System for Child Psychotherapy Strategies-Scale (McLeod, 2001; McLeod & Weisz, 2005), which is designed for use in direct observation studies. These measures report therapeutic practices at either the level of individual therapy techniques or broad-based treatment approaches (cf., theoretical orientation), which allow for more nuanced and potentially accurate accounts of treatment decisions. What follows is a review of recent research on characteristics of UC service delivery.

In terms of general patterns of UC practice, one of the most replicated findings is that UC therapy provision is characterized as "eclectic" and involves a wide breadth of practices, as well as the integration of a variety of theoretical orientations into their practice (Baumann, Kolko, Collins, & Herschell, 2006; Norcross, Karpiak, & Lister, 2005; Stewart, Stirman, & Chambless,

2012; Trask & Garland, 2012; Weersing et al., 2002). In addition, further inspection of these services suggests that although a large number of techniques are used, they are typically delivered at a relatively low intensity (Borntreger, Chorpita, Orimoto, Love, & Mueller, 2015; Garland, Brookman-Frazee, et al., 2010). UC therapists have also been found to underuse more experiential and directive strategies (e.g., role playing, homework, modeling) within session (Borntreger et al., 2015; Garland, Brookman-Frazee, et al., 2010). These findings collectively suggest that when UC therapists incorporate EBPs into their approaches, these treatments or treatment components may not be delivered at the dosage or in the manner required to achieve gains cited in the literature.

Recent literature has also identified client characteristics that appear to influence the types of treatment techniques therapists use. Higa-McMillan and colleagues (2014) found that youth were more likely to receive components of EBPs if they had longer service episodes, whereas they were more likely to receive practices with minimal evidence support (PMES) if they were male, older, or in an out-of-home service placement. A study conducted by Orimoto and colleagues (2012) using a retrospective therapist-report measure also found that client characteristics affected the extent to which UC therapists applied treatment techniques that clustered into the three major factors of (a) behavioral management, (b) coping and self-control, and (c) family interventions. Specifically, Orimoto et al. (2012) found that behavioral management practices were more likely to be used with inattentive and younger clients, family intervention practices were applied more often with clients with higher levels of impairment, and youth with more severely impaired behavior towards others (e.g., disruptive, harmful, or dangerous behavior) were more likely to receive both behavioral management and family intervention practices.

Orimoto, Mueller, Hayashi, and Nakamura (2013) conducted another study utilizing the same retrospective self-report measure as Orimoto et al. (2012), but focused on the impact of number of diagnoses (i.e., disruptive behavior disorder (DBD) only, DBD and one additional diagnosis, or DBD and two diagnoses) on therapists' treatment technique utilization. They found that DBD-diagnosed youth with two additional diagnoses received a higher dosage (higher mean number of PEs applied per month) and diversity (larger variety) of practices (Orimoto et al., 2013) than youth in the other two groups. Additionally, youth with multimorbidity (i.e., diagnosis of DBD and two or more additional disorders) received a higher dosage of overall practices, coping and self-control practices, and family intervention practices. In their study, comorbidity (i.e., the diagnosis of DBD and one additional disorder) was not found to have a significant effect on the therapist-reported diversity or dosage of practices compared with single-diagnosis clients. Therapists reported roughly the same breadth and average number of practices per month for youth with DBD and one additional diagnosis, regardless of the type (i.e., externalizing versus internalizing) of that additional diagnosis. This is interesting given the large differences in the treatment approaches typically seen in evidence-based protocols for internalizing and externalizing disorders. This, coupled with the high rates of comorbidity in the UC client population and mixed findings as to the treatment response for youth with co- and multimorbidity (Brown & Barlow, 1992; Costin, Vance, Barnett, O'Shea, & Luk, 2002; Jensen-Doss & Weisz, 2006; Mueller, Tolman, Higa-McMillan, & Daleiden, 2010; Newman, Moffitt, Caspi, & Silva, 1998; Ollendick, Jarrett, Grills-Taquechel, Hovey, & Wolff, 2008; Rohde, Clarke, Lewinsohn, Seeley, & Kaufman, 2001), makes for a critical area to focus future research. It is not clear if this lack of significant differences in treatment selection suggests a lack of focus and sensitivity to clients' diagnostic presentations in UC service, or if this reflects therapists



attending to a third variable not included in these studies. Overall, UC tends to be characterized by the use of a wide breadth of practices at a relatively low depth, which appears to be influenced by some aspects of clients' diagnostic presentations and characteristics. However, more research is needed to understand the ways in which therapists are choosing treatment techniques for application with their clients, and what factors are influencing their decisions.

### **Behavioral Intention and the Theory of Planned Behavior**

It is critical that scientific research is grounded in well-established theory, and a large body of literature within DIS is devoted to assessing for proximal constructs (e.g., attitudes, knowledge) as they may relate to further developing theoretical models underlying therapist behaviors such as practice selection. Revisiting Garland, Bickman, and Chorpita's (2010) plea for increased systematic study of UC, while these numerous theoretical models and comprehensive frameworks may be beneficial for modifying clinician behavior, they may not be the most direct and efficient route for first understanding what goes on inside the black box of UC treatment. To answer Garland et al.'s (2010) and others' calls, the most ideal method would be to directly observe UC therapist practices. Although some researchers have succeeded in conducting direct observation studies of UC service delivery, this type of study is more difficult due to the intensive amount of resources (e.g., time, money, staff) required from a wide array of stakeholders.

As a result, there may be promise in utilizing a complimentary and potentially more efficient approach to understanding UC therapist practices. For example, researchers might simply ask therapists what practices they intend to use with their clients (cf., Fishbein & Ajzen, 1975). The plan to perform a specified action, referred to in the literature as *behavioral intention*, is posited as the "most immediate and important predictor" of actual behavior (Sheeran, 2002, p.

1), with intentions and behavior typically sharing a strong relationship. A meta-analysis conducted by Sheeran (2002) of 10 meta-analytic reviews on the intention-behavior relationship across a wide variety of behaviors found that intentions, on average, accounted for 28% of the variance in behavior ( $R^2$  ranged from 0.16 – 0.67). As is the case for studies included in Sheeran (2002), behavioral intentions and related constructs (e.g., goals, motivation) are most commonly investigated within the context of a larger theoretical model of behavior, such as the theory of planned behavior (TPB; Ajzen, 1985, 1991), the theory of reasoned action (TRA; Fishbein & Ajzen, 1975; see also Ajzen & Fishbein, 1980), protection motivation theory (Maddux & Rogers, 1983; Rogers, 1975, 1983), stage theories (e.g., transtheoretical model; Prochaska & DiClemente, 1983; Prochaska, DiClemente, & Norcross, 1992; Prochaska, Reding, & Evers, 2002), and attitude-behavior theory (Triandis, 1980). Of these various theories, the TPB and its predecessor, the TRA, are the two most widely applied models in social science and health psychology for understanding, predicting, and changing behavior (Ajzen, 1991, 2011c; Armitage & Conner, 2001; Godin, Bélanger-Gravel, Eccles, & Grimshaw, 2008; Westaby, 2005) and have been frequently applied to patient behavior in healthcare settings (e.g., smoking cessation, exercise engagement, medication adherence). Although the TRA and TPB are very similar, the TPB is generally preferred as it incorporates an additional subcomponent, *perceived behavioral control* (PBC; i.e., an individual's perceived ability to engage in the specified behavior), to extend the applicability of the TRA to more complex volitional behaviors (e.g., therapeutic practice) that require specialized skills, resources, and opportunities (Ajzen, 1991; Conner & Sparks, 2005). Thus, the discussion below will focus on the TPB, beginning with an explanation of the theory, followed by the applicability of this model to mental health clinician behavior.

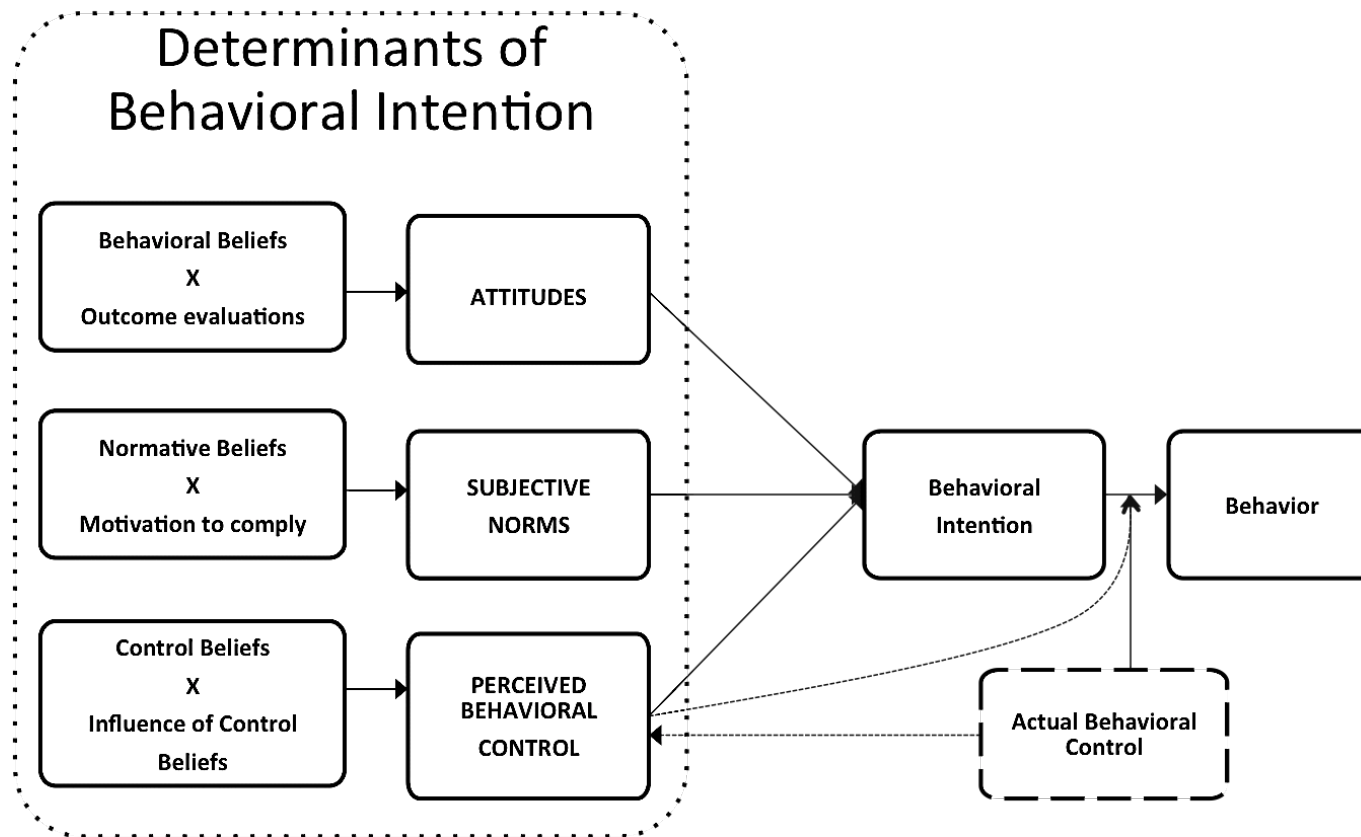


Figure 1. Schematic Representation of the Theory of Planned Behavior.

Within the model, it is posited that PBC not only influences the performance of a behavior indirectly through its impact on intentions, but also directly by moderating the effects of intentions on behaviors through its role as a proxy for actual control (Ajzen, 2011b). This is indicated in the figure as the dashed line. Adapted from “Constructing a Theory of Planned Behavior Questionnaire: Conceptual and Methodological Considerations,” by I. Ajzen, 2006. Copyright [2006] by Icek Ajzen.

The TPB model (see Figure 1) posits that an individual's behavior is the result of intentions to perform a given behavior (i.e., *behavioral intentions*) and behavioral intentions are the result of an individual's (a) overall evaluation of the behavior (i.e., *attitudes*), (b) perceptions of the social pressure to perform the behavior (i.e., *subjective norms*), and (c) self-efficacy or perceived ability to effectively perform the behavior if desired (i.e., *perceived behavioral control*). As displayed in Figure 1 and described by Ajzen (2011b), each construct is assumed to be the function of two components: corresponding beliefs, and factors impacting the influence of those beliefs. For example, an individual's attitudes towards the behavior are a function of readily accessible beliefs about the likely outcomes of the behavior (i.e., "behavioral beliefs") multiplied by the corresponding negative or positive judgments of those various outcomes (i.e., "outcome evaluations"). Subjective norms are determined by beliefs about how particular social referents would like the individual to behave with regards to the behavior (i.e., "normative beliefs"), in combination with the individual's motivation to comply with those expectations (i.e., "motivation to comply"). Lastly, perceived behavioral control (PBC) is influenced by a person's belief or estimation of the likelihood that a given facilitating or inhibiting factor will be present (i.e., "control beliefs") and the perceived power of that factor to impact the ability to perform the behavior (i.e., "influence of control beliefs").

Interestingly, many of the most salient constructs identified across popular models of DIS appear to map onto the factors of the TPB, despite the limited application of the TPB to therapist EBP utilization. This can be seen most clearly when looking at the constructs included in recently developed comprehensive frameworks, which synthesize DIS common elements across frequently applied theoretical frameworks. For example, both the Consolidated Framework for Implementation Research (CFIR; Damschroder et al., 2009; Damschroder & Hagedorn, 2011)

and Wisdom and colleagues' (2014) comprehensive model highlight factors related to (a) attitudes (e.g., "attitudes [and motivation]," Damschroder et al., 2009; Wisdom, Chor, Hoagwood, & Horwitz, 2014), (b) subjective norms (e.g., "peer pressure," Damschroder et al., 2009; "norms and culture," Wisdom et al., 2014), and (c) perceived behavioral control (e.g., "self-efficacy," Damschroder et al., 2009). In addition, factors cited by Francis et al.'s (2009) sample of 18 healthcare providers as being the most relevant to change in clinical practice map on to attitudes: knowledge of the evidence, beliefs about capabilities, beliefs about consequences (risks and benefits); subjective norms: social influences; and perceived behavioral control: behavioral regulation related to using the intervention.

Along with the overlap between the TPB constructs and factors found in other common theories applied to DIS, recent research has converged to support the applicability of this model to understanding behaviors of health and mental health care professionals (Eccles et al., 2006; Godin et al., 2008; Perkins et al., 2007). Findings from systematic reviews of the intention-behavior relation in healthcare professionals suggest that intentions account for a similar amount of the variance in behavior for this population as with non-healthcare professionals (Eccles et al., 2006; Godin et al., 2008). However, these studies also collectively suggest that there is a great deal of variability in the strength of correlations between attitudes, SN, PBC and intentions and/or behaviors, based on the specific characteristics of the investigation, such as the study sample (e.g., type of practitioner) and the specific behavior under investigation (Godin et al., 2008; Perkins et al., 2007). The small number and wide diversity of overall studies in this area make it difficult to conclusively identify variables that moderate the relationships between attitudes SN, PBC and behavioral intentions/behaviors. Despite the promise of the TPB in understanding and modifying the behavior of clinicians, the literature applying these models

(e.g., TRA and TPB) to mental health professionals (e.g., therapists, psychologists, graduate students) is scant in comparison to research on general health care professionals (e.g., physicians, nurses, pharmacists, dentists). For example, Godin and colleagues (2008) conducted a review of studies applying social cognitive theories to predicting health professionals' intentions and future behavior. Of the 76 studies they identified, mental health professionals (i.e., school psychologists, clinical social workers, and mental health team members) were the focus of only three studies utilizing the TPB (i.e., Wilson, 1998; Klaybor, 1998; and Foy et al., 2007, respectively). In a separate review of the literature focused more narrowly on the application of the TPB and TRA with health professionals, Perkins and colleagues (2007) found that only two of the 20 studies identified involved mental health professionals, including the same published dissertation investigating social workers intention to use the DSM-IV (Klaybor, 1998) as cited in Godin et al.'s (2008) review, and a study by Meissen, Mason, & Gleason (1991) investigating the intention of graduate students in clinical psychology or social work to refer patients to self-help groups.

There are only two published studies to date that focus on EBP treatment-related intentions with practicing clinicians; one which focused on intentions within the context of the TPB (Kelly, Deane, & Lovett, 2012) and the other which focused on intentions as a predictor of behavior (Williams, 2016). Although not represented in the published literature yet, other researchers have also begun to shift their theoretical focus towards the TPB through the development of measures to assess its constructs related to therapist EPB behavior (Burgess, Chang, Nakamura, Izmirian, & Okamura, 2017) and consumer EPB-related behavior (Chang, Nakamura, Orimoto, Selbo-Bruns, & Chorpita, 2015), showing the growing interest in the field toward the application of these constructs within DIS.

Related to the aforementioned published studies, the study by Kelly, Deane, & Lovett (2012) utilized the TPB to examine predictors of 108 substance abuse workers' intentions to use EBPs in their work at residential rehabilitation centers in Australia. They utilized a survey created specifically for their study to measure participants' attitudes, SN, and PBC toward using EBP as defined as, "an approach which integrates the most appropriate clinical information and scientific evidence, with a view to improving psychological interventions and therapeutic relationships, and producing the best treatment outcomes for clients" (Kelly et al., 2012, p. 662). Among their sample of predominantly masters level therapists, they found the model to predict 41% of the variance in intentions, identifying all TPB constructs as significant predictors of EBP intentions, and noting the particular importance of SN ( $r = .60, p < .01$ ) in predicting clinicians' intentions to use EBP. These findings suggest preliminary support for the applicability of the TPB in understanding clinicians' intentions to use EBPs; however, this study only sampled from one organization, examined intentions to use EBP in general, and only focused on residential substance abuse workers in Australia (Kelly et al., 2012). Future research is needed to determine to what degree the applicability of this model generalizes to other mental health care practitioners, organizations, service settings, diagnostic profiles, and specific therapeutic techniques.

In contrast, Williams (2016) centered on the intention-behavior relationship exclusively, with a focus on both developing and evaluating a novel measure of therapists' intentions toward adopting evidence-based treatments (EBTs; broadly defined emphasizing the use of specific research-validated protocols). This study utilized a sample of 197 mental health clinicians from 13 different mental health agencies within one large, midwestern US city. In addition to findings suggesting support for the reliability of scores (i.e., internal consistency) and structural validity,

the study also found support for the predictive validity of scores with regards to actual behaviors, which were also examined in this study. Specifically, Williams found a significant, positive relationship between participants' scores on the intention measure and (a) voluntary attendance at a modular EBT workshop one month later; (b) self-reported EBT adoption at one year follow-up as measured by higher endorsement of nine different EBT approaches applicable to participants' client population (e.g., cognitive behavior therapy, relaxation training), and (c) self-reported use of EBTs with their actual clients as measured by their response to the question "What percentage of your clients do you currently treat using EBTs" (Williams, 2016). This study suggests preliminary support for the intention-behavior relationship in this context and for use of intentions as a meaningful tool to evaluate EBP DIS efforts and impacts. However, it is important to note that this study only looked at therapists' self-reported intentions and behavior related to adoption of EBT either generally or in terms of broad-based approaches, and did not specify diagnostic profiles of clients with whom these treatments would be used. Thus, future research is needed provide a more nuanced examination of this intentions-behavior relationship, both in terms of the specific techniques therapists' intend to use (i.e., PE-level analysis) and the specific contexts in which therapists' intend to and do apply those practices.

Similar to Williams et al. (2016) work for exclusively examining the intention-behavior relationship, Tsai et al. (2016) examined the degree to which treatment targets and PEs indicated on mental health treatment plans aligned with subsequent treatment delivery. Utilizing a community-based therapist and youth sample within Hawaii's system of care, they found the probability of targets being addressed or PEs being implemented during actual service delivery based on the inclusion in the treatment plan to be relatively low. However, inclusion in the treatment plan did result in a twofold increase in the likelihood that a given PE would be



implemented in treatment with that youth, suggesting some evidence for the relevance of the intention-behavior link in understanding therapist decision-making (Tsai et al., 2016).

Overall, the TPB appears to be a viable model for understanding therapists' behaviors and behavior change. The model corresponds well with many of the popular consolidated frameworks utilized in DIS, and presents novel avenues for measuring and evaluating behavior (e.g., behavioral proxy of intentions). Focusing on the construct of behavioral intentions opens the door to research designs that may sidestep the limitations to traditional, resource-intensive direct observational studies of UC, and presents a way to ask questions that are outside the bounds of the typically available data in naturalistic studies. It may also allow for increased research control through the construction of questions purposely composed to dissect UC practice in whichever method best answers a specific research question (e.g., what works, for whom, how, under what circumstances; Higa-McMillan et al., 2014). Furthermore, researchers using direct methods to measure therapeutic practice (e.g., recording and coding practices) have highlighted the importance of accounting for therapist intention to increase the depth of our understanding of therapist behavior (Borntrager et al., 2015; Weersing et al., 2010). These researchers have called for future research to identify clinicians' true intention to treat in order to overcome limitations stemming from the inability of observer coding methods to capture this construct and overall costly nature of direct observation studies. Applying the TPB and more specifically, behavioral intentions, to studies of UC therapist behavior could provide integral information about the depth of therapists' EBP-related beliefs, behaviors, and related constructs. Specifically, focusing on therapists' behavioral intentions within predefined clinical situations may provide a means by which research can isolate specified steps within therapists' decision-

making process and disentangle complex factors (e.g., comorbidity), which often complicate traditional UC studies.

### **Present Investigation**

Although numerous UC service delivery research studies have already been conducted (Borntrager et al., 2015; Garland, Brookman-Frazee, et al., 2010; Higa-McMillan et al., 2014), the literature in this area is potentially complicated by a host of youth, therapist, system, and methodological factors that can impact technique selection and impede treatment. Research thus far suggests that for youth with a disruptive behavior disorder and a single additional disorder, the diversity and dosage of community therapists' technique selection did not significantly vary as a function of the type of additional diagnosis (i.e., externalizing versus internalizing; Orimoto et al., 2013). Given methodological complications for studying complex UC client populations, it is often difficult to interpret decision-making processes or therapists' buy-in to specific EBPs, both of which are integral to the effective tailoring of training pursuits. Investigating therapists' treatment approaches with less complex clients may provide an avenue for beginning to disentangle the web of UC practice, and the TPB offers a way to explore the therapists' behavioral intentions for using EBPs.

Currently, there is a dearth of literature related to youth mental health therapists' behavioral intentions for EBP use, the application of the TPB within this population, and UC therapists' treatment practices with single-diagnosis clients. The current study adds to the literature by examining UC youth mental health therapists' self-reported behavioral intentions with less complicated, single-diagnosis youth clients. Although single-diagnosis clients are a minority within UC settings, internal validity was prioritized by reducing typical UC complexities into a more straightforward clinical presentation that is more characteristic of

traditional samples in youth EBP randomized controlled trials (RCTs). Given that this lack of representativeness is an often-cited barrier to using EBPs within the UC population, this study provides a type of barometer for EBP intent at the most basic level, when the client, in fact, does match the characteristics of participants in RCTs more closely. By investigating therapists' intentions in this way, I hope to better identify factors that may be affecting UC therapists' decision-making within the specific contexts of youth anxiety and disruptive behavior treatment. This type of effort is consistent with some DIS stakeholders urging researchers to complement large heterogeneous group studies of general EBP use with efforts for examining EBP use within specific situations (Higa-McMillan et al., 2014).

There were three major foci within the present investigation. The first focus concerns the development and initial pilot testing of a novel survey designed to measure therapists' intentions at the level of practice elements (PE; i.e., individual techniques common across similar protocols) for treating a male youth with anxiety and a male youth with disruptive behavior problems. The procedures for developing this measure will be described below in the Measures section. This measure was based heavily off of a pre-existing, psychometrically supported, retrospective therapist report questionnaire about actual PE usage patterns with real UC clients. To date, there are no available measures of therapists' intentions for using specific therapeutic techniques, deeming this initial measure development a necessary step for the study.

The primary aim of Focus 2 will be to examine the extent to which therapists' treatment-related behavioral intentions (i.e., PE selection) vary as a function of type of youth diagnosis (i.e., anxiety versus disruptive) in a single-diagnosis, relatively uncomplicated case. Specifically, what practices do therapists intend to use for each problem area and to what extent do therapists' treatment technique intentions reflect use of EBPs, as defined as practices derived from

evidence-based manualized protocols (PDEBs) for the problem areas of anxiety and disruptive behavior concerns? Given the limited amount of literature on therapists' behavioral intentions, this investigation will largely be exploratory in nature and no specific a priori hypotheses are offered. However, consistent with aforementioned findings on therapists' self-reported behavior, a few tentative hypotheses are presented. First, it is anticipated that therapists will endorse intentions toward using a wide diversity of practices (both typically and not typically associated with the evidence base) for both the anxiety and disruptive behavior problem vignette clients (e.g., Borntrager et al., 2015; Stewart et al., 2012; Trask & Garland, 2012). Second, regarding the overall potential number of PEs to be utilized, based on findings by Tsai et al. (2016) on community therapists' treatment plans, it is tentatively anticipated that therapists will report the intention to use a total number of PEs with each vignette client that is more comparable to that found across treatment plans (i.e.,  $M = 9.61$ ,  $SD = 4.84$ ) than actually implemented in treatment (i.e.,  $M = 25.37$ ,  $SD = 9.57$ ). However, given Tsai et al.'s (2016) findings were not specific to diagnosis, it is unclear how diagnostic condition in the current study might impact therapists total PE intention endorsements.

The third focus of this study explored predictors of therapists' self-reported intentions to use PDEBs. The predicted relationships between all variables of interest are displayed in Table 1 and serve as an expected-value guidepost to supplement the interpretation of study findings. Specifically, I hypothesized that higher self-reported intention to use PDEBs (i.e., measured as endorsement of a higher proportion of PDEBs out of total possible PDEBs for that problem area) would be positively related to (a) all TPB constructs (i.e., attitudes, SN, and perceived behavioral control) and (b) demographic variables shown to be consistent predictors of therapist EBP use in previous studies such as self-reported cognitive-behavioral orientation, younger age, and a more

advanced academic degree (Becker, Smith, & Jensen-Doss, 2013; Harned, Dimeff, Woodcock, & Contreras, 2013; Nelson & Steele, 2007). Specifically, (a) a self-reported cognitive-behavioral theoretical orientation, (b) younger age, and (c) a more advanced academic degree will all be positively related to behavioral intentions for PDEB usage.

