What Therapy Practices Do Providers Value in Youth Behavioral Health? A Measure Development Study

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Abstract

Existing measures of attitudes toward evidence-based practices (EBPs) assess attitudes toward manualized or research-based treatments. Providers of youth behavioral health (N = 282) completed the Valued Practices Inventory (VPI), a new measure of provider attitudes toward specific practices for youth that avoids mention of EBPs by listing specific therapies—some of which are drawn from EBPs (e.g., problem solving) and some of which are not included in EBPs (e.g., dream interpretation). Exploratory factor analysis revealed two factors: practices derived from the evidence base (PDEB) and alternative techniques (AT). The PDEB scale was significantly correlated with scales on the Evidence-Based Practice Attitude Scale-50 (Aarons et al. in Administration and Policy in Mental Health and Mental Health Services Research, 39(5): 331–340, 2012), whereas the AT scale was not. Attitudes toward PDEB and AT were also related to provider characteristics such as years of experience and work setting. The VPI offers a complementary approach to existing measures of attitudes because it avoids mention of EBPs, which may help prevent biases in responses.

Background

Theory and research suggest that one barrier to adoption of evidence-based practices (EBPs) in community settings is the attitudes direct service providers have toward EBPs.[1,2] Measurement of attitudes toward EBPs to date has almost exclusively focused on provider attitudes toward

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manualized treatments in general as opposed to *specific therapy practices*.[3,4] In addition, results from these studies have been mixed in terms of the correlation between attitudes and other implementation-related variables such as knowledge and use of EBPs.[5,6]

Indeed, some research has revealed that reported attitudes toward EBPs vary depending on which aspects of EBPs providers are asked about. For example, Borntrager et al. assessed provider attitudes toward EBPs without using words such as "manual" or "research-based treatments" in comparison to another measure of attitudes that included treatment manual verbiage.[7] Providers reported significantly more positive attitudes toward EBPs when the word treatment "manuals" or its synonyms were *not* used. Additional research on attitudes suggests that some providers appear to equate manuals with certain negative characteristics such as rigidity, poor match between treatment and client needs, and excess documentation burden.[1,3,7] Although the extant research on attitudes toward EBPs and individual provider characteristics has been mixed, research has found that (a) providers who are newer to the field have more favorable attitudes toward EBPs,[1,3] (b) providers with doctoral degrees have more favorable attitudes than providers with masters-level degrees,[6,8] (c) providers with a cognitive-behavioral theoretical orientation have positive EBP attitudes,[1,2,8] and (d) providers who work in organizations that supported their use of EBPs are more likely to have favorable EBP attitudes.[9] On the other hand, research to date has not found a consistent relationship between attitudes toward EBPs and the specific type of setting where providers work (when organizational support for EBPs is not taken into account)[2,6] nor between attitudes and professional discipline (i.e., clinical psychology, marriage and family therapy, social work).[4,10,11]

These conflicting findings in the literature may be due to important nuances in how provider attitudes are assessed. For instance, the terms EBPs, manualized treatments, and research-based therapies may carry negative connotations to some providers and thus may affect their responses on such general measures. Their responses may not be affected if they were simply asked to report on their attitudes toward a therapy *technique* without mention about whether the technique stems from the evidence-based or not. Further, asking providers about their attitudes toward specific techniques, rather than EBPs in general, may allow for the ability to detect variance in attitudes overall.

Importantly, measures to date have almost exclusively focused on providers' attitudes toward EBPs and have not measured attitudes toward therapies not found in the evidence-based literature and to common factors of therapy. Given that the modal theoretical orientation among behavioral health providers is eclectic[12] and given that there remains a large number of researchers and psychotherapists who strongly argue that the effective component among all therapies lies in the therapeutic relationship or alliance[13]—which relies on common relationship factors (e.g., empathy, positive regard)[14]—it is important to consider both providers' attitudes toward minimally supported therapies (i.e., therapies not specifically coded in the evidence-based literature, e.g., dream interpretation, free association