Table 1.

*Predicted Relationships between Primary Predictor and Outcome Variables*

	1	2	3	4	5	6	7	8	9
<b>Behavioral Intention toward PDEBs<sup>a</sup></b>									
1) T-BIS ANX PDEB Score	--								
2) T-BIS DBD PDEB Score	?	--							
3) ISP-D Behavioral Intention Scale	+	+	--						
<b>TPB Constructs &amp; Attitudes to use EBP<sup>b</sup></b>									
4) ISP-D Attitudes	+	+	+	--					
5) ISP-D Subjective Norms	+	+	+	+	--				
6) ISP-D Perceived Behavioral Control	+	+	+	+	+	--			
7) EBPAS Total Score	+	+	+	+	+	+	--		
<b>Behavioral Intention to use PMES<sup>c</sup></b>									
8) T-BIS ANX PMES Score	?	?	?	?	?	?	?	--	
9) T-BIS DBD PMES Score	?	?	?	?	?	?	?	+	--

*Note.* Positive relationship indicated by “+,” negative relationship indicated by “-,” and no relationship expected is indicated by “?”

<sup>a</sup>Predictor variables in regression analyses. <sup>b</sup>Outcome variables in regression analyses.

<sup>c</sup>Covariates entered as predictors in regression analyses.

## Method

### Participants

Participants were 79 currently employed youth mental health therapists and supervisors from contracted agencies across all levels of care within the State of Hawai‘i Child and

Adolescent Mental Health Division (CAMHD) who had experience with treatment planning and providing direct services to youth at the time of data collection. This population of therapists was chosen because they provide a large portion of public youth mental health services offered in Hawai‘i and are familiar with completing the original measure from which the Therapist Behavioral Intentions Survey (T-BIS) was developed (i.e., Monthly Treatment Progress Summary; MTPS; 2008) for this study.

Through individually scheduled recruitment meetings, a total of 92 therapists were approached to complete the survey battery from 11 (73%) of 15 contracted agencies statewide. Of the 92 therapists who were approached for the study, 81 therapists (88%) were consented into the study and completed all study measures. Two participants were excluded from the study due to incorrect completion of the primary outcome measure (Therapist Behavioral Intention Survey; T-BIS), leading to the final sample of 79 therapists for the current study.

Participants on average were 39.8 years of age ( $SD = 11.1$ ), 70.9% female ( $n = 56$ ), and reported the following primary ethnicities: 29.1% Multiethnic ( $n = 23$ ; i.e., multiple primary ethnicities endorsed), 27.8% White ( $n = 22$ ), 24.1% Asian ( $n = 19$ ), 10.1% Hawaiian or Pacific Islander ( $n = 8$ ), 3.8% Black ( $n = 3$ ), 3.8% Latino ( $n = 3$ ), and 1.3% did not report primary ethnicity ( $n = 1$ ). The majority of participants were from Oahu (79.7%,  $n = 63$ ) and of the remaining 20.3% an almost equal number of participants were distributed across Big Island ( $n = 6$ ), Maui ( $n = 5$ ), and Kauai ( $n = 5$ ). As seen in Table 2, the majority of therapists were Master’s level, home-based treatment providers, and reported having a cognitive or cognitive-behavioral theoretical orientation amongst a variety of other orientations. Participants also endorsed a variety of different professional specialties, of which Counseling (Psychology), Marriage and Family Therapy, and Social Work were the top three reported. Thirty-five participants in the

sample (44.3%) reported being licensed ( $n = 1$  missing data). Regarding service setting, of the 76 participants who responded, 50 participants (65.8%) reported having had worked in an IHH setting at some point in their career with 39 participants endorsing currently working in IHH. In addition, the most typical patient population seen by participants in this study was youth in the 13-17 age range with diagnoses related to either (a) Anxiety, OCD, and Trauma Disorders or (b) Disruptive, Impulse-Control, and Conduct Disorders (see Table 3). In terms of training and support characteristics, therapists in the current study reported an average of 6.6 years of full time clinical experience ( $SD = 6.1$ ), 2.3 hours of individual supervision per month ( $SD = 1.7$ ), 4.6 hours of group supervision per month ( $SD = 5.3$ ), and an active caseload of 6.5 youth ( $SD = 6.6$ ).

Table 2.

*Therapist Characteristics*

	<i>n</i>	%
Most advanced educational degree	78	
A.A./Voc./Non-Degree Certificate	1	1.3
B.A./B.S.	1	1.3
MSW/LCSW	22	27.8
M.A./M.S. Counseling	32	40.5
M.A./M.S. Other	14	17.7
Doctoral Student/Intern	1	1.3
Ph.D./Psy.D.	7	8.9
Professional discipline (Primary)	74	
Clinical Psychology	8	10.1
Counseling (Education)	1	1.3
Counseling (Psychology)	22	27.8
Education/Special Education	0	0.0
Marriage and Family Therapy	20	25.3

Table 2. (Continued)

*Therapist Characteristics*

	<i>n</i>	%
Psychiatry	0	0.0
School Psychology	0	0.0
Social Work	20	25.3
Substance Abuse Counseling	1	1.3
Other	2	2.5
Primary Orientation(s) <sup>a</sup>	78	
Behavioral	53	67.9
Cognitive or Cognitive-Behavioral	68	87.2
Eclectic or Integrative	25	32.1
Existential or Gestalt	21	26.9
Humanistic or Client Centered	50	64.1
Psychoanalytic/Psychodynamic/Object Relations	16	20.5
Systems or Family-Systems	52	66.7
Other	9	11.5
Supervisors Theoretical Orientation(s) <sup>a</sup>	79	
Behavioral	45	57.0
Cognitive or Cognitive-Behavioral	59	74.7
Eclectic or Integrative	15	19.0
Existential or Gestalt	7	8.9
Humanistic or Client Centered	38	48.1
Psychoanalytic/Psychodynamic/Object Relations	17	21.5
Systems or Family-Systems	47	59.5
Other	8	10.1
Clinical Setting (Primary)	76	
Group Home/Shelter	1	1.3
Home-Based Treatment	40	50.6
Hospital or Residential Treatment	18	22.8



Table 2. (Continued)

*Therapist Characteristics*

	<i>n</i>	%
Outpatient Clinic	5	6.3
School-Based Treatment	2	2.5
Therapeutic Foster Care	9	11.4
Other Setting	1	1.3

<sup>a</sup> Multiple responses allowed for this item.

Table 3.

*Client Characteristics of Therapists' Treatment Population*

	<i>n</i>	%
Age of Population Worked with (Primary)	69	
0-2 years	1	1.3
3-5 years	1	1.3
6-12 years	16	20.3
13-17 years	44	55.7
18-64 years	7	8.9
65+ years	0	0.0
Diagnoses of Population Worked With For Treatment (Primary)	65	
Attention Deficit/Hyperactivity Disorder	4	5.1
Depressive Disorder	7	8.9
Anxiety, OCD, & Trauma Disorders	24	30.4
Disruptive, Impulse-Control, & Conduct Disorders	24	30.4
Substance-Related and Addictive Disorder	5	6.3
Other	1	1.3

## Measures

**Evidence-Based Practice Attitude Scale.** (EBPAS; Aarons, 2004; Aarons, McDonald, Sheehan, & Walrath-Greene, 2007). The EBPAS (Appendix A) is a 15-item measure designed to assess clinicians' attitudes towards evidence-based practice. Clinicians are asked to rate the degree to which they agree with each item on a 5-point Likert scale ranging from 0 = *Not at all* to 4 = *To a very great extent* (Aarons, 2004). The EBPAS consists of one higher order factor (i.e., total scale score ranging from 0 to 4), which indicates a global attitude toward EBP adoption, with higher mean scores indicating more favorable attitudes (Aarons et al., 2010). Using exploratory and confirmatory factor analyses of the EBPAS, Aarons (2004) and Aarons et al. (2007) identified a total of four lower order factors/subscales representing dimensions of attitudes toward EBP, including: (a) appeal: likelihood of adopting an EBP if it were appealing; (b) requirements: likelihood of adopting EBP if required; (c) openness: openness to new practices; and (d) divergence: perceived divergence between empirically-derived interventions and practice (reverse scored).

Psychometric evaluations of the EBPAS have consistently demonstrated support for its internal consistency (i.e., Cronbach's alpha total scale and subscales ranging from .76 to .79 and .59 to .93, respectively; Aarons 2004; Aarons et al., 2010; Aarons et al., 2007) and construct validity (i.e., adequate model-data fit for confirmatory factor analysis models; Aarons et al., 2007). Furthermore, using a diverse, nationwide sample of 1,089 providers in the US, Aarons and colleagues (2010) demonstrated additional support for the higher-order factor structure and reliability of the EBPAS, and established national norms for the EBPAS-15 total and subscale scores. In the current study, the Cronbach's  $\alpha$  coefficients for EBPAS scale scores were consistent with the ranges cited by the original authors, with coefficient interpretations ranging

from questionable to good: total ( $\alpha = 0.72$ ), appeal ( $\alpha = 0.70$ ), requirements ( $\alpha = 0.85$ ), openness ( $\alpha = 0.76$ ), and divergence ( $\alpha = 0.62$ ).

**Intentions Scale for Providers - Direct Items.** (ISP-D; Burgess, Chang, Nakamura, Izmirian, & Okamura, 2017). The ISP-D (Appendix B) is part of a larger therapist self-report questionnaire (i.e., the ISP) designed to measure the constructs of attitudes, subjective norms (SN), perceived behavioral control (PBC), and behavioral intentions (i.e., TPB) of youth mental health clinicians related to utilization of EBPs. In this measure, EBPs are defined as “psychosocial therapeutic methods that have been shown to work for particular populations through clinical research.” The ISP was developed using a comprehensive, multi-phase process following well-established content validation procedures (Haynes et al., 1995) and standardized guidelines on the construction of TPB questionnaires (Ajzen, 2006; Francis et al., 2004), which have been utilized across other studies in health care settings (Boyko, Lavis, Dobbins, & Souza, 2011; Casper, 2007; Fogg, Mawn, & Porell, 2011). These validation procedures included (a) defining the constructs, (b) generating item content, (c) modifying item content, and (d) evaluating each of the items using multi-informant quantitative and qualitative methodological strategies. Along with this extensive instrument development procedure, large-scale data collection is currently underway for the psychometric evaluation of the ISP’s factor structure, reliability, and validity (Burgess, 2017; Mah, 2017); however, no traditional psychometric data (e.g., factor analysis, convergent validity) was published at the time of this study.

The full version of the ISP includes a total of 70 items, with 54 items measuring the TPB predictor variables indirectly by evaluating associated beliefs and outcome evaluations for each construct and 16 items measuring all TPB constructs directly, including both predictor (attitudes, SN, and PBC) and behavioral intention parameters. According to Francis et al. (2004) and Ajzen

(2006), brief forms of TPB questionnaires directly assessing only attitudes, SN, PBC, and behavioral intention are sufficient for investigating research questions that do not involve understanding the specific beliefs underlying the three major predictor variables. For the current study, only the direct measurement scale of the ISP (i.e., ISP-D) was administered to participants, comprised of four subscales: (a) Attitudes (five items), (b) Subjective Norms (three items), (c) Perceived Behavioral Control (four items), and (d) Behavioral Intention (four items) (see Appendix B)<sup>2</sup>. For the items assessing SN, PBC, and three of the four behavioral intention items, participants were asked to rate the degree to which they agree with each item on a 7-point Likert scale ranging from 1 (*Strongly disagree*) to 7 (*Strongly agree*). The fourth behavioral intention item requires respondents to indicate, out of the next 10 clients they see, the number of clients for whom they will use EBPs. For the five items assessing attitudes, therapists were asked to respond to a single ‘stem’ (i.e., “Using EBPs with my clients feels...[for me:]”) using a 7-point scale involving pairs of bipolar adjectives used as endpoints, which are evaluative in nature (e.g., 1 = *Useful* to 7 = *Useless*). All items were recoded during scoring so that higher numbers always reflect a positive response to the target construct. The ISP-D is scored by calculating the mean score of all items within each subscale to create four separate scale scores (i.e., attitudes, SN, PBC, and behavioral intentions). The only exception is the behavioral intention subscale score, which can be scored two different ways depending on the purpose of the measure. For the current study, the behavioral intention score was created by taking the mean score of items 8, 11, and 14 on the ISP-D. Item 16 of the behavioral intention subscale is omitted from the score because it evaluates performance intention (see Francis et al., 2004), which is most typically

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<sup>2</sup> At a minimum, this direct measure includes three items measuring generalized behavioral intention, and three items measuring each of the three TPB predictor variables, resulting in a 12-item measure (Francis et al., 2004).

used to compare with actual performance observed on the same scale as the item, and thus does not fit the methodology of the current study. Additionally, descriptive analyses indicated the range of this item was highly restricted with a minimum response of 7 and maximum of 10 ( $M = 9.61$ ,  $SD = 0.81$ ).

Internal consistency for the current study indicated problems on most scale scores. Behavioral intention was the only scale in the good range ( $\alpha = 0.84$ ), and all other predictor scales ranged from questionable to unacceptable with  $\alpha_{\text{attitudes}} = 0.65$ ,  $\alpha_{\text{perceived behavioral control}} = 0.53$ , and  $\alpha_{\text{subjective norms}} = 0.43$ . Interestingly, while SN performed the poorest in terms of alpha coefficients, correlations between the ISP-D scale and EBPAS scales appeared to suggest some modest evidence of convergent validity as ISP-D SN significantly correlated with the EBPAS requirements subscale ( $r = .30$ ,  $p < .01$ ) and with the EBPAS total scale ( $r = .32$ ,  $p < .01$ ).

**Therapist Background Questionnaire (TBQ).** The TBQ (Appendix C) is a self-report measure developed to capture basic demographic characteristics (i.e., age, gender, race, ethnicity identity) of the participant, as well as information related to current work environment (i.e., agency name, primary clinical setting, professional activities, caseload), and clinical training and experience (i.e., degree, licensure, specialty, theoretical orientation, years in practice). This instrument or variations of it has previously been used in numerous training and implementation studies (Izmirian & Nakamura, 2015; Okamura et al., 2015; Nakamura, Higa-McMillan, Okamura & Shimabukuro, 2011).

**Therapist Behavioral Intention Survey (T-BIS).** The T-BIS (Appendix D) is a measure designed to assess therapists' behavioral intentions toward using each of 63 specific PEs in the first 6 months of intensive in-home therapy for treating a hypothetical youth described as presenting with a single-diagnosis, uncomplicated case of either anxiety (ANX) or disruptive

behavior (DBD). This measure was developed specifically for use in the current study (per the first focus of the current study), and specific procedures used for development will be described in more detail below. The measure is broken into two main sections (ANX vs. DBD), with each section including: (a) a hypothetical vignette narrative describing the client's history and relevant case details, (b) pre-specified targets of treatment (i.e., the strengths and needs being addressed as a part of treatment), and (c) an intervention strategies section for therapists to report their intentions to use each of the 63 PEs with that client using either "1" (*I intend to use this strategy as a focus of at least one session*), "0" (*I intend NOT to use...*), or "?" (*I possibly intend to use...but am hesitant to state a strong intention*). Participants are also asked to rate the likelihood of positive outcome for each case on a scale from 1 (*Very Unlikely*) to 7 (*Very Likely*) and write in the expected length of treatment in months from intake. The contents of the hypothetical vignettes were written to reflect youth somewhat characteristic of those served in Hawaii's public sector, were standardized across vignettes on variables potentially likely to influence PE endorsement (e.g., age), and were varied across less consequential variables (e.g., number of siblings) in order to minimize possibility of response bias. This measure allows for flexibility in scoring based on the investigator's research question. For the purposes of this study, only participants' "1" endorsements (which will henceforth referred to as *definite intentions*) were included in the scoring of the measure. Based on these definite intentions, two scores were created. First, an *across-participants* frequency score was calculated for each PE based on the sum of all "1" responses for that PE across all participants. Second, participants' "1" responses across all PEs for each vignette were used to create two separate *within-participant* PDEB scores by taking the proportion of PDEBs the participant endorsed as "1" for that vignette divided by the total number of possible PDEBs for that problem area. Given the scoring methodology is

dependent on the research question being addressed, scoring of the T-BIS will be described in more detail within relevant sections of the Analytic Strategy.

*Development of the T-BIS.* The T-BIS measure used in the current study was developed using procedures that can be broken down into two primary steps: (a) Step 1: T-BIS vignette, instruction, and response set development and (b) Step 2: measure modification and evaluation. This methodology borrowed in part from comprehensive reviews that have summarized relevant guidelines and important considerations for constructing hypothetical vignettes in research studies (Ulrich & Ratcliffe, 2008; see also Lapatin et al., 2012; Shoenberg, & Ravdal, 2000) developing items to assess behavioral intention (Ajzen, 2006; Francis et al., 2004), and designing content valid psychological instruments (Haynes et al., 1995; Lynn, 1986; Ulrich & Ratcliffe, 2008). Overall, the T-BIS was developed primarily using face valid procedures, relying heavily on the literature, and obtaining feedback from experts familiar with the target population throughout all stages. The guidelines for vignettes and behavioral intention items will be referenced in the descriptions of development procedures for those specific elements on the measure.

*Step 1: T-BIS vignette, instruction, and response set development.* The aim of this phase was to draft the T-BIS measure, beginning with the narratives for the two hypothetical vignette scenarios and the associated specific targets of treatment, all instructions included throughout the measure, and the response set and format. This process involved frequent, ongoing meetings with Dr. Brad Nakamura, an Associate Professor at the University of Hawai‘i and a Ph.D.-level licensed clinical psychologist, and his research laboratory at the University of Hawai‘i at Mānoa who aided in finalizing the measure content and format. Dr. Nakamura and his laboratory were chosen to assist with measure development for numerous reasons, such as their prior experience

in content valid measure development (Burgess, Chang, Nakamura, Izmirian, & Okamura, 2015; Chang, Orimoto, Burgess, Choy, & Nakamura, 2017), leadership roles within CAMHD, longstanding history with both providing and researching youth mental health services within CAMHD, and extensive expertise in the complex array of factors surrounding community youth mental health service provision.

The alpha version of the T-BIS measure included two vignettes; one vignette describing a 14-year-old male youth presenting with anxiety and another describing a male youth of the same age presenting with disruptive behavior concerns. These vignette narratives were initially drafted by modifying two pre-existing vignettes used by Nakamura et al. (2014) as scripts for confederates playing youth mental health clients for therapists role-playing the use of specific treatment techniques (see Appendices E and F). These vignettes were chosen for two reasons. First, Nakamura and colleagues' (2014) vignettes were designed to reflect youth with similar characteristics to those typically seen by therapists in CAMHD and also overlapped with anxiety (i.e., Appendix E) and disruptive problem areas (i.e., Appendix F), reflecting both the target client and therapist population for the current study. Second, it is preferable to use pre-established vignettes from previous research (Ulrich & Ratcliffe, 2008) and while Nakamura et al.'s (2014) vignettes did not undergo psychometric evaluation, role-plays occurring in response to those vignettes were found to be reliably coded by blind raters for both internalizing [( $n = 27$ ),  $ICC(2,2) = 0.94$ ] and externalizing problems [( $n = 31$ ),  $ICC(2,2) = 0.83$ ], suggesting preliminary support for the vignettes with regard to producing reliable participant responses. The principle recommendation that was followed when modifying the vignettes was that the vignettes appear realistic, relevant, and recognizable to CAMHD therapists (i.e., the target audience) enough for them to imagine themselves in the scenario and respond accurately (Grønhoj & Bech-Larsen,



2010; Ulrich & Ratcliffe, 2008; Shoenberg & Ravdal, 2000; Rahman, 1996). In order to achieve this, I matched many vignette client characteristics as closely as possible to the most recent data on the average CAMHD client treated by therapists in this mental health system (utilizing the Fiscal Year 2014 Annual Factbook, a report published each year by CAMHD based on system and service monitoring data [CAMHD, 2015]). Although the vignette clients are inherently less diagnostically complex than typical CAMHD clients, other characteristics were matched as much as possible. For example, for fiscal year 2014, CAMHD youth older than 13 were found to be predominantly male (57%,  $n = 902$ ), multiethnic (69.5%,  $n = 680$ ), and received services in an intensive in-home setting (60.0% of  $n = 577$  total youth with procured services). Accordingly, vignette youth were similar in these regards. The problem area presentation was another characteristic shaped considerably by local CAMHD data. Based on consultation with CAMHD service evaluation staff within the Research and Evaluation Training Office in June 2016 on the data they had privately available, Dr. David Jackson reported that upon initial inspection, the most frequent anxiety diagnosis (excluding adjustment disorder or anxiety not otherwise specified) appeared to be social anxiety and the most frequent disruptive behavior diagnosis appeared to be oppositional defiant disorder. Therefore, when drafting the vignettes, the typical presentations and DSM-5 criteria of these disorders were used to guide the descriptions of the clinical details of each hypothetical youth. Furthermore, characteristics that seemed most important for therapists' decisions to use the primary PDEBs for each problem area were also prioritized in the descriptions. For example, since exposure is the most frequently included PE in evidence-based protocols for anxiety, it was critical that the vignette describe a youth for which any therapist trained in EBP for anxiety could use exposure. It was important that therapists felt they had enough information to respond to the vignettes with intentions related to treatment

planning and thus, it was important to ensure comprehensive inclusion of factors important to therapist decision-making. Several of these factors had been identified during vignette construction from the pre-existing Nakamura et al. (2014) vignettes and included: the youth's current presentation (e.g., constellation of symptoms, impairment, distress), history of presenting problem, previous treatment experiences, current response to treatment, family system variables (e.g., marital relationship, individuals in the home, home environment), academic and intellectual functioning, socioeconomic status, identified barriers to treatment, and individual and family engagement in treatment.

In addition to utilizing the local literature with CAMHD youth and Nakamura et al.'s (2014) pre-existing vignettes, Dr. Nakamura's laboratory was utilized heavily during this construction phase to identify additional factors important to PE decision-making with CAMHD clients, prioritize which factors were most important to PE selection, and brainstorm the specific characteristics to assign to each vignette client. Discussions also involved identifying which factors are more or less likely to bias therapist responses and distract focus from the primary problem area with the goal of choosing which factors to explicitly describe, which to exclude, and which could be candidates for varying across vignettes in order to decrease explicitness and transparency of the study manipulation (i.e., problem area). For example, one factor that was discussed was how to address the vignette client's name. During a research meeting it was discussed that including a specific name could bias the therapists depending on any implicit biases connected to that name and thus, the group consensus was to only include initials in order to prevent this from becoming a potential confound. Drafts were created based on these discussions and then subjected to numerous reviews by the laboratory in a group discussion setting to further refine the drafts in an iterative fashion. This process continued for

approximately four months, spanning six research meetings, until there was consensus across the group and principle- and co-investigators regarding the final draft of the vignettes.

One limitation of there only being one vignette for each problem area on the T-BIS is that one cannot be certain that differences in therapists' responses were due solely to the primary manipulation and not some other factor that differed between the vignettes. In addition, it was important to check that smaller differences in the clinical presentation of each problem area did not substantially change how therapists approached decision-making with regard to technique selection. Along these lines one additional vignette per condition was created, for a grand total of four vignettes (two anxiety and two disruptive behavior vignettes). The creation of two vignettes for each problem area was done in order to explore for potential meaningful changes in therapists' response patterns resulting from conceptually unimportant vignette text changes. Factors that were changed between vignettes within the same problem area were factors such as short-term and long-term goals of the client, specific presentation (e.g., less emphasis on school refusal for anxiety case), family situation (e.g., single dad vs. parents, sibling information), area of impairment, grades, and information about onset. These factors were chosen to vary within problem areas because they were not seen as factors that should be important to determining the primary PDEBs for each problem area, yet it was uncertain whether changes in this information might impact therapist decision-making. Given that the literature is sparse on this particular topic related to specific case details important to therapist decision-making, feedback from a small sample ( $n=6$ ) of current CAMHD therapists in Dr. Nakamura's research laboratory was critical for informing this step.

In addition to the creation of the vignette scenarios as described above, a section identifying the treatment targets for each vignette scenario was also included in the T-BIS before the therapists were asked to respond with their intentions. *Treatment targets* refer to the specific needs (and strengths) targeted for change during the reporting treatment month for the youth and are taken directly from the Monthly Treatment Progress Summary (MTPS; CAMHD, 2008), which is described in depth in the response format construction section below. Therapists were asked to respond with their intentions to use each PE based on the pre-identified targets of treatment (as well as the details of the case from the clinical vignettes). This section was included as a way to standardize the interpretation of the vignettes across therapists and ensure that therapists' PE selection was not varying as a function of misunderstanding of the client's problem area or treatment targets. The formatting and options included in this section were taken directly from the *treatment targets* section of the MTPS (CAMHD; 2008). On the original MTPS (see Appendix G), therapists are asked to indicate a maximum of ten treatment targets addressed during the past month from a list of 53 predefined targets and two write-in options. Following this, therapists are asked to identify all of the intervention strategies (i.e., practice elements) used over the reporting month from a list of 66 practice elements (including three write-in options). On the novel measure, the intervention strategies portion were utilized as the response set for respondents to endorse their behavioral intentions, whereas the treatment targets were included in a pre-completed form for each vignette, to make very explicit the targets intended for the hypothetical clients and assist participants in completing the response portion. Including a pre-completed treatment targets section in this manner was done to control for potential differences in target identification between therapists, which could bias the interpretation of practice element endorsement patterns. For example, in response to the vignette describing the anxious client, one

participant could endorse targets closely resembling the target client characteristics (e.g., Anxiety, Phobia/Fears, and Avoidance), whereas another participant could endorse targets that are not specifically described in the vignette (e.g., Positive Family Functioning, Social Skills). Because the selection of intervention strategies is, in theory, based on targets of treatment, additional error is introduced if therapists select their own treatment targets.

Selected treatment targets for anxiety and disruptive vignettes were chosen based on the treatment targets used to code the youth treatment outcome literature for each problem area by PracticeWise, LLC (2017; i.e., [practicewise.com](http://practicewise.com)). For example, when coding youth EBP treatment protocols into PEs for the problem area of anxiety, the treatment targets that are included are anxiety, avoidance, phobia/fears, shyness, and traumatic stress (e.g., a protocol targeting ‘shyness’ would be categorized as an ‘anxiety’ treatment approach). For the sake of the current study, since the goal was to create a youth who was representative of an average youth with social anxiety, the targets that were deemed most important were anxiety, avoidance, and phobia/fears. For the disruptive behavior vignette, the targets that best represented oppositional defiance and were also listed by PracticeWise (2017) as contributing to their coding of the literature were aggression, anger, oppositional/non-compliant behavior, and willful misconduct/delinquency. These were the targets included in the original drafts of both versions of the anxiety and disruptive behavior vignettes.

Following drafting of the four vignettes (two for each problem area), the instructions for the T-BIS were created. Based on recommendations by Podsakoff and colleagues (2003) in their critical review of common method effects (i.e., “variance that is attributable to the measurement method v. construct of interest” [p. 879]), the instructions were drafted with particular attention to reducing these risks by avoiding ambiguity and complicated syntax; defining vague or

unfamiliar terms when unavoidable; and keeping content simple, specific, and concise. The methodology used for vetting the instructions for the alpha version of the T-BIS measure was similar to that of the vignettes, such that the instructions were reviewed and refined over the course of several group meetings with Dr. Nakamura and the members of his laboratory.

The response format for the measure was taken directly from the Monthly Treatment Progress Summary (MTPS; CAMHD, 2005), with the instructions modified to be pertinent for the current study. The MTPS (Appendix G) is a clinician-report measure designed and utilized by CAMHD to describe the therapeutic services provided to individual clients across a number of domains, including: service format, setting, and dates; treatment targets addressed; client improvement across treatment targets (i.e., progress ratings in percentage improvement from baseline functioning), and intervention strategies (i.e., practice elements) utilized for the last month of treatment (Nakamura et al., 2007). For the current study, only *intervention strategies* sections were included in the response set for the novel measure. *Intervention strategies* refer to the specific practice elements employed by the therapist to address those targets (CAMHD, 2008). This was chosen for use in the T-BIS in order to more closely match it to the format CAMHD therapists are mandated to use for reporting their actual therapy behavior each month.

It was anticipated that all therapists within the target sample for the measure were experienced in completing the MTPS for their caseload and have been offered statewide or agency training on the completing the MTPS. Furthermore, all participants in the study were provided the MTPS codebook (Appendix H) sections corresponding to the intervention strategies section (i.e., definitions of all 63 intervention strategies) to aid in their completion of the novel measure at the time of data collection. Overall, it was hoped that utilizing the same response

format and options as the MTPS led to high degrees of perceived vignette authenticity for the participants.

Studies utilizing the MTPS have provided support for the validity and reliability of both the treatment targets and intervention strategies sections of the MTPS. Regarding the treatment targets, preliminary support has been demonstrated for convergent and discriminant validity of targets when compared to DSM diagnoses (Daleiden et al., 2004), as well as target-related improvement when compared to other measures of functioning (Nakamura, Daleiden, & Mueller, 2007). Furthermore, exploratory and confirmatory factor analyses of treatment targets suggest reasonable factor validity (Love, Orimoto, Okado, & Mueller, 2012; Love, Orimoto, Powell, & Mueller, 2011). Regarding the intervention strategies, results from previous studies suggest good overall reliability and validity for the practice elements section of the measure (Daleiden et al., 2004; Schiffman et al., 2006). Routinized CAMHD annual system evaluations have found clinician reports of predefined practice elements to be relatively stable from month-to-month ( $\kappa > .65$ ; Daleiden et al., 2004), with slightly less stability evidenced at three-months ( $\kappa \approx .50$ ; Daleiden et al., 2004).

For the T-BIS measure developed for this study, no items from the intervention strategies section of the MTPS were modified in any way. However, the intended use of this section, subsequent instructions, and rating period differed from traditional MTPS administration. Specifically, after reading the hypothetical vignette and reviewing the pre-completed treatment targets section, participants are asked on the T-BIS to identify the intervention strategies (i.e., practice elements) they intend to use with the hypothetical target client during the rating period, based on the vignette narrative and treatment targets endorsed. The rating period was changed from one month on the MTPS to six months on the novel measure. The time period of six

months was chosen based on several considerations. First, the focus of the current investigation is on therapists' self-reported, intended practices over the course of therapy, so it was necessary to extend the rating period to a length that would not significantly limit the number of practices one could reasonably implement. A fixed time period was important for standardization of the measure and subsequently, the context for participants' responses. In a review of evidence-based treatment protocols by Chorpita et al. (2011), the median duration across protocols was found to range from 3 months (mode = 2 weeks, maximum = 6 months) for anxiety to 5 months (mode = 3 months, maximum = 24 months) for disruptive behavior disorders. Additionally, the first five to seven months have been found to have, in at least one study of usual care, the highest rates of improvement across all outcome measures for all settings (Jackson, Keir, Sender, & Mueller, 2017). Taken together, these findings suggested that it is likely that therapists would have implemented the majority of intended treatment practices within the first six months of treatment, making this a reasonable time frame to elicit therapists' treatment-related intentions.

For the alpha version draft of the T-BIS, a dichotomous response format was used for the intervention strategies section, consistent with the MTPS, with participants indicating a "1" for an intention to use a given practice element and a "0" for an intention to not use a given practice element. Accounting for both the intention to use and not use a given technique, the 0-1 response format allowed for discerning between the absence of an intention to use a technique and missing data, which was an important consideration when it came to scoring the measure.

*Step 2: Measure modification and evaluation.* The main objective of this step was to assess for potential problems and refine the content of the measure through two informal pilot testing sessions conducted approximately one month apart. The first pilot test was conducted to obtain feedback from participants about the experience of completing the alpha version of the



measure and to assess for differential responding to the two versions of each vignette. Because only one version of the vignettes for each problem area would be included in the final version of the measure, it was important to determine whether there were unintended aspects about the case that were influencing participants' responses besides the intended problem area description. The first pilot test investigated this question along with issues in the general administration of the measure to help better refine the beta version of the T-BIS. The second pilot test was conducted to evaluate the beta version of the measure after making modifications to the T-BIS from the first round of pilot testing and finalizing the primary vignettes to use for each problem area.

Volunteers who participated in these pilot tests primarily included a group of *experts* composed of doctoral-level students and professors/licensed clinical psychologists from UHM. For both pilot tests, these experts were chosen based on their collective expertise in the content area (e.g., deep understanding of the target population and their typical client base, expertise in youth psychopathology, and extensive training in the use of PDEBs for youth mental health) and experience with CAMHD intensive in-home service provision. In addition, some of these experts also had expertise in measurement development. Participants in this expert group partially overlapped with those from step 1 of measure development, and some overlapped across pilot test administrations.

Pilot test 1: The alpha version of the T-BIS (with all four vignettes included in the measure, two for each problem area) was administered to a total of 15 volunteers across two research meetings, the first composed of four Ph.D.-level psychologists and five graduate students in clinical psychology both from the *expert* group, and the second composed of six undergraduate research assistants enrolled in directed studies course credit under Dr. Nakamura's supervision. Please see Appendix I for the full alpha version of the measure. As discussed

previously, one major principle of vignette development is to strive for an excellent match between respondents' actual experiences and the hypothetical situations they are asked to assume for the vignette task in order to facilitate more accurate and sensitive performance of the measure (Rahman, 1996; Swartzman & McDermid, 1993). Thus, one main goal of the first pilot test was to refine the alpha version of the measure in such a way as to increase the relevance, reliability, and recognizable nature of the vignette narratives for CAMHD therapists (i.e., the intended audience). Because drawing from the larger target population of CAMHD-contracted therapists during measure development would further reduce the already limited number of viable therapists for the current study, the expert group was utilized during this phase as a simulation of the intended audience due to their extensive experience with the CAMHD system of care and client population (including providing CAMHD-contracted therapy services). Undergraduate research assistants, on the other hand, were included as a means to account for an approximate gauge for how the measure might perform with participants who fall on the lower range of knowledge, background in evidence-based practice, and clinical experience in hopes of simulating wider range of potential CAMHD therapists. Furthermore, sampling from a variety of populations (i.e., expert, target, and novice populations) for evaluative pilot testing is recommended across several guidelines of measure development (e.g., Haynes, et al., 1995; Waltz, Strickland, & Lenz, 1991).

Participants received the measure in advance along with definitions of the intervention strategies and were asked to read the instructions carefully and complete the measure, and then come to the research meeting ready to provide feedback about their experiences completing the measure and any recommendations they had for improvement. They were also asked to retrospectively reflect on the T-BIS from the perspective of a typical CAMHD therapist (e.g.,

imagining the reaction of a therapist they have personally encountered in the past). Because one of the goals was to obtain feedback from participants about the two different versions of each problem area vignette, half of the experts received one version of the ANX and DBD vignettes and the other half received the alternative version (i.e., Alpha Version A and Alpha Version B). Given the increased level of difficulty of the task for undergraduate research assistants due to lack of baseline familiarity with the intervention strategy definitions and treatment planning, they were only asked to complete one vignette and provide feedback on the formatting, instructions, and ease of navigating the T-BIS measure.

During research meetings with both expert and undergraduate assistant groups the clarity, content, and structure of the vignette measure, instructions, and scoring method were discussed in an informal focus group style whereby individuals participated in an open discussion of their reactions to the experience of completing each aspect of the T-BIS measure (i.e., initial page of instructions, different versions of the vignettes, pre-selected treatment targets, and the intervention strategies response section). This began in an open discussion format, but as needed, relevant prompts were pulled from a cognitive interviewing script adapted from Ulrich and Ratcliffe (2008) based on recommendations in the literature for evaluating hypothetical vignette narratives (see Appendix J). One of the primary goals of this pilot test was to ascertain whether slight changes to the details of the hypothetical vignette influenced therapists' decision-making processes related to PE intention selection. As such, all participants were asked to provide at least one reflection related to their decision-making processes while endorsing their intentions (e.g., which details were important, what was prioritized by them, details that caused them to question their PE selection) to help identify the extent to which these slight variations were influencing therapists' PE-selection. During this group discussion there was consensus across

participants that their PE-related intentions were not impacted by slight changes in case presentation or other case-specific details, particularly related to what they believed to be the primary components of treatment for each disorder (e.g., exposure, cognitive, or relaxation for anxiety). It was noted that regardless of the specific presentation of anxiety or disruptive behavior, the approach would be similar for similar ages, particularly for vignette cases like those in the T-BIS that are explicitly noncomplex and straightforward. Therefore, it was determined that the original versions of the vignettes would be included in the finalized T-BIS version (i.e., reducing the measure from containing a grand total of four vignettes [two anxiety and two disruptive] back down to two vignettes [one anxiety and one disruptive]).

Feedback from group meetings was utilized to make final decisions about modifications to the vignette narratives, instructions, treatment targets, and formatting. All final decisions about modifications to make to the measure were made based on feedback from pilot testing with increased weight given to suggestions coming from (a) a large majority of pilot test participants, (b) participants with greater accumulated experience and knowledge in research and practice with this population, and (c) information drawn from local aggregate data sources (e.g., secondary findings from another research project using CAMHD therapists that suggest behavioral patterns that could be important for consideration).

Based on these factors the following changes were incorporated into the T-BIS measure: modify the age to around 16 for the vignette clients, reduce the number of treatment targets identified to two targets for each vignette, and change the scoring method from a dichotomous scoring metric to a three-category system by adding an additional “maybe” response option. First, it was noted that using an older youth would allow for less ambiguity in the interpretation of the evidence-based literature, as the age of the youth in the original vignette corresponded to

the age at which the literature generally shifts from being parent- to youth-centered for disruptive behavior disorder treatment recommendations. Next, participants suggested that the number of treatment targets identified for both ANX and DBD vignettes should be standardized and that being more selective would be a better match for the noncomplex nature of the case presented (e.g., only including two, rather than four targets of treatment for each anxiety and disruptive vignette). Related to scoring, participants noted that the difficulty of the dichotomous response format negatively impacted their experience of intentions selection and also reported some concern as to the impact this experience might have on the validity of participants' responses. Through this discussion, all participants agreed to the benefit of a three-category response option for each PE by adding a way to endorse a "maybe" intention in addition to the current "yes" and "no" types of intentions. This modified T-BIS was further refined to incorporate other suggestions for improving instructions and formatting and this beta version of the measure was then further evaluated during a second round of pilot testing described below.

Pilot test 2: For the second pilot test, I administered the beta version of the T-BIS to 11 expert-level volunteers recruited from the same *expert* group as used in previous steps. This group included four Ph.D. psychologists, two clinical psychology interns, and five graduate students in clinical psychology. Five participants in this round of pilot testing overlapped with the first pilot test participants; however, administration was conducted after at least a 2-week break keeping in line with recommendations from the literature (Lynn, 1986). This round of pilot testing was focused on formally evaluating the final measure and obtaining feedback from the group about any additional modifications needed before administration with the study sample. These participants were chosen for this round of pilot testing based on Haynes et al. (1995) recommendation that members from expert populations, in addition to the target population be

utilized during measure evaluation. All 11 participants had at least two years of experience as an intensive in-home therapist with CAMHD and had extensive training in evidence-based treatment planning and service delivery with this population of clients. Because of their training, they were expected to embody both a high level of knowledge of and behavioral intention to use EBP, allowing the added benefit of testing the reliability of the measure under ideal circumstances, while also obtaining feedback on the content and clarity of wording from participants with treatment experience consistent with CAMHD therapists. Regarding feedback on content and clarity of the T-BIS components, the only feedback suggested by participants was to consider changing the format participants used to endorse their responses on the intervention strategies section. Specifically, based on participant feedback, it was decided it would be clearer to include boxes to the left of each PE for participants to write in their response of “1,” “0,” or “?” corresponding to their level of intention to use, not use or possibly use each PE, respectively.

Although the final version of the T-BIS used in the current study differed from the beta version in terms of the way participants wrote in their responses, the response options did not change, and no substantial changes were made to the vignettes or instructions. Towards the goal of exploring effects associated with this study’s primary manipulation (i.e., presentation of an ANX versus DBD vignette), preliminary response comparisons were made within this expert group. On average, expert participants endorsed a definite intention (i.e., responses of “I intend to use...”) toward an average of 15.00 total ( $SD = 8.68$ ) PEs for the anxious (ANX) youth and an average of 19.27 PEs ( $SD = 6.74$ ) for the the disruptive (DBD) youth. These findings appear to converge with the evidence-base for ANX in particular as there were 15 PDEBs identified for ANX for this study. Regarding DBD, these findings may suggest that expert therapists were

more selective in their approach to DBD than the evidence base recommends, given that 33 PDEBs were identified for DBD for this study.

As previously described, one other purpose of this second pilot test was to conduct estimates as to the reliability of the T-BIS as a measure of therapist intention. For the T-BIS measure at this stage of pilot development, inter-rater reliability was examined between the 11 raters, broken down by anxiety and disruptive vignettes. Reliability was conceptualized in this way due to the fact that each of the 11 participants were all members of the same graduate training program, spent the majority of the clinical training in the same clinic, trained by the same supervisors, and learned under the same model, and thus, could be expected to perform in a reliable manner similar to one another. I used intraclass correlation coefficients (ICC) to measure the reliability of the original ordinal response structure for each vignette with each participant entered as separate observations across each of the 63 PEs. The ICC [95% confidence intervals (CI)] (2,11) for the anxiety vignette and the disruptive vignette across all pilot participants were both in the excellent range (Cicchetti, 1994) at (.92) and (.90), respectively. These results suggest preliminary reliability for the T-BIS measure as was utilized in the current study based on data from participants who would be expected to respond with similar PE-related intentions based on background in training and clinical experience.

## **Procedure**

**Recruitment of therapist participants.** Therapists were recruited from agencies across all levels of care within CAMHD in order to maximize potential sample size. Recruitment methods involved various forms of direct contact with the therapists, their supervisors, and agency administration, including in-person, electronic, and phone contact. With the help of Dr. Nakamura and staff at CAMHD, I contacted administrative leadership at all 15 CAMHD-

affiliated agencies to begin discussion of recruitment efforts, such as identifying a primary contact person at each agency site (i.e., island), devising a plan for coming to speak to therapists at agency-wide meetings about the opportunity to participate in the study, and identify any additional steps for data collection (e.g., requirement of internal approval of research proposal by agency's internal review board). During these initial conversations, I worked closely with organizations' leadership to collaboratively devise a plan for recruitment at each site with the goal of respecting agency values and maximizing potential response rate. Agency leadership was informed that participation in this study involved therapists completing a 30-40 minute survey battery that included measures contributing to two separate student's Master's thesis studies in clinical psychology, which were combined in order to reduce potential burden on participants sampled from the same population. Initial emails were sent out to agencies in early October 2016 once agency contact information was compiled from CAMHD and local networks. This recruitment and planning process lasted through May 2017 due to obstacles such as internal review board processes, scheduling challenges, and changes in leadership causing extended timelines. Of the 15 agencies contacted, only one agency failed to respond to any of the four emails sent to leadership and three were not contacted to devise a recruitment plan after initial discussions due to the logistical obstacles posed by their internal review board process. With each new primary contact that was made, contact attempts ceased after approximately 3-5 failed (i.e., email, phone) attempts or after 2-3 months of failed efforts to schedule a recruitment session with agency therapists.

**Data collection.** Of the 81 therapists who completed the survey battery, all participants first attended a data recruitment and collection meeting with the principle investigator or co-data collector, Albert Mah, (i.e., *research staff*) where the premise of the study was explained, the



measures were explained, and the consents were reviewed and signed copies obtained by all voluntary participants. Data collection occurred over the course of around 6.5 months beginning with the first agency on November 17, 2016 and ending with the last agency on June 02, 2017. Research staff attended these meetings in person for all Oahu sites and by phone or videoconference (whenever available) for sites on Big Island, Kauai, and Maui. At the beginning of each meeting, participants received a packet with the assessment battery enclosed and were instructed to keep all measures in order and only take out the consent form (and copy) and T-BIS measure to receive the initial introduction and instructions. For participants attending the meeting remotely, all study materials were sent to the primary contact in advance of the meeting for them to distribute to the participants in the same fashion as was done in the in-person meetings. For the majority of participants, following these consent procedures, they then were asked to complete the measures from first to last in the order that they were presented in the packet and return their packets in their sealable envelope to the research staff (or primary contact) when finished with their participation in the study. All participants were asked to carefully check their measures for missing items and mistakes on the measures, and for those who participated with research staff present, (after receiving verbal consent) all measures were scanned by research staff and returned to the participant to correct any mistakes or missed items.

All participants completed the T-BIS first, followed by the ISP-D, then the EBPAS (order of which was randomized with a separate TPB measure used by Albert Mah for a separate study), and always given the TBQ last. Regarding the T-BIS, the order of the ANX and DBD sections was randomized across participants in order to control for potential order effects. In addition, all participants were provided with the definitions for the 63 intervention strategies listed as response options to the vignettes on the T-BIS either via hard copy handout or electronic

copy in order to reduce risk of measurement error stemming from differences in interpretation of techniques.

Regarding the order across questionnaires, several considerations were made. In particular, the benefit of counterbalancing across all four measures was weighed against the importance of reducing potential sources of bias in the T-BIS. Counterbalancing across all four measures would best control for effects such as participant fatigue or boredom. On the other hand, there is a risk of priming participants' responses on the T-BIS by presenting any questionnaire inquiring about EBPs or attitudes, both of which are commonly surveyed in research studies using this population. Therefore, in order to minimize the risk of demand characteristics or priming effects, all participants were presented with the T-BIS before the questionnaires. Furthermore, due to priorities related to the joint research project, which focused on evaluating the psychometrics of the ISP-D measure, the ISP-D was always included as the first survey measure after the T-BIS. This study was approved as exempt on August 09, 2016 by the University of Hawai'i at Mānoa's Human Studies Program. Participants were given \$20 cash at the end of their participation in the study, regardless of measure completion.

### **Analytic Strategy**

As mentioned previously, the secondary focus of this study was centered on addressing the following question: what PEs do community-based therapists self-report intending to use in the first six months of treatment with a 16-year-old male presenting with an uncomplicated, single diagnosis of either DBD or ANX? In order to explore this question, I first performed a set of visual inspection and exploratory analyses of aggregated responses on the T-BIS to examine intention profiles across all PEs within each problem area (i.e., DBD and anxiety) for this large public sector sample of youth therapists. The construct of behavioral intention has not been

studied in this population or with therapist behaviors at the PE-level; therefore, this portion of the study was exploratory in nature and no specific hypotheses are provided for these analyses.

Secondary to visual inspection and exploratory analyses, I used multiple regression procedures to investigate the relationship between therapist background variables and community youth therapists' self-reported intentions to use EBP (i.e., third study focus), as defined by therapist endorsement on the T-BIS of practices derived from evidence-based protocols (PDEBs; cf. Higa-McMillan et al., 2014). In order to conduct this additional investigation, an overall EBP intention score was calculated for each vignette condition (i.e., ANX and DBD) as a measure of the degree to which a participant's PE-endorsements on the T-BIS was derived from evidence-based approaches for that problem area.

**Data preparation and integrity.** All survey data was entered twice into a database by two different research staff to decrease the potential for data entry errors. Data integrity (e.g., data missingness, impossible values), statistical assumptions underlying analyses were examined before the completion of any analyses, and any problematic issues in the data were addressed prior to conducting the planned statistical analyses. A power analysis was also conducted to determine if adequate power was available for the study's analyses.

**Defining EBP intentions.** For this study, EBP was defined at the level of practice elements (i.e., PDEBs). Intervention strategies (i.e., PEs) were deemed PDEBs based on the frequencies with which they are composed in larger EBP protocols, separated by problem area (anxiety or disruptive) as reported by PracticeWise, LLC. This follows methodology used in an increasing body of dissemination and implementation science (DIS) literature (e.g., Higa-McMillan et al., 2014; Nakamura, Higa-McMillan, et al., 2011; Nakamura, Selbo-Bruns, et al., 2014).

The most common criteria cited in previous studies for defining specific techniques as “practices derived from the evidence base” ranges from practices included in at least “10% of Level 2 (Good) protocols or higher” (cf. Lim et al., 2012; Nakamura et al., 2011; Okamura et al., 2014) up to practices included in “at least 30% of Level 1 (Best) protocols” (cf. Orimoto et al., 2012). For the purposes of this study, PEs were considered to be PDEB if they are endorsed in at least 10% of Level 2 or higher treatment protocols in order to maintain a more inclusive view of practices endorsed in EBPs. This also mirrors the methodology used to score the Knowledge and Evidence Based Services Questionnaire (KEBSQ; Stumpf, Higa-McMillan, & Chorpita, 2009), which is a frequently utilized measure of therapist knowledge of evidence-based practices at the PE-level. PEs that are found in less than 10% of Level 2 or higher treatment protocols for a given problem area were considered to be practices with minimal evidence support (PMES; cf. Higa-McMillan et al., 2015). There were two PEs that were included on the T-BIS that were not included in PracticeWise, LLC’s coding of the literature published on PWEBS (2017; i.e., [practicewise.com](http://practicewise.com)); these practices were “Thought Field Therapy” and “Medication.” Regarding Thought Field Therapy, I conducted an independent survey of the literature and found only one research study that investigated this treatment approach with youth to target ANX (Sakai, Connolly, & Oas, 2010) and none utilizing the treatment to target DBD. While Sakai and colleagues (2010) found the treatment to be successful at decreasing symptoms of PTSD in a sample of Rwandan orphans, the study did not utilize any comparison condition and thus, did not meet the “Level 2 or higher” research support definition criteria required for the current study. Therefore, 0% EBP was assigned for this PE in the current study. Regarding Medication, since this PE is not technically a part of the psychotherapeutic treatment delivery as administered by

the therapists in the current study, data from this PE was removed from all aggregated analyses and was not included in the scoring of the T-BIS.

**Focus 2: Visual inspection and exploratory analyses of intention profiles.** In addition to the aforementioned components of the analytic strategy that applied across all analyses, there were also specific methods conducted regarding data integrity/preparation, scoring calculations, and analyses that were specific to each set of analyses (i.e., visual inspection/exploratory and quantitative analyses). First, I describe the components of the analytic strategy that were specific to the visual inspection and exploratory analyses conducted in this study to address the aim of Focus 2.

***Data preparation and integrity.*** The only criteria required for inclusion in visual inspection analyses was correct completion of both vignette scenarios on the T-BIS, as defined by using the correct ratings (i.e., 1, 0, ?) on both scenarios and missing no more than 20% of PEs on each scenario. Data was considered missing if the participant left the PE blank. Missing data analyses revealed that there were seven and 12 participants for the anxiety and disruptive behavior vignettes, respectively, who had one or two items missing, and one participant who had five items (8%) missing for the disruptive vignette. For the purposes of these analyses, null responses were conceptualized as the participant lacking a strong intention toward that particular PE and as such, null responses were entered as a “0” (i.e., non-yes) response.

***Descriptive analyses and visual inspection.*** Descriptive analyses and visual inspection of the data were conducted following methodology utilized by Izmirian, Nakamura, Hill, Higa-McMillan, & Slavin (2015) in their exploratory investigation of therapist PE-level knowledge profiles. Two separate figures were created for each of the vignette conditions to examine the PE intention profiles for the study sample. For each figure, the PEs were ordered from highest to

lowest in terms of the percentage of the sample ( $N = 79$ ) that endorsed intention to use that PE in treatment for each problem area, regardless of the research support. Endorsement of intention to use or not use a practice derived from the evidence base (PDEB; as determined by the 10% rule described previously) for each problem area was distinguished by different colored histogram bars, with the percentage of research support associated with PE provided alongside each bar. Research support was defined as the percentage of evidence-based protocols for that problem area (i.e., ANX or DBD) that included that specific PE (cf. Izmirian et al., 2015). Visual inspections were aimed at identifying qualitative patterns of intentions to use PDEBs, the absence of intention to use PDEBs, intention to use practices with minimal evidence support (PMES; i.e., endorsed in  $< 10\%$  of Level 2 or higher protocols), and the absence of intention to use PMES. Qualitative patterns of PE intentions were explored separately and systematically for each problem area, as well as compared across the two problem areas for any similarities and differences in endorsement.

**Focus 3: Quantitative analyses - Multiple regressions.** Following this series of visual inspection and exploratory analyses, the aims of Focus 3 were addressed through a series of quantitative analyses centered on three multiple regression models. The components of the analytic strategy unique to this set of quantitative analyses is described below.

***Data preparation and integrity.*** Missing data was managed as a way to balance data integrity with maximizing overall sample size, and utilized a multi-step process. Following data collection, missingness frequencies were reviewed as a first check to evaluate the scope of this problem, which indicated minimal missing data across survey measures. For participants missing less than 21% of data on a given measure, pairwise deletion strategies were utilized at the

subscale level (i.e., deletion when less than 100% data by subscale) in order to maximize statistical power for analyses. No participants were excluded in their entirety.

In addition to treatment of missing data, data was checked for potential errors in data entry through examining the response ranges for the items and subscales of each measure, as well as examined for any issues that might impact the performance of planned analyses (e.g., violation of assumptions, outliers). Specifically, the means, standard deviations, skewness, and kurtosis were examined for all measure subscales and the Shapiro-Wilk's *W* statistic (Shapiro & Wilk, 1965) was used to assess for normality with *p* values < .001 suggesting non-normality (Tabachnick & Fidell, 2007). Determinations about data normality were based on the cumulative interpretation provided by the results of these investigations along with graphs of the data (e.g., histograms, P-P plots). Transformations were applied for each measure as appropriate when distribution normality and outliers were considered problematic within the dataset. Fourth, regarding outlier identification, standardized scores were calculated for all relevant continuous data and responses in excess of 3.29 ( $p < 0.001$ , two-tailed test) were considered outliers and addressed as necessary (Tabachnick & Fidell, 2007).

*Power analysis.* Multiple guidelines exist for calculating an appropriate sample size for multiple regression analysis with varying levels of stringency. These methods recommend an appropriate sample size ranging anywhere from 30 to 547 participants for multiple regression analyses involving up to three predictor variables (Cohen, 1992; Field, 2009; Green, 1991; Miles & Shevlin, 2001). Cohen (1992) recommends sample sizes of 547, 76, and 34 for small (0.02), medium (0.15), and large (0.35) Cohen's *d* effect sizes, respectively. Green (1991) proposes using different rules of thumb for testing the overall fit of the regression model (i.e.,  $50 + 8k$ ) versus the individual predictors within the model (i.e.,  $104 + k$ ), where *k* = the number of

predictors. For the current study, this calculated to an estimated sample size of 74 for testing the TPB model as a whole ( $k = 3$ , in  $50 + 8k$ ) and 107 for testing the individual predictors included in the TPB ( $k = 3$ , in  $104 + k$ ). In addition to these guidelines, G\*Power (3.1), a statistical program for power analyses, was used to formally calculate the sample size required for the proposed regression analyses in this study (Faul, Erdfelder, Buchner, & Lang, 2009). Due to the exploratory nature of applying the TPB to this type of complex therapist behavior it is expected that the effect size would range from small to medium; and a medium effect size was used as an estimate in the following power analyses. Given an anticipated effect size of 0.2 with three predictors initially proposed in this study, a total sample size of  $N = 108$  would be needed to achieve power at 0.9 according to G\*Power Version 3.1 calculations (Faul et al., 2009). Using the sample of  $N = 79$  actually obtained in the current study, the achieved power was calculated post hoc based on the same three predictor model and reported as 0.81, which indicates the study was slightly underpowered. As an exploratory analysis, a fourth predictor was also added to the model, thus changing the achieved power to 0.77 for a medium effect size based on the current sample size of  $N = 79$ .

***Calculating the total PDEB intention score on the T-BIS.*** In order to conduct the quantitative analyses, an overall PDEB intention score for each vignette scenario was calculated for each therapist and used as the dependent variable in the primary regression analyses conducted. The aforementioned PDEB definition used for exploratory analyses (i.e., the 10% rule) was used to score responses on the T-BIS measure and to create a total score for each participant characterizing their overall intention to use PDEBs (i.e., PDEB intention score). Scoring the T-BIS involved two steps. First, each PE on the T-BIS measure was scored as either zero or one point, with each PDEB “1” endorsement receiving one point and “0” and “?”



endorsements receiving zero points toward the final PDEB score. Second, the points were summed across all PDEB items and divided by the total number of possible PDEBs for that particular problem area based on the 10% definition (i.e., 15 possible for ANX, 33 possible for DBD), to create the overall PDEB intention score (range = 0-1). This proportion score was used in order to have a standardized metric across problem areas to allow for easier interpretation when discussing the results of the two sets of regression analyses. As explained previously, only the “1” (i.e., *I intend to use...as the focus of at least one session...*) endorsements were used across all analyses in the current investigation. I considered combining both “1” and “?” (i.e., *I possibly intend to use...but am hesitant to endorse...*) endorsements into a single score, given they could be conceptualized as varying degrees of intention toward acting on a behavior (i.e., a *maybe* versus *definite* intention); however, the literature on intentions traditionally discusses this construct in a manner more in line with the “1” response option of “I intend to use” and it is unclear the extent to which a *maybe* intention represents the same construct as a *definite* intention. This is especially evident in the recommendations for creating items to assess behavioral intentions, as items are always worded and recommended to be worded with language indicative of definitive intentions (i.e., “I expect to \_\_\_\_\_,” “I want to \_\_\_\_\_,” “I intend to \_\_\_\_\_;” Francis et al., 2004, p. 11; Ajzen, 2006). Therefore, for the current investigation, only the “1” responses were utilized in order to maintain consistency with the literature on TPB behavioral intentions and measurement recommendations.

***Differentiating “kitchen sink” from thoughtful selection with PMES score.*** One issue with this method of scoring was that it did not differentiate between therapists who thoughtfully selected PDEBs from those who selected a large number of PEs which happened to also include a large number of PDEBs. For example, a therapist who endorsed intending to use 10 PEs with

the ANX client and nine of those were PDEBs would receive a score of 9/15 (i.e., 15 possible PDEBs for ANX), and so would a therapist who selected 40 PEs with nine of those being PDEBs (i.e., 9/15), although these two approaches would likely be conceptualized as very different expressions of evidence-based treatment planning. This was important to incorporate into the analytic strategy in some way due to the longstanding findings that therapists in the public sector tend to use a large breadth and number of practices with youth clients (Baumann et al., 2006; Borntrager et al., 2015; Garland et al., 2010) as well as more recent accumulating evidence that suggests that within the CAMHD population specifically, this tendency is associated with improved progress for youth clients in comparison to therapists who utilize fewer total practices (Izmirian, 2016; Love, 2014; Orimoto, 2014; Stumpf, Tolman, Mueller, Chorpita, & Daleiden, 2007). Knowing the tendency for therapists to endorse a large number of practices, it was important to differentiate therapists who were thoughtfully selecting predominantly only PDEBs from those who selected a large number of practices, which included a large number of both PDEBs and PMESs (i.e., “kitchen sink”). This could either be done through T-BIS scoring or in the statistical analyses themselves. For the current investigation, I decided to account for this in the multiple regression analyses instead of including this in the way the outcome variable was scored. This was accomplished by creating an additional intention score variable for each participant to account for the proportion of PMESs (i.e., practices with minimal evidence support) endorsed as a “1” for each intended PMES, out of the total possible PMESs for each problem area (i.e., ANX = 48, DBD = 30). This score was then entered into the multiple regression analysis as a covariate in step 1 of the model prior to entering the hypothesized predictors. The primary reason for this was the ease of interpretation of the data and the ease with which the results for each vignette could be compared and discussed together. By including

a variable to account for this kitchen sink approach as a covariate in the multiple regression analyses, it allowed for the true question to be answered: *How much do TPB constructs predict PDEB intentions over and above therapists' intentions to use PMES?* in a way that is much easier to interpret than if this were included within the formula of the outcome variable itself.

***Preliminary analyses.*** Prior to conducting multiple regression analyses, exploratory analyses were performed to gain a basic understanding of all pairwise and broader construct relationships. First, the data was evaluated for order effects on the outcome variable of ANX and DBD PDEB scores based on the order in which they completed the vignettes (i.e., ANX first or DBD first). This was used to determine if additional steps were required during quantitative analyses to account for any sequencing effects' variance potentially impacting relationships between variables in the current dataset. Following this, bivariate and partial order correlations were conducted where appropriate between the following predictor and outcome variables: (a) ISP-D subscale scores (Attitudes, Subjective Norms, Perceived Behavioral Control, Behavioral Intention), (b) EBPAS-15 total and subscale scores (Appeal, Requirements, Openness, and Divergence), (c) continuous demographic variables (e.g., age), (d) T-BIS PDEB intention score for ANX, (e) T-BIS PDEB intention score for DBD, (f) T-BIS PMES intention score for ANX, and (g) T-BIS PMES intention score for DBD. This correlation matrix was also used as a preliminary assessment of multicollinearity between predictor variables for the multiple regression analyses described below. For the relationships between outcome variables and categorical or ordinal predictor variables (e.g., theoretical orientation, most advanced degree), *t*-tests and ANOVAs were performed in a similar manner to the aforementioned bivariate correlations. Both the correlations and ANOVAs were examined and considered significant at the alpha level of .05 (i.e.,  $p < .05$ ).

***Proposed multiple regression analyses.*** It is important to note that the quantitative analyses conducted in this study were performed in order to comply with the original thesis proposal. As reported previously in the Measures section, the questionnaire utilized to measure the TPB constructs in this study (i.e., the ISP-D; Selbo-Bruns, 2017) demonstrated Cronbach's alpha coefficients in the poor to questionable reliability range across all subscales except that of behavioral intention, deemed good reliability. These subscales of poor to questionable reliability were utilized as the predictor variables in all three proposed multiple regression analyses and thus, have the potential to negatively impact the results with regard to validity and generalizability of the findings.

A total of three multiple regression analyses were conducted in the current study to investigate the unique contribution of each TPB construct to predicting therapists' intentions to use EBP, either defined broadly as EBP use in general (first regression) or more specifically at the level of specific PDEBs (second and third regression). This methodology follows recommendations from the literature on TPB (Ajzen, 2011a; Francis et al., 2004; Hankins, French, & Horne, 2000; Sutton, 2002). The first multiple regression was conducted to evaluate the overall model and assess its performance with the study sample in predicting therapists' intentions to use EBP (i.e., general definition) as measured only by the ISP-D. This was done as a preliminary step prior to conducting the two multiple regressions intended to evaluate the TPB predictors in relation to therapists' self-reported intentions on the T-BIS measure for the ANX and DBD vignette clients. For this initial validity check, the ISP-D scale scores for attitudes, SN, and PBC were simultaneously entered into model, followed by the dependent variable (i.e., ISP-D behavioral intentions composite score). A hierarchical method with simultaneous entry for TPB predictors was chosen based on recommendations outlined by Ajzen (2011a), who is both

the developer and leading expert on the TPB. Given that the relative importance of the three TPB predictor variables has only been tested in one study to date (i.e., Kelly et al., 2012) and thus, generally unknown, it is preferred to utilize a simultaneous entry of all predictors. The two following regressions included covariates (e.g., PMES score) entered into the model first prior to entering in TPB predictor subscales from the ISP-D (i.e., attitudes, SN, PBC) using simultaneous forced entry in a similar method to the first analysis described. Confounding variables were entered in each model prior to the TPB predictors in order to control for their effects and determine the extent to which TPB constructs predicted variance in intentions over and above identified covariates. These included PMES score and any other significant covariate(s) identified during preliminary analyses for the ANX and DBD PDEB intention scores.

For both of second and third multiple regression analyses, analyses were conducted to assess multicollinearity of predictor variables using IBM SPSS (version 21.0) Collinearity Diagnostics. This statistical package obtains a variety of collinearity statistics, such as the variance inflation factor (VIF) and tolerance statistic. The VIF indicates whether a predictor has a strong linear relationship with another predictor, and the tolerance statistic is the reciprocal of the VIF. Field (2009) describes several guidelines for interpreting these statistics, noting that the regression might be biased if: the largest VIF is greater than 10 or the average VIF is much greater than 1 (Bowerman & O'Connell, 1990), or the tolerance statistic is below 0.1 (serious problem) or 0.2 (potential problem; Menard, 1995). Given the exploratory nature of this study, all analyses were conducted against an alpha level of .05, and examined the proportion of variance accounted for by each significant predictor.

## Results

### Focus 2: Visual Inspection And Exploratory Analyses Of Intention Profiles

As described previously, the second focus of this study was to examine therapists' self-reported intentions to use PEs. This was achieved through the creation of figures visually representing therapists' intention endorsement across PEs for each of the T-BIS problem areas.

**Data preparation and integrity.** First, data was checked for missingness above the 20% threshold for each scenario and to ensure correct response options were used in completion of the measure. For the 79 participants with available data, analyses of missing data revealed that no participants reached the 20% threshold, and the most missing data any one participant had was 8% of items ( $n = 5$  PEs) on one vignette scenario. For all participants with missing data under the 20% threshold, their missing responses were entered as a "0" (*I intend not to use...*) and interpreted as the absence of a definite intention for the purposes of the current analyses.

**Descriptive analyses and visual inspection.** Frequencies of participants' "1" level (i.e., definite intention) endorsement of each PE were calculated for the sample and combined into a single figure along with the research support associated with each PE. These visual representations are shown in Figures 2 & 3 and list the 63 PEs in order of highest to lowest percentage of participants endorsing an intention to use that PE with the vignette client (i.e., ANX or DBD), with different colored bars used to designate whether the PE is defined as a PDEB (i.e., blue) or PMES (i.e., white) for that problem area in this study.

Looking at Figure 2 as an example for how to interpret these profiles, the top three PEs endorsed by the sample for anxiety were relaxation (96%), supportive listening (95%), and goal setting (92%). Further, referencing the EBP percentages and colored histogram bars in Figure 2, it is evident that both relaxation (34% EBP) and goal setting (10% EBP) were considered PDEBs

for this study using the 10% or more research support definition, while supportive listening was defined as a PMES for this study with 0% research support cited. Patterns identified in sample-level responses are presented here.

Participants' PE intentions for treating the hypothetical anxious youth in this study are presented in Figure 2. Consistent with the first hypothesis for study focus 2, therapists reported a wide variety of PEs for ANX, spanning both PDEB and PMES approaches. As can be seen in this figure, 12 (60%) of the top 20 PEs with the highest frequency of therapist endorsement for the ANX vignette case were PDEBs for that problem area (i.e., endorsements ranging from 75-96% of participants). Overall, these top PEs tended to be strategies (a) utilized to cultivate skills or other core components of treatment (60% of top 20; e.g., relaxation, exposure, skill building), (b) used to connect with clients and/or their family (40% of top 20; e.g., relationship/rapport building, family engagement, psychoeducation), and (c) belonging to the MTPS factor of coping and self-control (55% of top 20; Orimoto et al., 2012). Related to the other MTPS factors, 35% of the top 20 belonged to family interventions, 25% were behavior management, and the remaining 1 PE was not included in the MTPS factors in the previous study (Orimoto et al., 2012). Furthermore, the number of problem areas (of the top four most frequently studied child mental health problems [i.e., ADHD, ANX, depression, DBD]) for which a given PE was a PDEB was also calculated for each PE. Based on this, therapists' top practices tended to be PEs with research support for a large number of diagnoses (Mode = 4,  $M = 2.45$ ,  $SD = 1.54$ ).

PMESs for ANX that more than half of the sample endorsed the intention to use were: supportive listening, skill building, communication skills, mindfulness, family engagement, family therapy, emotional processing, parent/teacher praise, activity scheduling, modeling, assertiveness training, motivational interviewing, care coordination, parent coping, and guided

imagery. Of these 15 PMESs for ANX, nine (60%) overlapped with the top 20 PEs therapists endorsed for DBD. Additionally, 100% of those nine practices were PDEBs for DBD. PDEBs that more than half of the sample did not endorse the intention to use were maintenance/relapse prevention and response prevention. Contrary to the second hypothesis for Focus 2, therapists in this sample endorsed a large number of PEs overall. Specifically, participants endorsed a definite intention to utilize an average of 29.71 PEs ( $SD = 8.80$ ; range = 7 – 48 PEs) with the ANX vignette client.

Participants' PE intentions for treating the hypothetical youth with disruptive behavior concerns are presented in Figure 3. Results for the DBD vignette were also consistent with the first hypothesis for study focus 2, with therapists reporting a wide variety of PEs across both PDEB and PMES approaches. Figure 3 indicates that 18 (90%) of the top 20 PEs endorsed by the sample for the DBD vignette case were PDEBs for that problem area (i.e., endorsements ranging from 75-92% of participants). Overall, these top PEs tended to be strategies (a) utilized to cultivate skills or other core components of treatment (55% of top 20; e.g., communication skills, natural and logical consequences, self-monitoring), (b) used to connect with clients and/or their family or initiate treatment (45% of top 20; e.g., family engagement, psychoeducation, goal setting), and (c) belonging to the MTPS factor of family interventions (50% of top 20; Orimoto et al., 2012). Similar to ANX, therapists' top PEs tended to be practices that were PDEBs for the majority of the top four most frequently studied problems (Mode = 4,  $M = 2.7$ ,  $SD = 1.30$ ).

The PMESs that more than half of the sample endorsed the intention to use for DBD included: supportive listening, motivational interviewing, mindfulness, emotional processing, ignoring, activity scheduling, care coordination, physical exercise, mentoring, and personal safety skills. Of these 10 PMES for DBD, three were also endorsed in the top 20 for ANX.



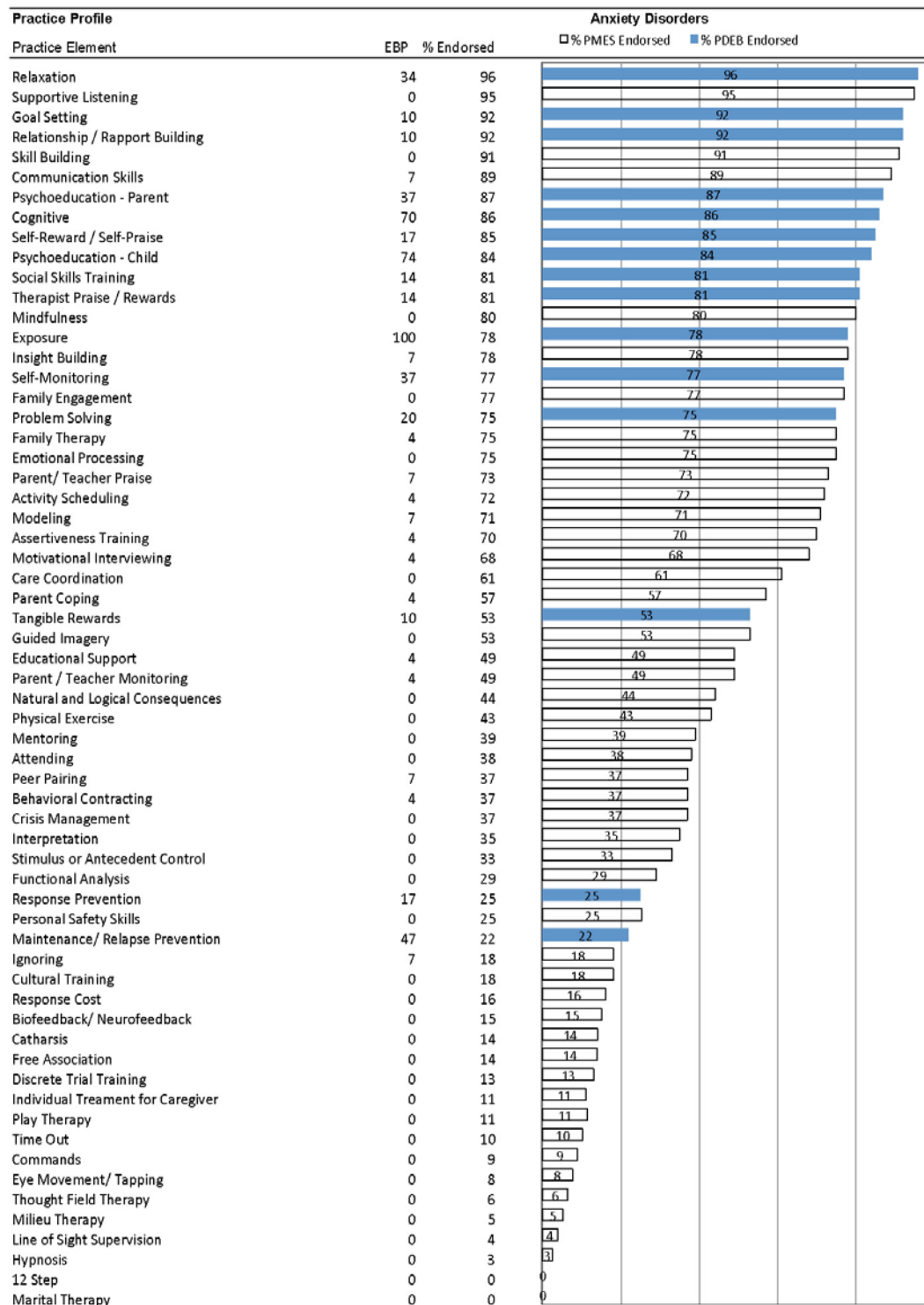


Figure 2. Graphical depiction of percentage of participants (N = 79) who endorsed a definite intention to use each PE in the first 6 months of treating a hypothetical youth client with an uncomplicated, single-diagnosis presentation of ANX. PEs arranged in order of highest to lowest endorsement with PDEBs for ANX indicated by blue bars and PMESs indicated by white bars.

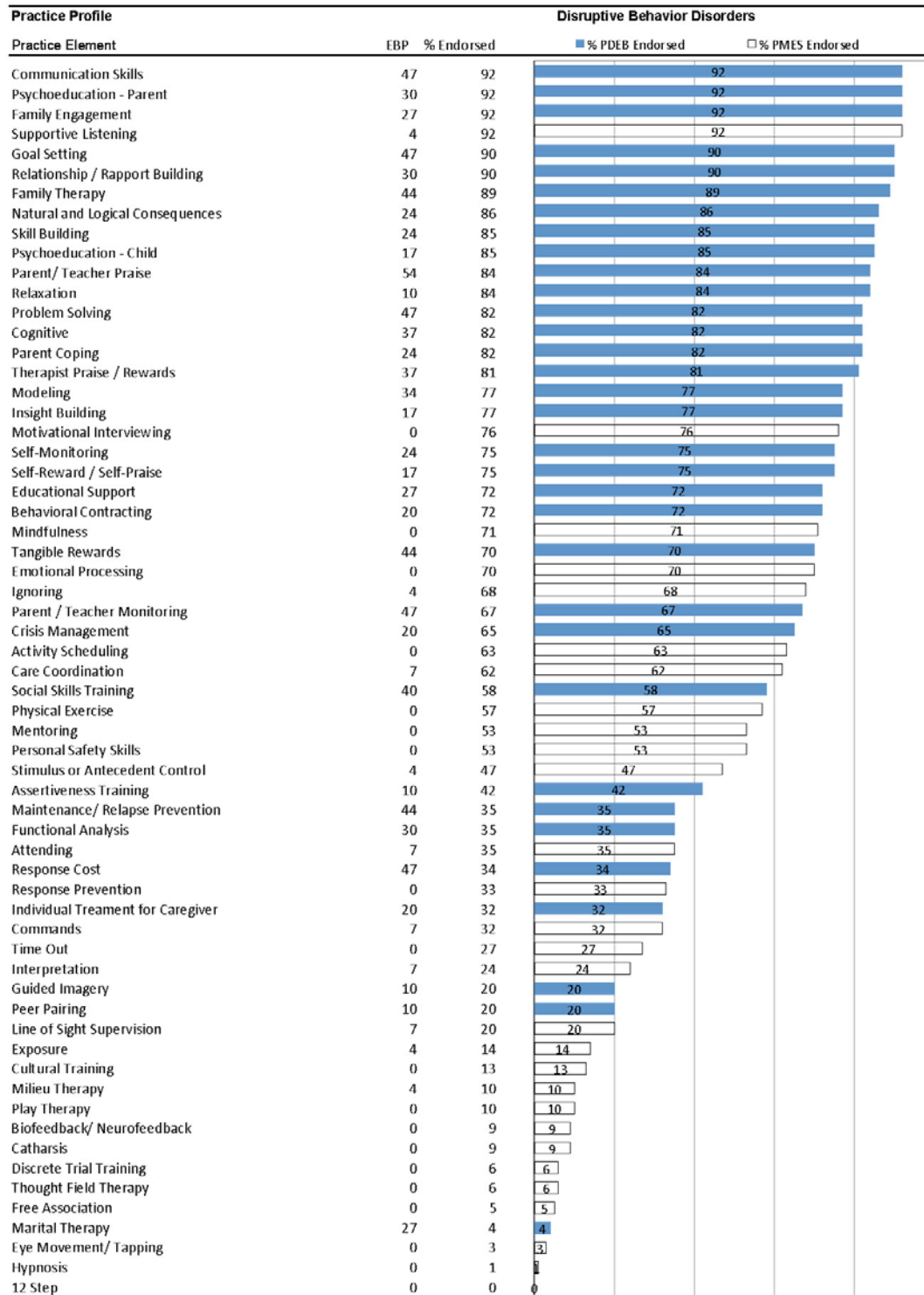


Figure 3. Graphical depiction of percentage of participants (N = 79) who endorsed a definite intention to use each PE in the first 6 months of treating a hypothetical youth client with an uncomplicated, single-diagnosis presentation of DBD. PEs arranged in order of highest to lowest endorsement with PDEBs for DBD indicated by blue bars and PMESs indicated by white bars.

Of those three PMES intentions overlapping with ANX endorsements, none were PDEBs for ANX. PDEBs that more than half of the sample did not endorse the intention to use were: assertiveness training, maintenance/relapse prevention, functional analysis, response cost, individual treatment for caregiver, guided imagery, peer pairing, and marital therapy. Related to the second hypothesis for Focus 2, on average, participants endorsed having a definite intention to use 31.96 PEs ( $SD = 8.95$ ; range = 6 – 49 PEs) with the DBD vignette client. This suggests therapists intended to use a large number of practices overall with this youth, which was contrary to hypotheses.

Next, I explored the relationship between intention endorsement percentages (i.e., “% Endorsed” on Figures 2 and 3) for each PE and the corresponding research support percentages (i.e., “EBP” on Figures 2 and 3) both within and across problem areas. As indicated in Table 4, for both problem areas of ANX and DBD, there was a significant correlation between the percent of research support for a given technique (for that problem area) and the percent of the sample endorsing a definite intention to use that technique ( $r = .40$  and  $r = .55$  for ANX and DBD, respectively). Additionally, sample-level endorsement percentages for ANX were significantly related to DBD research support percentages ( $r = .43$ ), but the converse was not found (i.e., DBD endorsement percentages were not significantly related to ANX EBP percentages).

Table 4.  
*Bivariate Correlations between Research Support (%) and Sample-level Endorsement (%) of Practice Elements across T-BIS Vignettes*

Research Support (EBP %) for PE	% of Sample Endorsing Intention to use PE	
	Anxiety	Disruptive Behavior
Anxiety	<b>.40**</b>	.19
Disruptive Behavior	<b>.43***</b>	<b>.55***</b>

\*\* p < .01, \*\*\* p < .001

Patterns in intention endorsements across both vignettes were investigated as well in order to identify similarities in top PEs endorsed, commonly omitted PDEBs, and commonly endorsed PMESs. Results suggested considerable overlap between aggregated PE intentions for ANX and DBD. When looking at the top 10 most endorsed PEs for each disorder, 70% of those PEs overlap with the top 10 endorsed for the other disorder, which increases to 90% if extended to overlap with the top 20 PEs for the other disorder. The figures reveal that the only PDEB that was omitted by half of the sample for both problem areas was maintenance/relapse prevention (i.e., 22% endorsement for ANX, 35% for DBD). Shared PMES that were endorsed by more than half the sample for both ANX and DBD were supportive listening, mindfulness, motivational interviewing, emotional processing, activity scheduling, and care coordination.

### **Focus 3: Quantitative Analyses - Multiple Regression Analyses**

**Data preparation and integrity.** First, data was checked for missingness above a 20% threshold within each questionnaire, including intention responses on both T-BIS vignette scenarios. No measure had data missing at or above this threshold and thus, no participants were excluded from quantitative analyses due to missing data. Following this, the pattern of missing data was examined more closely for each measure to determine the appropriate method for managing missingness for each analysis. Overall, the scope of missing data was very small across all measures (see Table 5). Even though the missing data frequencies were higher for the T-BIS ANX and DBD intention responses than the ISP-D and EBPAS measures, the overall scope was still small, as only 7 and 13 items were missing out of a total 4,977 items for each ANX and DBD scenario, respectively (i.e., 63 PE response items on the T-BIS  $\times N = 79$  participants = 4,977 total response items for each scenario across all participants). In addition, there seemed to be no patterns identified in the missingness of data across items or participants,

such that most participants only missed at most one item on one measure (with few exceptions). In addition, when examining the T-BIS specifically, there did not seem to be a notable pattern in the types of PEs therapists missed. In light of the small scope and seemingly lack of pattern with regard to data missingness, as outlined in the analytic strategy, pairwise and listwise deletion strategies were used as appropriate for analyses in this study.

Table 5.

*Frequency of Missing Items Across Measures*

Measure	Participant-Based Missing Data ( $N = 79$ )		Total Missing Items per Measure <sup>a</sup>
	Frequency Participants with # Items Missing	% of Participants Missing # of Items	
EBPAS			1
0 Items Missing	78	98.7	--
1 Item Missing	1	1.3	--
ISP-D			4
0 Items Missing	76	96.2	--
1 Item Missing	2	2.5	--
2 Items Missing	1	1.3	--
T-BIS (ANX)			9 <sup>b</sup>
0 Items Missing	72	91.1	--
1 Item Missing	5	6.3	--
2 Items Missing	2	2.5	--
T-BIS (DBD)			18 <sup>c</sup>
0 Items Missing	66	83.5	--
1 Item Missing	11	13.9	--
2 Items Missing	1	1.3	--
5 Items Missing	1	1.3	--

<sup>a</sup>Totals reflect cells with null values, not participants. <sup>b</sup>No missing items were PDEBs for ANX. <sup>c</sup>Of these 18 missing data cells, 50% were PDEBs for DBD

An initial data integrity check was conducted which involved examining the ranges, means, and standard deviations of the items and subscales for each measure included in the study battery, as well as evaluating for potential ordering effects regarding T-BIS vignette (ANX or DBD given first) administration. All EBPAS item level scores ranged from zero to four, with scale scores ranging from 2.13 – 4.00 ( $M = 3.04$ ,  $SD = 0.42$ ) for the total scale, 1.75 – 4.00 ( $M = 3.22$ ,  $SD = 0.60$ ) for the appeal subscale, 1.00 – 4.00 ( $M = 2.92$ ,  $SD = 0.73$ ) for the openness subscale, 1.33 – 4.00 ( $M = 3.11$ ,  $SD = 0.82$ ) for the requirements subscale, and 0.00 – 3.00 ( $M = 1.09$ ,  $SD = 0.70$ ) for the divergence<sup>3</sup> subscale. ISP-D item level scores ranged from one to seven and scale scores ranged from 3.20 – 7.00 ( $M = 5.34$ ,  $SD = 0.78$ ) for the attitudes subscale, 3.33 – 7.00 ( $M = 5.92$ ,  $SD = 0.93$ ) for the subjective norms (SN) subscale, 2.75 – 7.00 ( $M = 4.91$ ,  $SD = 1.08$ ) for the perceived behavioral control (PBC) subscale, and 2.50 – 7.00 ( $M = 6.24$ ,  $SD = 0.90$ ) for the behavioral intentions (BI) subscale. The T-BIS ANX items-level intention scores ranged from zero to one and total PDEB scores ranged from 0.27 – 1.0 ( $M = 0.74$ ,  $SD = 0.18$ ), with PMES scores (i.e., study covariate) ranging from 0.06 – 0.72 ( $M = 0.39$ ,  $SD = 0.14$ ). T-BIS DBD items-level intention scores ranged from zero to one, total PDEB scores ranged from 0.12 – 0.91 ( $M = 0.67$ ,  $SD = 0.17$ ), and total PMES scores ranged from 0.0 – 0.72 ( $M = 0.33$ ,  $SD = 0.14$ ).

As mentioned previously, two versions of the T-BIS were administered to participants to control for potential effects related to vignette order ( $n = 38$  completed the ANX vignette first, while  $n = 41$  completed the DBD vignette first). The means and standard deviations of these two forms differed from each other such that those who received the DBD vignette first had higher mean PDEB ( $M = 0.79$ ,  $SD = 0.15$ ) and PMES scores ( $M = 0.44$ ,  $SD = 0.15$ ) for ANX in

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<sup>3</sup> For the EBPAS Divergence subscale, lower values correspond with higher attitudes. Items on this scale are reverse scored when included in the total scale score.

comparison to those who responded to the ANX vignette first (i.e., ANX PDEB score:  $M = 0.69$ ,  $SD = 0.20$ ; ANX PMES score:  $M = 0.35$ ,  $SD = 0.12$ ). Independent samples  $t$ -tests were conducted to determine if mean differences were significant at the .05 level, with results indicating significant differences for participants in the DBD first condition for both ANX PDEB scores,  $t(77) = 2.63$ ,  $p = .01$ ,  $d = 0.59$ , 95% CI [0.03, 0.18], and ANX PMES scores,  $t(77) = 3.02$ ,  $p = .003$ ,  $d = 0.70$ , 95% CI [0.03, 0.15]. In contrast, the means and standard deviations for participants PDEB scores in response to the DBD vignette were similar to each other and did not differ significantly at the .05 level: (DBD first condition)  $M = 0.68$ ,  $SD = 0.17$ ; (ANX first condition)  $M = 0.67$ ,  $SD = 0.18$ . This lack of significant differences also held true for participants' PMES scores on the DBD vignette: (DBD first condition)  $M = 0.35$ ,  $SD = 0.14$ ; (ANX first condition)  $M = 0.31$ ,  $SD = 0.14$ .

Following previously described confirmation that all data were within the expected ranges for item and subscale scores, the data was checked for outliers and to ensure assumptions were met for conducting planned regression analyses (i.e., linearity, heteroscedacity, and normality of the data). First, outliers were checked in accordance with recommendations from Tabachnick and Fidell (2007) by identifying cases across all continuous variables with standardized scores in excess of 3.29 ( $p < .001$ , two tailed test). Based on these calculations, no cases were identified as falling out of this range on any of the measure subscales utilized in primary analyses (i.e., ISP-D attitudes, SN, PBC subscales and T-BIS PDEB and PMES scores). Visual analysis of the data was utilized to determine whether the assumptions of linearity and heteroscedasticity were retained in this study using plots of the residuals compared against the predicted outcomes for each major analysis (i.e., ISP-D behavioral intention, T-BIS ANX PDEB score, T-BIS DBD PDEB score; cf. Fields, 2006; Im, 2017). Visual analysis of the residual and

predicted values across all major outcome variables indicated no issues with linearity or heteroscedasticity. Normality of the data was evaluated by examining, in conjunction, the Shapiro-Wilk's  $W$  statistic, skewness, and kurtosis across each predictor and outcome variable in this study. The Shapiro-Wilk's  $W$  statistic was interpreted as indicating non-normally distributed data if  $p < .05$  (Field, 2013); skewness and kurtosis values were interpreted as indicating significant skew if the absolute value of the  $z$ -scores were greater than 1.96 ( $p < .05$ ), 2.58 ( $p < .01$ ), and 3.29 ( $p < .001$ ). For both skew and kurtosis,  $z$ -scores were calculated by dividing the statistic by its standard error, such that  $z_{\text{skewness}} = \text{skew}/SE_{\text{skewness}}$  and  $z_{\text{kurtosis}} = \text{kurtosis}/SE_{\text{kurtosis}}$ . See Table 6 for the values from statistical tests of normality for all variables utilized in analyses. As is shown in Table 6, the Shapiro Wilk's  $W$  statistic, skewness value, and kurtosis value all converged to indicate significant non-normality for four scale scores: ISP-D SN scale, ISP-D behavioral intentions scale, T-BIS ANX PDEB score, and T-BIS DBD PDEB score. Visual inspection of the data confirms the presence of a slight negative skew across these variables.

In response to findings of moderate to substantial skewness of the data, square root and log transformations were performed on the four non-normally distributed scale scores mentioned above. Although both sets of transformations improved the skewness of the data, the overall pattern of findings (see below) did not change with regard to the primary multiple regression analyses proposed in this study based on the raw, square root, or logarithmic transformed data. Therefore, it was determined that it would be preferable to maintain the original values of the subscales to facilitate cross-study comparison and interpretation of findings between the current study and future outside studies on therapist practice-related intentions and TPB characteristics.



Table 6.

*Means, Standard Deviations (SD), and Statistical Tests of Normality for Study Variables*

Measure	Mean	SD	Shapiro Wilk's <i>W</i> Statistic	Skew	<i>SE<sub>s</sub></i>	Kurtosis	<i>SE<sub>k</sub></i>
<b>EBPAS</b>							
Total Score <sup>a</sup>	3.04	0.42	0.99	-0.04	0.27	-0.37	0.54
<b>ISP-D Scales</b>							
Attitudes <sup>a</sup>	5.34	0.78	0.97	-0.29	0.27	-0.13	0.54
SN <sup>a</sup>	5.92	0.93	0.90***	-0.92***	0.27	0.46	0.54
PBC <sup>a</sup>	4.91	1.08	0.98	0.02	0.27	-0.66	0.54
Behavioral Intention <sup>b</sup>	6.24	0.90	0.79***	-1.87***	0.27	4.45***	0.54
<b>T-BIS Scores</b>							
Anxiety PDEB <sup>b</sup>	0.74	0.18	0.91***	-0.88**	0.27	0.21	0.54
Anxiety PMES <sup>a</sup>	0.39	0.14	0.99	0.05	0.27	-0.23	0.54
Disruptive PDEB <sup>b</sup>	0.68	0.17	0.91***	-1.10***	0.27	0.87	0.54
Disruptive PMES <sup>a</sup>	0.33	0.14	0.99	0.15	0.27	-0.02	0.54

<sup>a</sup>Predictor variable for quantitative analyses. <sup>b</sup>Outcome variable for quantitative analyses.  
 \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

**Preliminary Analyses.** The zero-order correlations conducted between all continuous variables of interest in this study are shown in Table 7 against an alpha level set at .05 due to the exploratory nature of the analyses. Partial correlations were run in addition to zero-order correlations to statistically control for the influence of T-BIS vignette order on the relationships between these variables, given the aforementioned finding of a significant order effect on T-BIS ANX PDEB and PMES scores. A comparison of these two correlation matrices indicated that directionality, significance, and effect size remained similar across zero-order and partial correlations and thus, only the zero-order correlations are presented here.

Of the correlations presented in Table 7, the most important relationships included the correlations between (a) ISP-D subscales and the EBPAS as an initial exploration of ISP-D convergent validity with a known measure and multicollinearity between potential predictors, (b) predictor versus outcome variables included in the proposed regression analyses (i.e., ISP-D subscales and T-BIS PDEB scores), and (c) T-BIS PDEB and PMES scores within each problem area as the proposed method for accounting for the “kitchen sink” approach. As seen in Table 7, the results of the bivariate correlations indicated strong positive relationships between all ISP-D predictors (i.e., TPB constructs) and ISP-D behavioral intention toward EBP use, except PBC.

Within the ISP-D predictors, there was no evidence suggesting potential concerns of multicollinearity except between the SN and PBC subscales, which were found to be negatively correlated at  $p < .05$ . However, significant correlations were identified between EBPAS and ISP-D subscales, with EBPAS total, requirements, and divergence scales significantly correlating with at least one or more ISP-D subscales. This suggests potential issues with multicollinearity if these subscales were entered into the regression model along with the three ISP-D subscales.

Regarding relationships between predictor and outcome variables for this study, several significant correlations were found between the primary outcome variables (i.e., T-BIS PDEB scores) and other variables measured in this study. The results displayed in Table 7 suggest that the strongest correlations were found (a) between ANX and DBD PDEB scores and (b) between PDEB scores and PMES scores both within and across problem areas. These sets of correlations were positive and thus, a therapist who endorsed intention to use a greater proportion of PDEBs was more likely to endorse intention to use a greater proportion of PMESs with both the ANX and DBD hypothetical client. The only other predictor significantly and positively related to PDEB score was the EBPAS Requirements scale.

Table 7.

*Bivariate Correlations between Predictor and Outcome Variables.*

	1	2	3	4	5	6	7	8	9	10	11	12	13
Behavioral Intention (BI) toward PDEBs													
1) T-BIS ANX PDEB Score	--												
2) T-BIS DBD PDEB Score	.76***	--											
3) ISP-D BI Scale	.13	.11	--										
TPB Constructs & Attitudes to use EBP													
4) ISP-D Attitudes	-.09	-.01	.45***	--									
5) ISP-D SN Scale	.18	.16	.50***	.19	--								
6) ISP-D PBC Scale	.08	.07	.08	.10	-.23*	--							
7) EBPAS Total Score	.18	.19	.34**	.27*	.32**	.02	--						
8) EBPAS Appeal	.11	.15	.04	.11	.22	.14	.71***	--					
9) EBPAS Openness	.08	.14	.03	.11	.06	.09	.62***	.45***	--				
10) EBPAS Requirements	.27*	.25*	.37**	.14	.30**	-.17	.58***	.22	.05	--			
11) EBPAS Divergence	.01	.06	-.38***	-.29**	-.22	.03	-.51***	-.09	.08	-.18	--		
Behavioral Intention to use PMES													
12) T-BIS ANX PMES Score	.67***	.64***	.04	-.06	.08	.11	.18	.11	.14	.20	-.01	--	
13) T-BIS DBD PMES Score	.65***	.70***	-.03	-.15	.04	.13	.24*	.26*	.13	.26*	.05	.78**	--

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

The relationship between hypothesized demographic predictors and PDEB scores for ANX and DBD were evaluated through correlations (i.e., age), independent samples *t*-tests (i.e., selection of CBT/Behavioral orientation), and ANOVA (i.e., highest degree earned) analyses. Results from these various statistical tests indicated that ANX and DBD PDEB scores did not vary significantly between therapists across any hypothesized demographic predictor. Given these results, no demographic variables were included in follow up analyses.

Prior to conducting the multiple regression analyses described below, I examined the results of the bivariate correlations to help inform the selection of predictors (i.e., ISP-D and/or EBPAS subscales) to enter into the models for predicting PDEB intentions on the T-BIS. The primary focus of this examination was to determine if the pre-established EBPAS subscales were more likely to be better predictors of the outcome variables than the theoretically-driven, but psychometrically untested ISP-D. Given that neither ISP-D or EBPAS subscales emerged as significant predictors, except for the one EBPAS subscale of requirements, I decided to proceed with the most theoretically consistent approach. This approach included entering the ISP-D predictor variables into the multiple regression analyses and excluding the EBPAS subscales. This is because the ISP-D was specifically designed to measure the constructs included in the TPB model underlying this study.

**Multiple regression analyses.** The first regression analysis was intended to investigate the extent to which the TPB constructs of attitudes, SN, and PBC predicted therapists' EBP behavioral intentions as measured by all ISP-D subscales (see Table 8 for detailed results). It was initially hypothesized that all three TPB constructs would positively predict higher PDEB therapist behavioral intentions. The results of this initial regression suggested that the three predictors collectively explained 40% of the variance in self-reported intentions to use EBP as

measured by the ISP-D attitudes, SN, and PBC subscales,  $R^2 = .40$ ,  $F(3,75) = 16.91$ ,  $p < .001$ .

Upon closer inspection, it was found that attitudes toward EBPs significantly predicted self-reported intention to use EBP,  $t(75) = 3.82$ ,  $p < .001$ , as did SN related to EBPs,  $t(75) = 4.96$ ,  $p < .001$ ; however, PBC was found to be non-significant,  $t(75) = 1.67$ ,  $p = .10$ .

Table 8.

*First Multiple Regression Results: Predicting Therapists' EBP Behavioral Intentions Using Attitudes, SN, and PBC ISP-D subscales (N = 79).*

Variable	$R^2$	$\Delta R^2$	$B$	$SE B$	$\beta$
Step 1	.40***	.40***			
Attitudes			.41	.11	.35***
Subjective Norms			.45	.09	.47***
Perceived Behavioral Control			.13	.08	.15

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

Following this initial multiple regression analysis, the two proposed hierarchical multiple regression analyses were conducted to investigate the extent to which TPB constructs predicted therapists' intentions to use PDEBs with the ANX and DBD hypothetical vignette clients over and above identified covariates. The first of these two regressions investigated predictors of therapists' intentions to use PDEBs with the ANX vignette client after controlling for T-BIS vignette order and intention to use PMESs (i.e., confounding variables). The first step of this three-step hierarchical regression analysis included T-BIS vignette order (i.e., DBD vs. ANX vignette first), the second step included the PMES intention score for the ANX vignette, and the third step included simultaneous entry of TPB predictors as measured by the ISP-D (i.e., attitudes, SN, and PBC). The results of this regression analysis are presented in Table 9. This hierarchical multiple regression revealed that at Step 1, vignette order contributed significantly to the model,  $F(1, 77) = 6.95$ ,  $p = .01$ , accounting for around 8% of variance in therapist PDEB

intention scores for ANX. Adding the confound of PMES intention score for ANX explained an additional 37% of variance in PDEB scores, which evidenced a significant change in  $R^2$ ,  $F(1, 76) = 51.14$ ,  $p < .001$ . However, upon adding PMES score to the model, the contribution of T-BIS vignette order for predicting PDEB intentions became non-significant,  $t(76) = .87$ ,  $p = .39$ . Finally, all five predictors were entered into the model (i.e., T-BIS vignette order, PMES score, attitudes, SN, and PBC) at Step 3. The linear combination of these predictors was significantly related to PDEB score for ANX,  $F(5, 73) = 13.08$ ,  $p < .001$ ) accounting for a total of 47% of variance in PDEB scores. However, the change in  $R^2$  with the addition of TPB predictors was not significant, with only an additional 2% of variance accounted for in PDEB intentions,  $F(3, 73) = 0.96$   $p = .42$ ).

Table 9.

*Second Multiple Regression Results: Predicting T-BIS ANX PDEB Scores Using ISP-D subscales after Controlling for both Vignette Order Effect and PMES Intentions (N = 79).*

Variable	$R^2$	$\Delta R^2$	$B$	$SE B$	$\beta$
Step 1	.08**	.08**			
Vignette Order (DBD First)			.10	.04	.29**
Step 2	.45***	.37***			
Vignette Order (DBD First)			0.03	0.03	0.08
PMES Intention Score (ANX)			0.81	0.11	0.64***
Step 3	.47***	.02			
Vignette Order (DBD First)			0.02	0.04	0.05
PMES Intention Score (ANX)			0.80	0.11	0.63***
Attitudes			-0.02	0.02	-0.09
Subjective Norms			0.03	0.02	0.15
Perceived Behavioral Control			0.01	0.02	0.04

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

Based on these results, the TPB constructs (i.e., attitudes, SN, PBC) do not appear to offer much predictive value over and above that contributed by T-BIS vignette order and PMES score for ANX, thus failing to provide support for the main hypothesis of this study. Results from Table 9 indicate that the PMES intention score,  $t(73) = 6.99, p < .001$ , was the only variable that significantly contributed to the prediction equation for PDEB intention scores for the anxious T-BIS client. Taken together, these results suggest that CAMHD therapists who self-report intending to use a higher proportion of PMESs with a relatively straightforward anxious client are more likely to also report intentions that include a higher proportion of PDEBs for the disorder.

The third and final regression analysis investigated predictors of therapists' intentions to use PDEBs with the DBD vignette client after controlling for therapist intention to use PMESs for the DBD client (i.e., confounding variable). The first step of this two-step hierarchical regression analysis included PMES intention scores for the DBD vignette, and the second step included simultaneous entry of TPB predictors as measured by the ISP-D (i.e., attitudes, SN, and PBC). The results of this regression analysis are presented in Table 10. The hierarchical multiple regression analysis revealed that at Step 1, PMES DBD intention scores contributed significantly to the model,  $F(1, 77) = 73.46, p < .001$ , accounting for around 49% of variance in therapist PDEB intention scores for the DBD client. Adding all four predictors into the model in Step 2 (i.e., PMES DBD intention score, attitudes, SN, and PBC) accounted for a total of 51% of variance in PDEB. While the linear combination of these variables was significantly related to PDEB score for DBD,  $F(4, 74) = 19.32, p < .001$ , the change in  $R^2$  was non-significant for this model, accounting for only 1.6% of incremental variance in PDEB score,  $F(3, 74) = 1.14, p = .34$ .

Table 10.

*Third Multiple Regression Results: Predicting T-BIS DBD PDEB Scores Using ISP-D subscales after Controlling for PMES Intentions (N = 79).*

Variable	$R^2$	$\Delta R^2$	$B$	$SE B$	$\beta$
Step 1	.49***	.49***			
PMES Intention Score (DBD)			.87	.10	.70***
Step 2	.51***	.02			
PMES Intention Score (DBD)			.88	.10	.71***
Attitudes			.02	.02	.09
Subjective Norms			.02	.02	.11
Perceived Behavioral Control			-.00	.01	-.11

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

Similar to the results for the ANX vignette, the TPB constructs of attitudes, SN, and PBC do not appear to offer much predictive value over and above that contributed by PMES score for DBD, thus again failing to provide support for the main hypothesis of this study. Results from Table 10 indicate that the PMES intention score,  $t(73) = 8.46$ ,  $p < .001$ , was the only variable that significantly contributed to the prediction equation for PDEB intention scores for the disruptive T-BIS client. Taken together, these results suggest that CAMHD therapists who self-report intending to use a higher proportion of PMESs with a relatively straightforward disruptive behavior client are more likely to also report intentions that include a higher proportion of PDEBs for the disorder.

### Discussion

There were three main foci of this study. First, in order to investigate the primary aims of the study (i.e., Foci 2 and 3), I developed a measure of therapists' intentions to use specific PEs with hypothetical youth clients (i.e., the T-BIS). This hypothetical vignette measure was created



by building upon previously established, psychometrically tested measures utilizing a multi-step procedure based on published guidelines for valid and reliable vignette and TPB measure development. Support was found for inter-rater reliability for responses across all PEs included on the T-BIS using a panel of experts who were expected to report similar treatment-related intentions. Second, I administered this novel measure with CAMHD therapists to examine patterns in their intentions for treating the hypothetical youth presented in the measure using descriptive analyses, correlations, and visual inspection of sample-level intention graphs. Consistent with the first tentative hypothesis, findings from this set of analyses seem to indicate a tendency by therapists to endorse a diverse array of PDEBs and PMESs for both ANX and DBD. Regarding the total number of PEs endorsed by participants, results did not support the second hypothesis, as therapists reported intentions to use a high total number of PEs across both vignettes. Third, through a series of multiple regression analyses, I investigated the degree to which TPB and demographic variables predicted therapists' intention to use EBP as defined as either general EBP or PDEB use with the T-BIS vignette clients. Related to this question, I found that TPB factors were only significantly associated with general EBP intentions and not with specific PDEB intentions, and demographic variables were not significantly associated with PDEB intentions for either problem area. PMES intention was the only factor found to be significantly associated with PDEB intention for each vignette. This study was unique for a number of reasons. This was the first study to apply the TPB to predicting community-based therapists' intentions for treating youth, the first to identify therapists' intentions at the level of practice elements (i.e., specific therapeutic techniques), and the first to explore UC therapists' EBP use within the context of diagnostically uncomplicated cases.

Overall, the findings from the current study provide mixed support for the applicability of this model to community therapists' EBP-related behavioral intentions. Specifically, aside from the lack of association with PBC, the TPB performed as hypothesized when used to predict intention toward EBP use, generally, with both attitudes and SN coming out as significant predictors in the overall regression model. However, when applied to the prediction of intention to use PDEBs, the model did not hold and none of the TPB factors were found to be significantly associated with PDEB score for either problem area. Furthermore, the relationship between the two methods of measuring behavioral intention toward EBP (i.e., ISP-D behavioral intention toward EBP and T-BIS PDEB score) evidenced only small, albeit positive, relationships for the ANX and DBD vignettes. This means that while the scores were related, they were not nearly as strongly correlated as would be expected for measures designed to assess the same overall construct (i.e., EBP intentions). It is important to note that evaluation of internal consistency of the ISP-D suggested problems with the reliability for all three predictor subscales, with coefficients ranging from unacceptable to questionable. This suggests that these subscales may not be reliably measuring the constructs as they are intended with the current sample and thus, may impact the validity of the measure and overall prediction of the model. In their review of studies applying the TPB to behaviors of healthcare providers, Godin and colleagues (2008) found that on average, poor psychometric quality (i.e., Cronbach's  $\alpha < .60$ ) was associated with less variance explained in behavioral intentions ( $R^2 = 0.47$ ) than was found across studies with good internal consistency of TPB measures ( $R^2 = 0.62$ ). Thus, this may have impacted results in the current study, particularly related to the prediction of intentions from the subscales of SN and PBC ( $\alpha = 0.43$  and  $0.53$ , respectively).

Keeping this in mind, however, it is interesting that the model still performed as expected within the context of EBP behavioral intentions when measured generally by the ISP-D, suggesting the need for another explanation for the lack of findings with EBP intentions measured at the PE-level (i.e., PDEB score). One potential hypothesis for the differential findings in prediction of EBP intention is the key difference in conceptualization of the EBP construct between the two measures. The ISP-D measures EBP intentions at an abstract level and does so without any clear intention at the technique level (e.g., “I intend to use EBPs with my clients”); an approach shared by the measurement of attitudes, SN, and PBC on this measure as well. On the other hand, the T-BIS asks therapists to report their intentions to use specific practices with standardized clients and then a composite score is created based on the categorization of those PE-intentions in terms of research support, presenting an arguably cleaner version of an EBP intention that is not as subject to response biases such as social desirability to the same degree as the face valid ISP-D items. Therefore, one hypothesis for the differential prediction of intentions across these regression analyses is that there is a disconnect between the theoretical idea of EBP use and therapists’ actual approach to treatment. For example, defining EBP as PDEB in the current study is only one of multiple possible definitions of EBP and represents only one type of evidence-base, which does not take into account other evidence bases such as local aggregate data, case-specific data and ongoing assessment, or therapists’ past experience working with the population. It is likely that other factors, such as these could be contributing to therapists’ PE-intentions. Interestingly, this hypothesis appears to be somewhat supported by the unexpected lack of a significant relationship between ISP-D behavioral intention score and PDEB scores for either vignette. While more research is needed to better

understand the interplay of these various constructs and measurement considerations, it at least provides preliminary support that these measures might be measuring different constructs.

Somewhat surprisingly, therapists' intentions appeared fairly aligned with the evidence base for each problem area. Most PDEBs for each problem area tended to be endorsed by a large percentage of the sample. When looking at the top most commonly endorsed PEs for ANX and DBD, the majority of these practices are PDEBs for that problem area. Taking a closer look at these commonly endorsed PEs for both problem areas, a majority of these practices for both ANX and DBD were PEs generally utilized to begin connecting with clients, typically characteristic of initial treatment stages (e.g., relationship/rapport building, psychoeducation, goal setting), or strategies that cultivate important skills or other core components of treatment (e.g., skill building, cognitive, communication skills, problem solving). Another observation about these practices relates to the three MTPS factors (Orimoto et al., 2012) to which the majority of PEs belonged for each disorder. Specifically, 55% of the top PEs for ANX belonged to the coping and self-control factor and 50% of the top PEs for DBD belonged to the family interventions factor. The other half of top PEs for both problem areas were split equivalently between behavior management and the remaining third factor for that disorder (i.e., family interventions for ANX and coping and self-control for DBD). Based on Orimoto and colleagues' (2012) factor definitions, this indicates a preference toward PEs geared toward helping the youth help themselves for the ANX client, compared to a preference toward PEs centered on working with family members for the DBD client. In addition to being fairly aligned with the evidence base for each specific problem area, the most commonly endorsed strategies by participants tended to be derived from the evidence base for a wide range of problem areas, covering several

of the top four most frequently studied psychopathology problems (i.e., ADHD, ANX, depression, DBD).

In addition to these findings from Focus 2 analyses, results from Focus 3 analyses further support the idea that therapists' intentions reflect consistency with the evidence base, with relatively high mean PDEB intention scores found for both the ANX and DBD vignette clients on the T-BIS, as well as for therapists' mean behavioral intention score on the ISP-D toward use of EBP in general. Overall, it would appear that therapists in this sample generally hold high, positive intentions toward the use of EBP for both ANX and DBD, indicative of a high likelihood of EBP implementation per TPB model.

However, these high intentions toward using PDEBs were accompanied by a constellation of other findings that temper the interpretation of therapists' high PDEB intentions. These findings appear indicative of an overall "kitchen sink" approach to treatment characterized by the selection of a large diversity of PDEBs and PMESs for each problem area. Specifically, PDEB intentions for ANX and DBD were found very strongly and positively associated with intentions toward using PMESs for that problem area. PDEB intentions for ANX and DBD were also found to be significantly and positively associated with each other, as were PMES intentions for the two problem areas. This suggests an overall response style for therapists in the sample of endorsing a large number and diversity of PE-intentions regardless of the vignette youth's presenting problem. While it is promising that therapists showed high levels of intention toward PDEBs in the current study, EBP implementation entails a thoughtful application of practices, including both the inclusion of PDEBs but also perhaps the avoidance of PMES for a given problem. It is this inhibition of PMES application that was generally not found for therapists in this sample. Future studies might wish to focus on ways to both predict and subsequently

improve therapists' discriminate inhibition of PMESs for a given problem area, especially within the context of public mental health (e.g., high drop out rates, reimbursement/session restrictions).

In addition to these findings, certain patterns emerged after taking a closer look at the PMESs endorsed by a majority of the sample for both problem areas (i.e., activity scheduling, care coordination, emotional processing, supportive listening, mindfulness, and motivational interviewing). One observation about these practices is that the majority belong to the MTPS factor of  *coping and self control*  (Orimoto et al., 2012), including supportive listening, emotional processing, motivational interviewing, and mindfulness. Another observation about these practices is that they appear to overlap with practices commonly used with CAMHD youth in actual practice. Therapists' intention to use these practices appears to be consistent with recent data on therapist self-reported behavior with CAMHD clients as reported in the Fiscal Year 2016 Annual Factbook's (CAMHD, 2017) percent of CAMHD youth (aggregate across diagnosis) reported to have received each PE. Specifically, five of these shared PMESs were reported as having been used with over half of CAMHD youth during Fiscal Year 2016 (percentages ranged from 52 – 82% of youth), with the sixth PE (i.e., mindfulness) reportedly used with 49% of CAMHD youth. Although not specific to diagnosis, this may indicate that therapists responded to these single diagnosis cases utilizing at least a partially similar approach as they typically use with the more complex, co- and multimorbid clients seen in actual practice. This may not be particularly surprising given previous research suggesting typical UC practice does not show expected nuances in approach between single-diagnosis and comorbid clients (Orimoto et al., 2012). Consistent with this finding but contrary to hypotheses, therapists' self-reported intentions across problem areas on the T-BIS appear to reflect actual treatment more than intentions. Specifically, analyses of average total PE intention endorsements across participants revealed a

pattern more similar to the diffuse style of PE implementation Tsai and colleagues (2016) found in summaries of actual treatment than the seemingly more focused selection of PEs found in treatment plans. This seemingly unfocused and widespread endorsement of PEs further demonstrates this “kitchen sink” approach taken by therapists in this study.

As a nuance to this overall “kitchen sink” approach to both vignettes, results from the current study suggest that therapists’ PE intentions for treating youth also appeared to be filtered through a DBD-colored lens. This overextension of DBD PDEBs to ANX was consistent across analyses and unidirectional, meaning DBD intentions were not influenced by ANX PDEBs or commonly endorsed intentions for ANX. Related to findings across Focus 2, the percentage of participants endorsing intentions to use a given PE for ANX was positive, large, and comparable to the amount of research support for both DBD and ANX evidence-bases. This finding remained after taking into account the order effect of the T-BIS vignette, and suggests a lack of discrimination in PE selection for ANX. This overgeneralization is further demonstrated in the patterns identified in commonly endorsed PMESs for ANX, since most of those practices were found to be PDEBs for DBD. On the other hand, participants’ PE selection for DBD did appear to discriminate between the two evidence-bases, with the percentage of intention endorsements for DBD significantly and positively related to the amount of research support for DBD but not for ANX. This influence of DBD on ANX treatment-related intentions was further suggested by the order effect found for T-BIS vignette administration. This finding suggested that participants who were primed by completing the DBD vignette first were more likely to report an intention to use a great number of total PEs, including a higher proportion of PDEBs and higher proportion of PMESs. Taken together, this may suggest that therapists approach treatment selection by pulling from a generalized toolbox of strategies comprised of strategies expected to work for a

wide diversity of clients as well as the clients with which they are most familiar (i.e., DBD clients; c.f., Love, Mueller, Tolman, & Powell, 2013; Mueller et al., 2010). These results seem to align with recent findings suggesting CAMHD therapists prioritize externalizing techniques over internalizing techniques with clients with comorbid internalizing and externalizing disorders (Milette-Winfrey & Mueller, 2017).

One potentially interesting consideration for the order effect might be the degree to which automaticity might have played a role in intention endorsements on the T-BIS. For example, it is well-established that DBD problems are the most common disorders seen in the CAMHD sample. Thus, for a large proportion of therapists in the sample, it is plausible that they feel more comfortable and competent at strategies addressing DBD concerns. If this were the case, it would be anticipated that completion of the DBD vignette would utilize more automatic processes and thus take less mental energy, particularly when compared to completion of the ANX vignette, a disorder that is considerably less prevalent within their actual client population (CAMHD, 2017). For participants completing the ANX vignette first, they may have been more mentally prepared to thoughtfully approach intention selection. However, for those participants who had already completed the DBD vignette and depleted some of their mental energy prior to completing the ANX vignette, they may have been susceptible to continuing the automated thought processes guiding DBD PE selection and not shifted sets as easily to the second vignette. Given the disproportionate focus on certain disorders by community therapists like those in this study, it would be interesting for future studies to investigate the impact of priming effects on therapists' PE implementation within actual clinical encounters. For example, does a therapist's treatment approach with an ANX client after having four back-to-back DBD client sessions tend to differ from their approach with that ANX client after only seeing ANX clients that day?



The only PDEB that was missed by more than half of participants on both the ANX and DBD vignettes was maintenance and relapse prevention. One potential explanation for this finding is that therapists were not anticipating treatment ending in the first six months for which they were asked to endorse their intentions. However, this does not seem to be the case as the percentage endorsement for maintenance/relapse prevention for ANX and DBD was less for participants who endorsed expecting treatment to end within 6 months or less than it was for the overall sample. There are a few potential interpretations hypothesized for this finding. One hypothesis is that this PDEB is a practice therapists would utilize with the clients but they did not endorse it either because (a) they conceptualize it differently than a standalone technique that would require endorsement in this context (e.g., common element, integrated into other strategies) or (b) something in the way the vignette was presented in the T-BIS deterred therapists from endorsing the PDEB (e.g., the wording of “the first 6 months of treatment” primed therapists against discharge-related PEs). Another hypothesis is that this finding may be representative of a true phenomenon in therapists’ approach to treatment related to a lack of prioritization on maintenance/relapse prevention in cases they are discharging. Future research may wish to look to data on therapists’ self-reported use of this PDEB during months in which their client discharges would be helpful in guiding potential interpretations about this finding.

### **Limitations and Future Directions**

There were several limitations identified in the current study that warrant discussion. These considerations mainly relate to measurement issues that must be considered when interpreting the results of this study, but also regard overall methodological considerations and generalizability concerns. The first limitation to note relates to potential interpretation of T-BIS findings, particularly in terms of differences between the ANX and DBD vignette, as well as

implications identified for therapists' approach to single-diagnosis, uncomplicated cases. One of the main aims in developing the T-BIS measure was to ensure that the problem area manipulation (i.e., ANX versus DBD) was effective at eliciting different responses from participants such that intention patterns could be attributed to the manipulation and not extraneous factors. In the current study, I assessed the success of the manipulation throughout measure development steps using feedback from pilot participants. However, the extent to which participants were actually responding to the manipulation is unclear since the T-BIS measure did not include an explicit manipulation check on the problem area or complexity dimensions. As such, interpretations may be somewhat limited, and future research in the area may stand to greatly benefit from manipulation checks to further T-BIS evaluation efforts. For example, future studies might consider including a question asking therapists to list their primary treatment targets of interest for each vignette case after completion of the T-BIS.

Regarding the ISP-D, all findings utilizing TBP predictor variables must be interpreted with caution as the reliability coefficients reported for the study sample across all ISP-D subscales were found to be questionable at best. While recommendations for the development of direct measures of TPB constructs note that subscales with 3-4 items should suffice (Ajzen, 2006; Francis et al., 2004), the low number of items across subscales could have contributed to the low Cronbach's alpha values found in this study. A psychometric evaluation is currently underway for ISP-D that will offer a more in depth inspection of the reliability and validity of these scale scores. It will be important that results from this evaluation be utilized to inform any future analyses using this measure, particularly if changes to subscale items are recommended. Although the ISP-D reliability was poor, the model did perform as expected when using constructs all measured on the ISP-D (i.e., first regression model) and the relationships between

the constructs appeared to generally be found in the hypothesized directions (i.e., positive), suggesting some convergence.

The next major measurement consideration relates to the untested nature of the T-BIS measure created for use in the current study and cautions related to generalizability. One hypothesis for the lack of findings with T-BIS outcome is that the level of specificity for the behavior used for the predictors (i.e., general EBP use) did not match the level at which the behavior was defined for the main behavioral intention analyses (i.e., PDEB intention). I attempted to circumvent this issue in the current study by approximating a general measure of EBP intention through the creation of an overall score based on aggregate responses for each participant. However, even if this may have simulated a similar level of specificity, ultimately, the behavioral intention question for the outcome measure may have been too different from that of the predictors. That is, the ISP-D asked only generally about intention to use EBP, which may have been too far removed to evidence the expected relationships. However, it could also be argued that the method of measuring behavioral intention utilized in the T-BIS results in a more honest representation of therapists' actual intentions than asking directly about PDEB or EBP intentions, as they might be less susceptible to biases like social desirability.

Also related to measurement of the T-BIS, it is important to note some inherent limitations in the way EBP was defined in this study (i.e., PDEB scores on the T-BIS). First, it is important to acknowledge that percentage inclusion in empirically supported manualized protocols does not necessarily indicate the effectiveness of a specific PE (i.e., active ingredients in treatment). That is, the percentages used to identify a PE as PDEB are calculated only on frequency in studies of manualized treatments for a given problem area, and are not based on outcome research indicating that technique as a stand-alone treatment for a problem area. The

number of extant studies on a specific treatment orientation also impacts this percentage. For example, based solely on age of conception, it would be expected that a larger number of studies on cognitive behavior therapy (CBT) exist than a new wave treatment such as Acceptance and Commitment Therapy, as an older treatment approach has had more time to accumulate research support. In this case, CBT-specific PEs would be found in a greater percentage of studies on manualized protocols than ACT-specific, such as mindfulness. This specific example was one found in the current study. It is for these reasons results should be interpreted with caution when using this definition of EBP.

Additionally, the process of coding the extant literature necessarily focuses on easily codified and explicitly noted techniques in treatment publications. Thus, it is feasible that this process may not account for specific elements that may be implicitly included in treatment approaches and important to treatment outcomes, but frequently are not explicitly coded in studies, such as common factors (e.g., supportive listening, relationship/rapport building). This is an inherent limitation to the current study, and results should not be interpreted as indicating that these elements are not important to treatment or studies of treatment outcomes. One approach may be for future studies on therapists' PE-level intentions to first identify and remove these necessary but insufficient nonspecific therapeutic elements from analyses, and then examine the patterns in the remaining PEs.

Related to generalizability, it is important to remember that results from this study must be interpreted within the context of the vignettes created for this study, for which the vignette abbreviated as ANX in this study focused on a socially anxious presentation and the vignette abbreviated as DBD focused on an oppositional presentation with very few, mild conduct symptoms. Two versions of each vignette were tested during measure development for each

problem area in an effort to assess the extent to which minor details impacted participant responses. Pilot feedback suggested these details were unlikely to impact responses and thus, it is likely that findings are applicable past the inconsequential and nuanced details of the specific vignette client. However, one must still be cautious not to over-interpret findings of therapists' intentions past the specific problem areas of focus in this study.

Additionally related to the generalizability, given that the current study focused only on the prediction of intentions, extrapolation from the current findings to actual behavior may be questionable. Future research is needed to evaluate the validity of the behavioral intention scores created from the T-BIS measure and examine the extent to which intentions are actually predictive of therapists' use of PEs with their clients. Such results may help to inform the extent to which generalizations can be made from these results about therapists' self-reported intentions. Additionally, researchers may wish to delve further into this decision-making process by investigating questions such as under what circumstances do therapists' actual use of PEs match their intentions for a given problem area?

Lastly, it is important to note that this study only focused on one type of intention reported by therapists (i.e., self-reported "definite" intentions) and excluded intentions therapists self-reported a possible intention to use. That meant that for all analyses, PEs endorsed as "I possibly intend to use" or "I intend NOT to use" were grouped together as non-definite intentions, and thus not included in any calculations of PDEB or PMES scores computed from T-BIS responses. This methodology was chosen for the current study for the purposes of maintaining consistency with the TPB literature in the conceptualization and measurement of behavioral intention (i.e., an expression of definite desire toward a behavior) as well as to avoid combining variance from two potentially heterogeneous constructs (i.e., definite versus uncertain

intentions) in the calculation of the primary outcome variable (i.e., PDEB score). However, this resulted in the loss of nuance in understanding “non-yes” responses by therapists, as the current study did not differentiate the possible intention toward a PE from the intention not to use a PE. Although more research is needed, from a dissemination and implementation standpoint, this is an important distinction, as these two types of intentions could logically be expected to predict differing degrees of adoption or implementation behaviors and related constructs. While it is outside the scope of the current study, it is important that the nuances of the range of therapists’ treatment-related intentions be explored, as it is likely that a wide range of certainty in intentions exists, particularly for a complex behavior such as PE adoption and implementation. Future studies may wish to shed light on how the intention-behavior relationship is impacted by changes in therapists’ self-reported certainty of behavioral intention.

### **Clinical Implications**

Despite the potential limitations outlined here, this investigation offers a nuanced examination of UC, sheds light on additional areas of study within DIS, and has important implications for the field of dissemination and implementation. The findings from this study also lend initial support to the methodological benefits of utilizing *behavioral intentions* as a tool to help disentangle complex factors that often complicate UC research. Further, results appear to suggest the potential viability of using a measure of specific PDEB intentions as a type of barometer for assessing an implementation practice context. This methodology also proposes a novel measure for assessing intentions at the level of specific technique (i.e., practice element), which allows for greater nuance of examination and also matches the level of specificity used to measure behavior within CAMHD, as well as a growing body of the DIS field.

Therapists in this study were generally found to have a high level of EBP intention (i.e., high PDEB proportion score for both ANX and DBD vignettes), as well as relatively high average scores across measures of attitudes, SN, and PBC toward EBP, consistent with recent DIS studies utilizing similar populations. Therefore, it would appear that, at least at this foundational level (i.e., therapists asked to treat less diagnostically complex clients atypical of the public sector), the problem does not appear to be therapists' intention toward EBP use or proximal indicators of EBP use. Instead, a more important finding in the current study was the concurrently high proportion of intentions toward PMESs and the influence of DBD-related intentions on the way therapists approached the ANX client (i.e., increased use of PEs, application of DBD PDEBs to an ANX client). Given similar findings in studies on therapists' behavior, these results appear to lend support to potential directions for future dissemination and implementation efforts. For example, future training efforts focused on helping therapists better nuance their approach to treatment planning with ANX cases might prove beneficial. It is hoped that by continuing to improve our understanding of UC practice and the factors impacting therapists' decision-making, we can better tailor efforts to support therapists, improve services, and ultimately improve the lives of youth with mental illness.

## Appendix A. Evidence-Based Practice Attitude Scale (EBPAS)

The following questions ask about your feelings about using new types of therapy, interventions, or treatments. Manualized therapy refers to any intervention that has specific guidelines and/or components that are outlined in a manual and/or that are to be followed in a structured/predetermined way.

Fill in the box indicating the extent to which you agree with each item using the following scale:

0	1	2	3	4
Not at All	To a Slight Extent	To a Moderate Extent	To a Great Extent	To a Very Great Extent

1	I like to use new types of therapy/interventions to help my clients	0	1	2	3	4
2	I am willing to try new types of therapy/interventions even if I have to follow a treatment manual.	0	1	2	3	4
3	I know better than academic researchers how to care for my clients.	0	1	2	3	4
4	I am willing to use new and different types of therapy/interventions developed by researchers.	0	1	2	3	4
5	Research based treatments/interventions are not clinically useful.	0	1	2	3	4
6	Clinical experience is more important than using manualized therapy/treatment.	0	1	2	3	4
7	I would not use manualized therapy/interventions.	0	1	2	3	4
8	I would try a new therapy/intervention even if it were very different from what I am used to doing.	0	1	2	3	4
<b>For questions 9-15: If you received training in a therapy or intervention that was new to you, how likely would you be to adopt it if:</b>						
9	it was intuitively appeal?	0	1	2	3	4
10	it “made sense” to you?	0	1	2	3	4
11	it was required by your supervisor?	0	1	2	3	4
12	it was required by your agency?	0	1	2	3	4
13	it was required by your state?	0	1	2	3	4
14	it was being used by colleagues who were happy with it?	0	1	2	3	4
15	you felt you had enough training to use it correctly?	0	1	2	3	4



## Appendix B. Intentions Scale for Providers-Direct Items (ISP-D)

**Measure Instructions:** Please answer the following questions about your experience providing psychosocial treatments. Please consider the following definition of evidence-based practices (EBPs): Evidence-based practices are defined as psychosocial therapeutic methods that have been shown to work for particular populations through clinical research. Although there are a variety of EBPs, please respond to the questions below by reflecting on your general knowledge and ability to use practices applicable to your setting.

1-5. Using EBPs with my clients feels...(for me):	1	2	3	4	5	6	7	
	1	2	3	4	5	6	7	Useless
	1	2	3	4	5	6	7	Easy
	1	2	3	4	5	6	7	Beneficial
	1	2	3	4	5	6	7	Rigid
	1	2	3	4	5	6	7	Insincere

	Strongly Disagree	Neutral	Strongly Agree
6. People in my field who are important to me want me to use EBPs with my clients.	1	2	7
7. The decision to use EBPs with my clients is out my control.	1	2	7
8. I want to use EBPs with my clients.	1	2	7
9. I am confident in my ability to use EBPs with my clients	1	2	7
10. I am expected to use EBPs with my clients.	1	2	7
11. I intend to use EBPs with my clients.	1	2	7
12. My profession pressures me to use EBPs with my clients.	1	2	7
13. I have the power to decide whether or not to use EBPs with my clients	1	2	7
14. I expect to use EBPs with my clients.	1	2	7
15. I have the autonomy to choose the treatment practices I use.	1	2	7

16. Out of the next 10 clients you see, for how many of them will you use EBPs?      1   2   3   4   5   6   7   8   9   10

## Appendix C. Therapist Background Questionnaire (TBQ)

THERAPIST BACKGROUND QUESTIONNAIRE					
1. Today's Date: / /	2. Age:	3. Gender:	4. Agency Name & Location:	5. Credentials (e.g., MHP)	6. NPI Number:
<b>7. Race</b> (Check ALL that apply): <input type="checkbox"/> Alaska Native or American Indian <input type="checkbox"/> Asian <input type="checkbox"/> Black or African American <input type="checkbox"/> Hispanic or Latino <input type="checkbox"/> Native Hawaiian or Pacific Islander <input type="checkbox"/> White or Caucasian <input type="checkbox"/> Other (specify: _____) <input type="checkbox"/> Race Unknown			<b>8. Highest Degree Earned</b> (Check ONLY one): <input type="checkbox"/> A.A./Voc./Non-Degree Cert. <input type="checkbox"/> B.A./B.S. <input type="checkbox"/> M.Ed. <input type="checkbox"/> MSW, LCSW, etc. <input type="checkbox"/> M.A./M.S. Counseling <input type="checkbox"/> M.A./M.S. Other (specify: _____) <input type="checkbox"/> R.N., L.P.N., etc. <input type="checkbox"/> Doctoral Student/Intern <input type="checkbox"/> Other (specify: _____)		
<b>9. Date of Most Advanced Degree:</b>  (Year) _____  <b>10. Are you State Licensed?</b>  Yes      No  <b>11. Type of Licensure:</b> _____	<b>12. Professional Specialty:</b> (Check ONLY one - if you have multiple, check the one you identify with most) <input type="checkbox"/> Clinical Psychology <input type="checkbox"/> Counseling (Education) <input type="checkbox"/> Counseling (Psychology) <input type="checkbox"/> Education/Special Education <input type="checkbox"/> Marriage & Family Therapy <input type="checkbox"/> Psychiatry <input type="checkbox"/> School Psychology <input type="checkbox"/> Social Work <input type="checkbox"/> Substance Abuse Counseling <input type="checkbox"/> Other (specify: _____)		<b>13. Current Primary Clinical Setting</b> (where you provide services; select ONLY one; If you work in multiple settings, select the setting where you spend most time) <input type="checkbox"/> Group Home/Shelter <input type="checkbox"/> Home-Based Treatment (e.g., IH, MST, FFT) <input type="checkbox"/> Hospital or Residential Treatment <input type="checkbox"/> Outpatient Clinic <input type="checkbox"/> School-Based Treatment <input type="checkbox"/> Therapeutic Foster Care <input type="checkbox"/> Other Setting (specify: _____)		
<b>14. When did you last work as an intensive in-home therapist (or equivalent)?</b>  (Month/Year) ____/____  (OR circle) <u>Never worked IH</u>  <b>15. If yes, how many years did you work in an IH setting?</b> _____	<b>16. Theoretical Orientation</b> (Check all that you commonly use/identify with): <input type="checkbox"/> Behavioral <input type="checkbox"/> Cognitive or Cognitive-Behavioral <input type="checkbox"/> Eclectic or Integrative <input type="checkbox"/> Existential or Gestalt <input type="checkbox"/> Humanistic or Client Centered <input type="checkbox"/> Psychoanalytic or Psychodynamic or Object Relations <input type="checkbox"/> Systems or Family-Systems <input type="checkbox"/> Other (specify: _____)		<b>17. Supervisor's Theoretical Orientation</b> (Which would you identify as your supervisor's orientation? Check all that apply): <input type="checkbox"/> Behavioral <input type="checkbox"/> Cognitive or Cognitive-Behavioral <input type="checkbox"/> Eclectic or Integrative <input type="checkbox"/> Existential or Gestalt <input type="checkbox"/> Humanistic or Client Centered <input type="checkbox"/> Psychoanalytic or Psychodynamic or Object Relations <input type="checkbox"/> Systems or Family-Systems <input type="checkbox"/> Other (specify: _____)		
<b>18. Years of FORMAL clinical training</b> (beyond undergraduate degree, does NOT include workshops or CEUs): _____  <b>19. Years full time clinical experience</b> (since earning terminal degree): _____  <b>20 - 21. How many hours per week do you receive of supervision</b> (individual and group)? _____ Individual      _____ Group			<b>22. Age of Population Worked With for Treatment:</b> (Which would you identify as the population you have had the most experience with? Please only select one.) <input type="checkbox"/> 0-2 years <input type="checkbox"/> 3-5 years <input type="checkbox"/> 6-12 years <input type="checkbox"/> 13-17 years <input type="checkbox"/> 18-64 years <input type="checkbox"/> 65+ years		
<b>23. Approximately how many <u>active cases</u></b> do you typically carry at one time at your current agency? _____  <b>24. What is the average number of <u>continuing education workshops/trainings/conferences</u></b> you attend each year? _____  <b>25. <u>Total</u> number of conference presentations and peer-reviewed publications to date</b> (can be approximate): _____			<b>26. Diagnoses of Population Worked With for Treatment:</b> (Which would you identify as the population you have had the most experience with? Please only select one.) <input type="checkbox"/> Attention Deficit/Hyperactivity Disorder <input type="checkbox"/> Depressive Disorders <input type="checkbox"/> Anxiety, OCD, and Trauma Disorders <input type="checkbox"/> Disruptive, Impulse-Control, and Conduct Disorders <input type="checkbox"/> Substance-Related and Addictive Disorder <input type="checkbox"/> Other (specify: _____)		

## Appendix D. Therapist Behavioral Intention Survey (T-BIS)

### Instructions for Completing the Therapist Behavioral Intention Survey (T-BIS)

Please read the following directions carefully **BEFORE** you begin.

**Overview:** This survey consists of 2 separate case scenarios. You will be asked to respond to each scenario by indicating the intervention strategies (taken from the Monthly Treatment Progress Summary) that you intend to use with the hypothetical client in the first 6 months of treatment.

**Survey Format & Instructions for each Section:** Each of the 2 case scenarios consists of 2 sections:

1. **Hypothetical Case Scenario:** includes a **Narrative Description** & the **Treatment Targets** that you are addressing in treatment. You will not be providing responses in this section; this is just for information purposes.
  - a. **ALL** relevant details of the case are included here and will hold for the duration of treatment. If something is not included, assume it is not a problem for this client.
2. **Intervention Strategies that YOU Intend to Use Over the First 6 Months of Treatment** (pgs. 3 & 6, yellow pages): This is the **ONLY** section you will be completing for each scenario.

#### **\*\*Important Information for Completing the Measure\*\***

- Do your best to imagine yourself in this scenario and respond as if this is an actual client you are treating. Use only the information provided to determine your responses.
- Assume that **NO** major crises or significant barriers will occur over the course of treatment.
- Assume that it would be appropriate to have multiple hours of treatment per week for each youth. Your supervisor and agency are supportive of your therapeutic approach.

Thank you for contributing to this study by completing this survey!

## **Hypothetical Case Scenario for I.K. (Narrative Description)**

***Instructions:** Please read the following description carefully and do your best to imagine this as an actual referral you have just received. This narrative will hold for the duration of treatment and no crises or significant barriers will occur.*

A 16-year-old boy (“I.K.”) was recently referred to you for **intensive in-home services** to address his challenges with anxiety and avoidance. I.K. has received counseling services at school for the last six months, during which time his symptoms have continued to worsen. Some of the members on his school team recommended that I.K.’s mother seek more intensive services for him through CAMHD as a next step. This is his first time receiving **any** type of mental health treatment outside the school. I.K. is of mixed ethnicity, speaks only English, and has always lived in Hawai‘i.

So far, you have had only one session during which you conducted a standard intake interview with I.K. and his mother. During your interview, you learned the following information:

### **History:**

- I.K. has always been shy, introverted, and quiet.
- His challenges with anxiety became more impairing in middle school, when he began avoiding some social situations at school (e.g., missing school on class presentation days, refusing to participate in class discussions), stopped playing team sports, and would become very distressed in new situations with other kids he did not know (e.g., going to a summer day camp, first day of school).
- Despite these challenges, he maintained close friendships with a few friends, was a B student at school, and had only minor issues with school attendance.

### **Current Presentation:**

- I.K.’s mother reported she didn’t consider seeking services for him until recently, because she herself was shy and “outgrew it” over time. However, I.K.’s anxiety has become more severe lately, compelling her to look for help.
- In the last 6 months, I.K. has been avoiding going to social events or places (e.g., the mall, movies, grocery store) and has started refusing to participate in any class presentations, group activities, or assemblies at school. He is also frequently arguing with his parents to let him stay home from school and has been missing an increasing number of classes due to being in the nurse’s office with headaches and stomachaches. As a result, his grades have dropped to C’s and D’s across most of his core subjects.
- Although he has always gotten along well with peers and has never experienced bullying, he is convinced that nobody likes him and everyone thinks he is stupid, especially girls. He explained that he wants a girlfriend, but is afraid that he will embarrass himself if he tries to talk to girls at school.
- At your first session, I.K. was engaged and openly shared with you that he is looking forward to starting therapy with the goal of being able to attend Prom at the end of the year.

### **Other information:**

- I.K. is compliant and eager to please, and does not have any other mental health symptoms outside of what was reported above. He is motivated, insightful, and intellectually able to participate in treatment. His long-term goals include finishing high school and going to college.
- I.K.’s mother is similarly motivated to help him, and has flexibility with her work schedule and home responsibilities to allow for both her and I.K. to participate in treatment (e.g., transportation, regular attendance).

**Hypothetical Case Scenario for I.K. Continued (Treatment Targets)**

Below are the Targets YOU are Addressing in Treatment:

Activity Involvement	Community Involvement	Hyperactivity	Positive Peer Interaction	Shyness
Academic Achievement	Contentment, Enjoyment, Happiness	Learning Disorder, Underachievement	Phobia/Fears	Sleep Disturbance
Adaptive Behavior/Living Skills	Depressed Mood	Low Self-Esteem	Positive Thinking/Attitude	Social Skills
Adjustment to Change	Eating, Feeding Problems	Mania	Pregnancy Education/Adjustment	Speech and Language Problems
Aggression	Empathy	Medical Regimen Adherence	Psychosis	Substance Use
Anger	Enuresis, Encopresis	Occupational Functioning/Stress	Runaway	Suicidality
<b>X Anxiety</b>	Fire Setting	Oppositional/Non-Compliant Behavior	School Involvement	Traumatic Stress
Assertiveness	Gender Identity Problems	Peer Involvement	School Refusal/Truancy	Treatment Engagement
Attention Problems	Grief	Peer/Sibling Conflict	Self-Control	Willful Misconduct, Delinquency
<b>X Avoidance</b>	Health Management	Personal Hygiene	Self-Injurious Behavior	Other:

**Definition of Targets (for your reference):**

1. **Anxiety** – A general uneasiness that can be characterized by irrational fears, panic, tension, physical symptoms, excessive anxiety, worry, or fear.
2. **Avoidance** – Behaviors aimed at escaping or preventing exposure to a particular situation or stimulus.

**Intervention Strategies that YOU Intend to Use Over the First 6 Months of Treatment with I.K.**

**Instructions:** Please respond to **EVERY** intervention strategy below by writing either a “1,” “0,” or “?” in the box to the left of each strategy:

- **1 = I intend to use this strategy as the focus of at least one session with this client**
- **0 = I intend NOT to use this strategy as the focus of at least one session with this client**
- **? = I POSSIBLY intend to use this strategy as a focus of at least one session with this client, but am hesitant to state a strong intention**

Please make sure your answers are clearly marked & **do not leave any strategy blank**. Remember, the treatment targets you are addressing include: **Anxiety & Avoidance**.

	Activity Scheduling	Emotional Processing	Line of Sight Supervision	Personal Safety Skills	Stimulus or Antecedent Control
	Assertiveness Training	Exposure	Maintenance or Relapse Prevention	Physical Exercise	Supportive Listening
	Attending	Eye Movement, Tapping	Marital Therapy	Play Therapy	Tangible Rewards
	Behavioral Contracting	Family Engagement	Medication/ Pharmacotherapy	Problem Solving	Therapist Praise/Rewards
	Biofeedback, Neurofeedback	Family Therapy	Mentoring	Psychoeducation, Child	Thought Field Therapy
	Care Coordination	Free Association	Milieu Therapy	Psychoeducation, Parent	Time Out
	Catharsis	Functional Analysis	Mindfulness	Relationship or Rapport Building	Twelve-Step Program
	Cognitive	Goal Setting	Modeling	Relaxation	Other:
	Commands	Guided Imagery	Motivational Interviewing	Response Cost	Other:
	Communication Skills	Hypnosis	Natural and Logical Consequences	Response Prevention	Other:
	Crisis Management	Ignoring/Differential Reinforcement of Other Behavior	Parent Coping	Self-Monitoring	
	Cultural Training	Individual Therapy for Caregiver	Parent/Teacher Monitoring	Self-Reward/ Self-Praise	
	Discrete Trial Training	Insight Building	Parent/Teacher Praise	Skill Building	
	Educational Support	Interpretation	Peer Pairing	Social Skills	

**Please answer the following:**

1. What is the likelihood of a positive outcome for I.K.? Very Unlikely  
Very Likely  
 1    2    3    4    5    6    7

2. When do you expect to end treatment with I.K.? \_\_\_\_\_ Months from intake

## **Hypothetical Case Scenario for J.A. (Narrative Description)**

**Instructions:** Please read the following description carefully and do your best to imagine this as an actual referral you have just received. This narrative will hold for the duration of treatment and no crises or significant barriers will occur.

“J.A.” is a 10<sup>th</sup> grade boy recently referred to you for **intensive in-home services** for disruptive, oppositional, and rule-breaking behaviors. This is his first time receiving **any** type of mental health treatment outside the school. Members of J.A.’s school team noted concerns about his problematic trajectory and recommended his mother seek more intensive services for him through CAMHD to address his concerns at home as well as school. J.A. has always lived in Hawai‘i, speaks only English, and is of mixed ethnicity.

So far, you have had only one session during which you conducted a standard intake interview with J.A. and his mother. During your interview, you learned the following information:

### **History:**

- J.A. was a stubborn, argumentative child who became easily upset if things didn’t go his way. In elementary school, he had challenges with outbursts and being physically reactive to peers, but his behavior was generally managed in the classroom. These challenges worsened during middle school.
- J.A. switched schools for 8<sup>th</sup> grade after his family moved during the summer for his father’s job. During 8<sup>th</sup> grade, he had significantly more disciplinary referrals for behavioral outbursts (e.g., swearing at the teacher, work refusal, pushing his desk/throwing supplies when frustrated), which were primarily triggered by: demands being placed on J.A., frustration over difficult work, or perceiving a peer as starting a conflict with him.

### **Current Presentation:**

- J.A. joined a varsity sports team this year. Since then, J.A. started skipping classes to hang out with his older teammates off campus, some of whom have a reputation for starting fights and causing trouble at school. He has also been breaking curfew, frequently saying curse words towards his family, and lying to his parents about hanging out with his new friends. Although some of his friends use drugs and drink, J.A. has never used substances himself.
- At school and home, J.A. continues to have issues with a short temper and reacts quickly and aggressively (e.g., yelling, swearing, punching walls) to frustration or perceived slights from others.
- Both J.A. and his mother noted they are tired of the constant arguing and yelling at home, and wish things would improve between J.A. and his parents. J.A.’s mother also stated that J.A. and his brothers frequently engage in minor verbal and/or physical fights.
- J.A. has always been a B/C student, but his grades recently dropped to D’s and a few F’s, resulting in him being placed on probation from athletics. J.A. told you he is “willing to do whatever it takes to stay on the team.”

### **Other information:**

- According to J.A., his coaches had been starting him in most games prior to probation, which he described as the first time he had felt really good at something.
- J.A.’s older sibling also had problems with delinquent behavior in school. J.A.’s mother told you that she and J.A.’s father have always struggled with being consistent with rules and consequences.
- Both parents are motivated to help J.A., and have flexibility with their schedules and home responsibilities to allow for their own and J.A.’s participation in treatment.
- J.A. seems to like talking to you and is intellectually able to participate in treatment.

**Hypothetical Case Scenario for J.A. Continued (Treatment Targets)**

Below are the Targets YOU are Addressing in Treatment:

	Activity Involvement		Community Involvement		Hyperactivity		Positive Peer Interaction		Shyness
	Academic Achievement		Contentment, Enjoyment, Happiness		Learning Disorder, Underachievement		Phobia/Fears		Sleep Disturbance
	Adaptive Behavior/Living Skills		Depressed Mood		Low Self-Esteem		Positive Thinking/Attitude		Social Skills
	Adjustment to Change		Eating, Feeding Problems		Mania		Pregnancy Education/Adjustment		Speech and Language Problems
<b>X</b>	<b>Aggression</b>		Empathy		Medical Regimen Adherence		Psychosis		Substance Use
	Anger		Enuresis, Encopresis		Occupational Functioning/Stress		Runaway		Suicidality
	Anxiety		Fire Setting	<b>X</b>	<b>Oppositional/Non-Compliant Behavior</b>		School Involvement		Traumatic Stress
	Assertiveness		Gender Identity Problems		Peer Involvement		School Refusal/Truancy		Treatment Engagement
	Attention Problems		Grief		Peer/Sibling Conflict		Self-Control		Willful Misconduct, Delinquency
	Avoidance		Health Management		Personal Hygiene		Self-Injurious Behavior		Other:

**Definition of Targets (for your reference):**

1. **Aggression** – Verbal and/or physical aggression, or threat thereof, that results in intimidation, physical harm, or property destruction.
2. **Oppositional/Non-Compliant Behavior** – Behaviors that can be described as refusal to follow adult requests or demands or established rules and procedures (e.g., classroom rules, school rules, etc.).



**Intervention Strategies that YOU Intend to Use Over the First 6 Months of Treatment with J.A.**

**Instructions:** Please respond to **EVERY** intervention strategy below by writing either a “1,” “0,” or “?” in the box to the left of each strategy:

- **1** = I intend to use this strategy (as the focus of at least one session) with this client
- **0** = I intend NOT to use this strategy (as the focus of at least one session) with this client
- **?** = I POSSIBLY intend to use this strategy (as a focus of at least one session) with this client, but am hesitant to state a strong intention.

Please make sure your answers are clearly marked & do not leave any strategy blank. Remember, the treatment targets you are addressing include: **Oppositional/Non-Compliant Behavior & Aggression.**

Activity Scheduling	Emotional Processing	Line of Sight Supervision	Personal Safety Skills	Stimulus or Antecedent Control
Assertiveness Training	Exposure	Maintenance or Relapse Prevention	Physical Exercise	Supportive Listening
Attending	Eye Movement, Tapping	Marital Therapy	Play Therapy	Tangible Rewards
Behavioral Contracting	Family Engagement	Medication/ Pharmacotherapy	Problem Solving	Therapist Praise/Rewards
Biofeedback, Neurofeedback	Family Therapy	Mentoring	Psychoeducation, Child	Thought Field Therapy
Care Coordination	Free Association	Milieu Therapy	Psychoeducation, Parent	Time Out
Catharsis	Functional Analysis	Mindfulness	Relationship or Rapport Building	Twelve-Step Program
Cognitive	Goal Setting	Modeling	Relaxation	Other:
Commands	Guided Imagery	Motivational Interviewing	Response Cost	Other:
Communication Skills	Hypnosis	Natural and Logical Consequences	Response Prevention	Other:
Crisis Management	Ignoring/Differential Reinforcement of Other Behavior	Parent Coping	Self-Monitoring	
Cultural Training	Individual Therapy for Caregiver	Parent/Teacher Monitoring	Self-Reward/ Self-Praise	
Discrete Trial Training	Insight Building	Parent/Teacher Praise	Skill Building	
Educational Support	Interpretation	Peer Pairing	Social Skills	

**Please answer the following:**

- Very Unlikely Very Likely
1. What is the likelihood of a positive outcome for J.A.?      1    2    3    4    5    6    7
- 
2. When do you expect to end treatment with J.A.?      \_\_\_\_\_ Months from intake
-

## **Appendix E. Nakamura et al. (2014) Vignette Script Describing Anxiety Client**

### **THERAPIST to PATIENT Role-Play Guide for EXPOSURE**

#### **Background Script**

Ikaika is a 14 year old boy of mixed ethnicity. His most recent mental health evaluation indicated the diagnoses of Social Anxiety Disorder and Posttraumatic Stress Disorder, In Partial Remission. Ikaika has recently transferred to your agency/school for services. You have spoken to his previous school-based behavioral health therapist, who shared with you the following information. Ikaika has always been shy and introverted. Throughout the course of elementary school, these problems slowly worsened over time until Ikaika began withdrawing from almost all social interactions in the school setting. In the sixth grade, he became the target of severe and persistent physical and verbal bullying, thereby reinforcing his belief that nobody likes him and that everyone thinks he is stupid. In actuality though, Ikaika is a straight A student and indeed does have two really good friends. These two good friends, however, go to a different school than Ikaika. The severe bullying ended approximately two years ago due to the school implementing an intense monitoring plan and Ikaika's posttraumatic symptoms have reduced somewhat. It should be noted that, Ikaika is an excellent golfer and can easily beat golfers on the school golf team, but he is too shy to join the team. Current behavioral targets for Ikaika's treatment plan include (a) increasing social interactions with his peers and (b) increasing his involvement in a prosocial extracurricular activity. Currently Ikaika goes to school every day but is earning Bs and Cs, only because he refuses to participate in group activities or do oral presentations. If not for such refusals, his teachers report that he would be earning As. He does not get to see his two friends (that attend another school) until the weekend. Ikaika wishes he had more friends at his current school. You have had two sessions with Ikaika and rapport is strong. Per your supervisor's instructions, you will spend the next session doing exposure to help him address some of his concerns. Your supervisor indicated that he is ready for exposure.

#### **Directions**

The situation for role-play will ALWAYS be your first exposure session with Ikaika. You will spend a maximum of 30 minutes going over exposure with Ikaika. It is important to video-record every session, and maintain character throughout the entire duration of the role-play.

## **Appendix F. Nakamura et al. (2014) Vignette Script Describing Disruptive Behavior Disorder Client**

### **THERAPIST to PATIENT Role-Play Guide for Problem Solving**

#### **Background Script**

Kawika is a 16 year old boy of mixed ethnicity. His most recent mental health evaluation indicated the diagnoses of Conduct Disorder (principal diagnosis), Attention-Deficit/Hyperactivity Disorder, Combined Type, and Alcohol Abuse, In Full Remission. Kawika has recently transferred to your agency/school for services. You have spoken to his previous school-based behavioral health therapist, who shared with you the following information. Kawika has always demonstrated problems with inattention and hyperactivity. Throughout the course of elementary school, he slowly began falling behind in his course work and he became more and more disengaged from school. In middle school, he began associating with and befriending older and more delinquent peers. These peers introduced Kawika to alcohol and he developed significant problems with this substance in the beginning of his eight grade year. In the middle of his eighth grade year, his father died in while driving under the influence of alcohol. This saddened Kawika a little but not to a great extent as Kawika's father was absent from his life and he met his father only once or twice while in elementary school. The main effect of this event was that Kawika drastically reduced his alcohol use and now drinks only one drink at most for only the most special occasions (e.g., once or twice per year). Current difficulties for Kawika include non-compliance with parents and teachers for a large variety of tasks, truancy, motoric disruptions (e.g., pushing furniture, flipping chairs over, throwing books), and physical fights with peers. Some of his current behavioral targets include (a) increasing homework completion rates, (b) increasing class work completion, (c) increasing time-on-task, and (d) increasing prosocial and appropriate ways of asking to take a break while doing work. Currently Kawika will walk out of the classroom or go to sleep in class when he feels that he needs to take a break. He is in special education classes for only math and English. You have had two sessions with Kawika and rapport is strong. Per your supervisor's instructions, you will spend the next session doing problem-solving to help him address some of his concerns.

#### **Directions**

The situation for role-play will ALWAYS be your first problem-solving session with Kawika. You will spend a maximum of 30 minutes going over problem-solving with Kawika. It is important to video-record every session, and maintain character throughout the entire duration of the role-play.

## Appendix G: Monthly Treatment and Progress Summary (MTPS) Form (2008)

### SERVICE PROVIDER MONTHLY TREATMENT & PROGRESS SUMMARY Child and Adolescent Mental Health Division (CAMHD)

**Instructions:** Please complete and electronically submit this form to CAMHD by the 5<sup>th</sup> working day of each month (summarizing the time period of 1<sup>st</sup> to the last day of the previous month). The information will be used in service review, monitoring, planning and coordination in accordance with CAMHD policies and standards. Mahalo!

Client Name:		CR #:	DOB:
Month/Year of Services:	Eligibility Status:		Level of Care (one per form):
Axis I Primary Diagnosis:	Axis I Secondary Diagnosis:		Axis I Tertiary Diagnosis:
Axis II Primary Diagnosis:	Axis II Secondary Diagnosis:		

**Service Format (circle all that apply):**

Individual      Group      Parent      Family      Teacher      Other: \_\_\_\_\_

**Service Setting (circle all that apply):**

Home      School      Community      Out of Home      Clinic/Office      Other: \_\_\_\_\_

Service Dates:																				
----------------	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

**Targets Addressed This Month (number up to 10):**

Activity Involvement	Community Involvement	Hyperactivity	Positive Peer Interaction	Shyness
Academic Achievement	Contentment, Enjoyment, Happiness	Learning Disorder, Underachievement	Phobia/Fears	Sleep Disturbance
Adaptive Behavior/Living Skills	Depressed Mood	Low Self-Esteem	Positive Thinking/Attitude	Social Skills
Adjustment to Change	Eating, Feeding Problems	Mania	Pregnancy Education/Adjustment	Speech and Language Problems
Aggression	Empathy	Medical Regimen Adherence	Psychosis	Substance Use
Anger	Enuresis, Encopresis	Occupational Functioning/Stress	Runaway	Suicidality
Anxiety	Fire Setting	Oppositional/Non-Compliant Behavior	School Involvement	Traumatic Stress
Assertiveness	Gender Identity Problems	Peer Involvement	School Refusal/Truancy	Treatment Engagement
Attention Problems	Grief	Peer/Sibling Conflict	Self-Control	Willful Misconduct, Delinquency
Avoidance	Health Management	Personal Hygiene	Self-Injurious Behavior	Other:
Cognitive-Intellectual Functioning	Housing/Living Situation	Positive Family Functioning	Sexual Misconduct	Other:

CR # \_\_\_\_\_ (please repeat the number here)

**Progress Ratings This Month (check appropriate rating for any target numbers endorsed as targets):**

#	Deterioration < 0%	No Significant Changes 0%-10%	Minimal Improvement 11%-30%	Some Improvement 31%-50%	Moderate Improvement 51%-70%	Significant Improvement 71%-90%	Complete Improvement 91%-100%	Date (If Complete)
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								

**Intervention Strategies Used This Month (check all that apply):**

Activity Scheduling	Emotional Processing	Line of Sight Supervision	Personal Safety Skills	Stimulus or Antecedent Control
Assertiveness Training	Exposure	Maintenance or Relapse Prevention	Physical Exercise	Supportive Listening
Attending	Eye Movement, Tapping	Marital Therapy	Play Therapy	Tangible Rewards
Behavioral Contracting	Family Engagement	Medication/ Pharmacotherapy	Problem Solving	Therapist Praise/Rewards
Biofeedback, Neurofeedback	Family Therapy	Mentoring	Psychoeducation, Child	Thought Field Therapy
Care Coordination	Free Association	Milieu Therapy	Psychoeducation, Parent	Time Out
Catharsis	Functional Analysis	Mindfulness	Relationship or Rapport Building	Twelve-Step Program
Cognitive	Goal Setting	Modeling	Relaxation	Other:
Commands	Guided Imagery	Motivational Interviewing	Response Cost	Other:
Communication Skills	Hypnosis	Natural and Logical Consequences	Response Prevention	Other:
Crisis Management	Ignoring/Differential Reinforcement of Other Behavior	Parent Coping	Self-Monitoring	
Cultural Training	Individual Therapy for Caregiver	Parent/Teacher Monitoring	Self-Reward/ Self-Praise	
Discrete Trial Training	Insight Building	Parent/Teacher Praise	Skill Building	
Educational Support	Interpretation	Peer Pairing	Social Skills Training	

CR # \_\_\_\_\_ (please repeat the number here)

Psychiatric Medications (List All)	Total Daily Dose	Dose Schedule	Check if Change	Description of Change
_____	_____	_____	<input type="checkbox"/>	_____
_____	_____	_____	<input type="checkbox"/>	_____
_____	_____	_____	<input type="checkbox"/>	_____
_____	_____	_____	<input type="checkbox"/>	_____
_____	_____	_____	<input type="checkbox"/>	_____

Projected Discharge Date: \_\_\_\_\_  Check if Discharged During Current Month

**IF YOUTH WAS DISCHARGED THIS MONTH, PLEASE COMPLETE ITEMS A & B:**

**A. Discharge Living Situation (check one):**

- Home                       Foster Home                       Group Care                       Residential Treatment  
 Institution/Hospital                       Jail/Correctional Facility                       Homeless/Shelter                       Other: \_\_\_\_\_

**B. Reason(s) for Discharge (check all that apply):**

- Success/Goals Met                       Insufficient Progress                       Family Relocation  
 Runaway/Elopement                       Refuse/Withdraw                       Eligibility Change                       Other: \_\_\_\_\_

**Outcome Measures:** Optional. If you have any of the following data, please report the most recent scores:

CAFAS (8 Scales): (1-School: ) (2-Home: ) (3-Community: ) (4-Behavior Toward Others: )	Date:		
(5-Moods/Emotions: ) (6-Self-Harm: ) (7-Substance: ) (8-Thinking: ) (Total: )			
CASII/CALOCUS (Total):	CASII/CALOCUS (Level of Care):	Date:	
CBCL (Total Problems T):	CBCL (Internalizing T):	CBCL (Externalizing T):	Date:
YSR (Total Problems T):	YSR (Internalizing T):	YSR (Externalizing T):	Date:
TRF (Total Problems T):	TRF (Internalizing T):	TRF (Externalizing T):	Date:
Arrested During Month? (Y/N):	School attendance (% of days):		

**Comments/Suggestions** (attach additional sheets if necessary):

Provider Agency & Island: _____	Clinician Name and ID#: _____
Provider Supervisor Signature: _____	Clinician Signature: _____
Submitted to CAMHD (date): _____	Care Coordinator: _____

## Appendix H. Monthly Treatment Progress Summary (2008) Codebook: Intervention Strategies Section

1. **Activity Scheduling** – The assignment or request that a child participate in specific activities outside of therapy time, with the goal of promoting or maintaining involvement in satisfying and enriching experiences.
2. **Assertiveness Training** – Exercises or techniques designed to promote the child's ability to be assertive with others, usually involving rehearsal of assertive interactions.
3. **Attending** – Exercises involving the youth and caregiver playing together in a specific manner to facilitate their improved verbal communication and nonverbal interaction. Can involve the caregiver's imitation and participation in the youth's activity, as well as parent-directed play (previously called "Directed Play").
4. **Behavioral Contracting** – Development of a formal agreement specifying rules, consequences, and a commitment by the youth and relevant others to honor the content of the agreement.
5. **Biofeedback/ Neurofeedback** – Strategies to provide information about physiological activity that is typically below the threshold of perception, often involving the use of specialized equipment.
6. **Care Coordination** – Coordinating among the youth's service providers to ensure effective communication, receipt of appropriate services, adequate housing, etc.
7. **Catharsis** – Strategies designed to bring about the release of intense emotions, with the intent to develop mastery of affect and conflict.
8. **Cognitive** – Any techniques designed to alter interpretation of events through examination of the child's reported thoughts, typically through the generation and rehearsal of alternative counter-statements. This can sometimes be accompanied by exercises designed to comparatively test the validity of the original thoughts and the alternative thoughts through the gathering or review of relevant information.
9. **Commands** – Training for caregivers in how to give directions and commands in such a manner as to increase the likelihood of child compliance.
10. **Communication Skills** – Training for youth or caregivers in how to communicate more effectively with others to increase consistency and minimize stress. Can include a variety of specific communication strategies (e.g., active listening, "I" statements).
11. **Crisis Management** – Immediate problem solving approaches to handle urgent or dangerous events. This might involve defusing an escalating pattern of behavior and emotions either in person or by telephone, and is typically accompanied by debriefing and follow-up planning.
12. **Cultural Training** – Education or interaction with culturally important values, rituals, or sites with no specific practices identified.
13. **Discrete Trial Training** – A method of teaching involving breaking a task into many small steps and rehearsing these steps repeatedly with prompts and a high rate of reinforcement.
14. **Educational Support** – Exercises designed to assist the child with specific academic problems, such as homework or study skills. This includes tutoring.
15. **Emotional Processing** – A program based on an information processing model of

- emotion that requires activation of emotional memories in conjunction with new and incompatible information about those memories.
16. **Exposure** – Techniques or exercises that involve direct or imagined experience with a target stimulus, whether performed gradually or suddenly, and with or without the therapist’s elaboration or intensification of the meaning of the stimulus.
  17. **Eye Movement/ Tapping** – A method in which the youth is guided through a procedure to access and resolve troubling experiences and emotions, while being exposed to a therapeutic visual or tactile stimulus designed to facilitate bilateral brain activity.
  18. **Family Engagement** – The use of skills and strategies to facilitate family or child’s positive interest in participation in an intervention.
  19. **Family Therapy** – A set of approaches designed to shift patterns of relationships and interactions within a family, typically involving interaction and exercises with the youth, the caregivers, and sometimes siblings.
  20. **Free Association** – Technique for probing the unconscious in which a person recites a running commentary of thoughts and feelings as they occur.
  21. **Functional Analysis** – Arrangement of antecedents and consequences based on a functional understanding of a youth’s behavior. This goes beyond straightforward application of other behavioral techniques.
  22. **Goal Setting** – Setting specific goals and developing commitment from youth or family to attempt to achieve those goals (e.g., academic, career, etc.).
  23. **Guided Imagery** – Visualization or guided imaginal techniques for the purpose of mental rehearsal of successful performance. Guided imagery for the purpose of physical relaxation (e.g., picturing calm scenery) is not coded here, but rather coded under relaxation (#50).
  24. **Hypnosis** – The induction of a trance-like mental state achieved through suggestion.
  25. **Ignoring/Differential Reinforcement of Other Behavior** – The training of parents or others involved in the social ecology of the child to selectively ignore mild target behaviors and selectively attend to alternative behaviors.
  26. **Individual Therapy for Caregiver** – Any therapy designed directly to target individual (non-dyadic) psychopathology in one or more of the youth’s caregivers. If the therapy for caregivers involves marital therapy (#31) or communication skills (#10) those are not coded here, unless there are additional services for individual caregiver psychopathology, in which case all that apply should be coded.
  27. **Insight Building** – Activity designed to help a youth achieve greater self-understanding.
  28. **Interpretation** – Reflective discussion or listening exercises with the child designed to yield therapeutic interpretations. This does not involve targeting specific thoughts and their alternatives, which would be coded as cognitive/coping.
  29. **Line of Sight Supervision** – Direct observation of a youth for the purpose of assuring safe and appropriate behavior.
  30. **Maintenance/Relapse Prevention** – Exercises and training designed to consolidate skills already developed and to anticipate future challenges, with the overall goal to minimize the chance that gains will be lost in the future
  31. **Marital Therapy** – Techniques used to improve the quality of the relationship between caregivers.



32. **Medication/ Pharmacotherapy** – Any use of psychotropic medication to manage emotional, behavioral, or psychiatric symptoms.
33. **Mentoring** – Pairing with a more senior and experienced individual who serves as a positive role model for the identified youth.
34. **Milieu Therapy** – A therapeutic approach in residential settings that involves making the environment itself part of the therapeutic program. Often involves a system of privileges and restrictions such as a token or point system.
35. **Mindfulness** – Exercises designed to facilitate present-focused, non-evaluative observation of experiences as they occur, with a strong emphasis of being “in the moment.” This can involve the youth’s conscious observation of feelings, thoughts, or situations.
36. **Modeling** – Demonstration of a desired behavior by a therapist, confederates, peers, or other actors to promote the imitation and subsequent performance of that behavior by the identified youth.
37. **Motivational Interviewing** – Exercises designed to increase readiness to participate in additional therapeutic activity or programs. These can involve cost-benefit analysis, persuasion, or a variety of other approaches.
38. **Natural and Logical Consequences** – Training for parents or teachers in (a) allowing youth to experience the negative consequences of poor decisions or unwanted behaviors, or (b) delivering consequences in a manner that is appropriate for the behavior performed by the youth.
39. **Parent Coping** – Exercises or strategies designed to enhance caregivers’ ability to deal with stressful situations, inclusive of formal interventions targeting one or more caregiver.
40. **Parent/Teacher Monitoring** – The repeated measurement of some target index by the parent, teacher, or other adult involved in the child’s social ecology.
41. **Parent/Teacher Praise** – The training of parents, teachers, or other adults involved in the social ecology of the child in the administration of social rewards to promote desired behaviors. This can involve praise, encouragement, affection, or physical proximity.
42. **Peer Pairing** – Pairing with another youth of same or similar age to allow for reciprocal learning or skills practice.
43. **Personal Safety Skills** – Training for the youth in how to maintain personal safety of one’s physical self. This can include education about attending to one’s sense of danger, body ownership issues (e.g., “good touch-bad touch”), risks involved with keeping secrets, how to ask for help when feeling unsafe, and identification of other high-risk situations for abuse.
44. **Physical Exercise** – The engagement of the youth in energetic physical movements to promote strength or endurance or both. Examples can include running, swimming, weight-lifting, karate, soccer, etc. Note that when the focus of the physical exercise is also to produce talents or competence and not just physical activity and conditioning, the code for “Skill Building” (#55) can also be applied.
45. **Play Therapy** – The use of play as a primary strategy in therapeutic activities. This may include the use of play as a strategy for clinical interpretation. Different from Attending (#3), which involves a specific focus on modifying parent-child

- communication. This is also different from play designed specifically to build relationship quality (#49).
46. **Problem Solving** – Techniques, discussions, or activities designed to bring about solutions to targeted problems, usually with the intention of imparting a skill for how to approach and solve future problems in a similar manner.
  47. **Psychoeducational-Child** – The formal review of information with the child about the development of a problem and its relation to a proposed intervention.
  48. **Psychoeducational-Parent** – The formal review of information with the caregiver(s) about the development of the child’s problem and its relation to a proposed intervention. This often involves an emphasis on the caregiver’s role in either or both.
  49. **Relationship/Rapport Building** – Strategies in which the immediate aim is to increase the quality of the relationship between the youth and the therapist. Can include play, talking, games, or other activities.
  50. **Relaxation** – Techniques or exercises designed to induce physiological calming, including muscle relaxation, breathing exercises, meditation, and similar activities. Guided imagery exclusively for the purpose of physical relaxation is also coded here.
  51. **Response Cost** – Training parents or teachers how to use a point or token system in which negative behaviors result in the loss of points or tokens for the youth.
  52. **Response Prevention** – Explicit prevention of a maladaptive behavior that typically occurs habitually or in response to emotional or physical discomfort.
  53. **Self-Monitoring** – The repeated measurement of some target index by the child.
  54. **Self-Reward/Self-Praise** – Techniques designed to encourage the youth to self-administer positive consequences contingent on performance of target behaviors.
  55. **Skill Building** – The practice or assignment to practice or participate in activities with the intention of building and promoting talents and competencies.
  56. **Social Skills Training** – Providing information and feedback to improve interpersonal verbal and non-verbal functioning, which may include direct rehearsal of the skills. If this is paired with peer pairing (#42), that should be coded as well.
  57. **Stimulus/Antecedent Control** – Strategies to identify specific triggers for problem behaviors and to alter or eliminate those triggers in order to reduce or eliminate the behavior.
  58. **Supportive Listening** – Reflective discussion with the child designed to demonstrate warmth, empathy, and positive regard, without suggesting solutions or alternative interpretations.
  59. **Tangible Rewards** – The training of parents or others involved in the social ecology of the child in the administration of tangible rewards to promote desired behaviors. This can involve tokens, charts, or record keeping, in addition to first-order reinforcers.
  60. **Therapist Praise/Rewards** – The administration of tangible (i.e., rewards) or social (e.g., praise) reinforcers by the therapist.
  61. **Thought Field Therapy** – Techniques involving the tapping of various parts of the body in particular sequences or "algorithms" in order to correct unbalanced energies, known as thought fields.

62. **Time Out** – The training of or the direct use of a technique involving removing the youth from all reinforcement for a specified period of time following the performance of an identified, unwanted behavior.
63. **Twelve-Step Program** – Any programs that involve the twelve-step model for gaining control over problem behavior, most typically in the context of alcohol and substance use, but can be used to target other behaviors as well.

## Appendix I. T-BIS Development: Alpha Version of the T-BIS Piloted in Step 2

### **Hypothetical Case Scenario for I.K. (Narrative Description)**

*Instructions: Please read the following description and treatment targets carefully. Do your best to imagine this youth as an actual referral you have just received in your clinical practice.*

A 14-year-old boy (“I.K.”) was recently referred to you for intensive in-home services to address his challenges with anxiety and avoidance. This is his first time receiving **any** type of mental health treatment. I.K. is of mixed ethnicity, speaks only English, and has always lived on O‘ahu near his extended relatives.

So far, you have had only one session during which you conducted a standard intake interview with I.K. and his mother. During your interview, you learned the following information:

#### **History:**

- I.K. has always been shy, introverted, and quiet.
- His challenges with anxiety worsened throughout elementary school. In middle school, he began avoiding some social situations at school (e.g., missing school on class presentation days, refusing to participate in class discussion) and was frequently in the nurse’s office for stomachaches and headaches.
- Despite these challenges at school, he maintained close, longstanding friendships with a few friends, was an A/B student at school, and had only minor issues with school attendance.

#### **Current Presentation:**

- I.K.’s mother reported that she didn’t consider seeking services for him until recently, because she herself was shy and “outgrew it” over time. However, I.K.’s anxiety has become more severe lately, compelling her to look for help.
- In the last 6 months, I.K. has been avoiding going to social events or places (e.g., the mall, birthday parties) and has recently started refusing to go to school (i.e., absent ~10% of current school year) or participate in any class presentations. As a result, his grades have dropped to B’s and C’s across most of his core subjects.
- Although he is generally well-liked and has never experienced bullying from peers, he is convinced that nobody likes him and everyone thinks he is stupid, especially girls. He explained that he wants a girlfriend, but is afraid that he will embarrass himself if he tries to talk to girls at school.
- At your first session, I.K. was engaged and openly shared with you that he is looking forward to starting therapy with the goal of being able to attend the school dance at the end of the year.

#### **Other information:**

- I.K. is compliant and eager to please, and does not have any other mental health symptoms outside of what was reported above. He is motivated, insightful, and intellectually able to participate in treatment. His long-term goals include finishing high school and going to college.
- I.K.’s mother is similarly motivated to help him, and has flexibility with her work schedule and home responsibilities to allow for both her and I.K. to participate in treatment (e.g., transportation, regular attendance).

**Hypothetical Case Scenario for I.K. Continued (Treatment Targets)**

*Instructions: Below are the treatment targets you are addressing in the first 6 months of treatment.*

**Targets YOU Intend to Address in the first 6 Months of Treatment:**

	Activity Involvement	Community Involvement	Hyperactivity	Positive Peer Interaction	Shyness
	Academic Achievement	Contentment, Enjoyment, Happiness	Learning Disorder, Underachievement	<b>X</b> <b>Phobia/Fears</b>	Sleep Disturbance
	Adaptive Behavior/Living Skills	Depressed Mood	Low Self-Esteem	Positive Thinking/Attitude	Social Skills
	Adjustment to Change	Eating, Feeding Problems	Mania	Pregnancy Education/Adjustment	Speech and Language Problems
	Aggression	Empathy	Medical Regimen Adherence	Psychosis	Substance Use
	Anger	Enuresis, Encopresis	Occupational Functioning/Stress	Runaway	Suicidality
<b>X</b>	<b>Anxiety</b>	Fire Setting	Oppositional/Non-Compliant	School Involvement	Traumatic Stress
	Assertiveness	Gender Identity Problems	Peer Involvement	School Refusal/Truancy	Treatment Engagement
	Attention Problems	Grief	Peer/Sibling Conflict	Self-Control	Willful Misconduct, Delinquency
<b>X</b>	<b>Avoidance</b>	Health Management	Personal Hygiene	Self-Injurious Behavior	Other:

**Intervention Strategies that YOU Intend to Use Over the First 6 Months of Treatment with I.K.**

**Instructions:** Write a **“1”** next to each strategy you ***intend TO USE*** with this client in the next 6 months, and write a **“0”** next to each strategy you ***DO NOT intend TO USE*** in the next 6 months. Please refer to the information provided about I.K. in the “Hypothetical Case Scenario” section to guide your treatment intentions and respond as you would if this was your actual client. Please do not leave any item blank.

Remember, the treatment targets you are addressing include: **Anxiety, Avoidance, & Phobia/Fears.**

	Activity Scheduling		Emotional Processing		Line of Sight Supervision		Personal Safety Skills		Stimulus or Antecedent Control
	Assertiveness Training		Exposure		Maintenance or Relapse Prevention		Physical Exercise		Supportive Listening
	Attending		Eye Movement, Tapping		Marital Therapy		Play Therapy		Tangible Rewards
	Behavioral Contracting		Family Engagement		Medication/ Pharmacotherapy		Problem Solving		Therapist Praise/Rewards
	Biofeedback, Neurofeedback		Family Therapy		Mentoring		Psychoeducation, Child		Thought Field Therapy
	Care Coordination		Free Association		Milieu Therapy		Psychoeducation, Parent		Time Out
	Catharsis		Functional Analysis		Mindfulness		Relationship or Rapport Building		Twelve-Step Program
	Cognitive		Goal Setting		Modeling		Relaxation		Other:
	Commands		Guided Imagery		Motivational Interviewing		Response Cost		Other:
	Communication Skills		Hypnosis		Natural and Logical Consequences		Response Prevention		Other:
	Crisis Management		Ignoring/Differential Reinforcement of Other Behavior		Parent Coping		Self-Monitoring		
	Cultural Training		Individual Therapy for Caregiver		Parent/Teacher Monitoring		Self-Reward/ Self-Praise		
	Discrete Trial Training		Insight Building		Parent/Teacher Praise		Skill Building		
	Educational Support		Interpretation		Peer Pairing		Social Skills Training		

## **Hypothetical Case Scenario for J.A. (Narrative Description)**

***Instructions:** Please read the following description carefully and do your best to imagine this as an actual referral you have just received in your clinical practice.*

“J.A.” is a 9<sup>th</sup> grade boy of mixed ethnicity recently referred for disruptive, oppositional, and rule-breaking behaviors. This is his first time receiving **any** type of mental health treatment. J.A.’s mother sought services after his school team noted concerns about his problematic trajectory. J.A. has always lived on O‘ahu near his extended relatives, and speaks only English.

So far, you have had only one session during which you conducted a standard intake interview with J.A. and his mother. During your interview, you learned the following information:

### **History:**

- J.A. was a stubborn, argumentative child who became easily upset if things didn’t go his way. In elementary school, he had some challenges with temper outbursts and being physically reactive to peers, but his behavior was generally managed in the classroom. These challenges worsened during middle school.
- J.A. switched schools for 8<sup>th</sup> grade after his family moved during the summer for his father’s new job. During 8<sup>th</sup> grade, he had significantly more disciplinary referrals for behavioral outbursts (e.g., swearing at the teacher, work refusal, pushing his desk/throwing supplies when frustrated), which were primarily triggered by: demands being placed on J.A., frustration over difficult work, or perceiving a peer as starting a conflict with him.

### **Current Presentation:**

- J.A. joined a junior varsity sports team this year. Since then, J.A. started skipping classes to hang out with his older teammates off campus, some of whom have a reputation for starting fights and causing trouble at school. He has also been breaking curfew and lying to his parents about hanging out with his new friends. Although some of his friends use drugs and drink, J.A. has never used substances himself.
- Both J.A. and his mother noted they are tired of arguing at home, and wish things would improve between J.A. and his parents. J.A.’s mother also stated that J.A. and his brothers frequently engage in minor verbal and/or physical fights.
- J.A. has always been a B/C student, but his grades recently dropped to D/F’s, resulting in him being placed on probation from athletics. J.A. told you he is “willing to do whatever it takes to stay on the team” and his long-term goal is to graduate high school.

### **Other information:**

- Notwithstanding the negative peer influences mentioned above, sports activities have also been good for J.A.’s self-esteem and confidence. His coaches told him that he has the potential to play varsity next year.
- J.A.’s older brother also had problems with delinquent behavior in school. J.A.’s mother told you that she and J.A.’s father have always struggled with being consistent with rules and consequences.
- Both parents are motivated to help J.A., and have flexibility with their schedules and home responsibilities to allow for their own and J.A.’s participation in treatment.
- J.A. seems to like talking to you and is intellectually able to participate in treatment.

**Hypothetical Case Scenario for J.A. Continued (Treatment Targets)**

*Instructions: Below are the treatment targets you are addressing in the first 6 months of treatment.*

**Targets YOU Intend to Address in the first 6 Months of Treatment:**

	Activity Involvement	Community Involvement	Hyperactivity	Positive Peer Interaction	Shyness
	Academic Achievement	Contentment, Enjoyment, Happiness	Learning Disorder, Underachievement	Phobia/Fears	Sleep Disturbance
	Adaptive Behavior/Living Skills	Depressed Mood	Low Self-Esteem	Positive Thinking/Attitude	Social Skills
	Adjustment to Change	Eating, Feeding Problems	Mania	Pregnancy Education/Adjustment	Speech and Language Problems
<b>X</b>	<b>Aggression</b>	Empathy	Medical Regimen Adherence	Psychosis	Substance Use
<b>X</b>	<b>Anger</b>	Enuresis, Encopresis	Occupational Functioning/Stress	Runaway	Suicidality
	Anxiety	Fire Setting	<b>X</b> <b>Oppositional/Non-Compliant Behavior</b>	School Involvement	Traumatic Stress
	Assertiveness	Gender Identity Problems	Peer Involvement	School Refusal/Truancy	Treatment Engagement
	Attention Problems	Grief	Peer/Sibling Conflict	Self-Control	<b>X</b> <b>Willful Misconduct, Delinquency</b>
	Avoidance	Health Management	Personal Hygiene	Self-Injurious Behavior	Other:



**Intervention Strategies that YOU Intend to Use Over the First 6 Months of Treatment with J.A.**

**Instructions:** CIRCLE each strategy you **intend TO USE** with this client in the next 6 months, and CROSS OUT each strategy you **DO NOT intend TO USE** in the next 6 months. Please make sure your answer is clearly marked. Refer to the information provided about J.A. in the “Hypothetical Case Scenario” section to guide your treatment intentions and respond as you would if this was your actual client. Please do not leave any item blank.

Remember, the treatment targets you are addressing include: **Aggression, Anger, Oppositional/Non-Compliant Behavior, and Willful Misconduct/Delinquency.**

Activity Scheduling	Emotional Processing	Line of Sight Supervision	Personal Safety Skills	Stimulus or Antecedent Control
Assertiveness Training	Exposure	Maintenance or Relapse Prevention	Physical Exercise	Supportive Listening
Attending	Eye Movement, Tapping	Marital Therapy	Play Therapy	Tangible Rewards
Behavioral Contracting	Family Engagement	Medication/ Pharmacotherapy	Problem Solving	Therapist Praise/Rewards
Biofeedback, Neurofeedback	Family Therapy	Mentoring	Psychoeducation, Child	Thought Field Therapy
Care Coordination	Free Association	Milieu Therapy	Psychoeducation, Parent	Time Out
Catharsis	Functional Analysis	Mindfulness	Relationship or Rapport Building	Twelve-Step Program
Cognitive	Goal Setting	Modeling	Relaxation	Other:
Commands	Guided Imagery	Motivational Interviewing	Response Cost	Other:
Communication Skills	Hypnosis	Natural and Logical Consequences	Response Prevention	Other:
Crisis Management	Ignoring/ Differential Reinforcement of Other Behavior	Parent Coping	Self-Monitoring	
Cultural Training	Individual Therapy for Caregiver	Parent/Teacher Monitoring	Self-Reward/ Self-Praise	
Discrete Trial Training	Insight Building	Parent/Teacher Praise	Skill Building	
Educational Support	Interpretation	Peer Pairing	Social Skills Training	

## **Appendix J: T-BIS Development: Preliminary Cognitive Interviewing Script used in 1<sup>st</sup> Pilot Test**

### **General Probes about Study**

- Do you have any questions or want anything clarified about this study?
- What are your thoughts about this study?

### **Instructions**

- Can you repeat the question in your own words?
- What does the word “intention” mean to you?
- What do you need to remember or think about in order to answer this question?
- What were your thoughts when you read the instructions? Was there anything that you were confused about?

### **Content of the Vignettes**

- What were your thoughts as you read the content of the description of the client?
- To what extent is the content of the vignette presented in an intuitive way?
- To what extent do you feel you have enough information to proceed with anticipating treatment techniques utilized in the next six months?
- What, if any, additional information would you need to answer the question? Or said another way, what types of information are missing that would help you to answer the question?
- Are there any other materials that you would need to answer the question?

### **Response Options**

- How did you arrive at your answer?
- Walk me through what you were thinking as you answered the question.
- What are your thoughts about the response format?
- What are your thoughts about the response scale used (i.e., 1, 0)?

### **General Questions about Measure**

- Are there items or aspects of the measure that are ambiguous or difficult to respond to? If so, which items? How would you improve them?
- Does the measure feel too repetitive? If so, which part(s) feel too repetitive?
- Does the measure feel too long? In what parts?
- Does the measure as a whole feel too superficial? If so, in what way(s)? Any specific sections (e.g., vignette content)? What would make it feel more realistic?
- Are there any annoying features of the wording or formatting?

### **Vulnerable Population**

- Would you consider individuals who consent to participate in this study vulnerable in any way? Vulnerable to what?

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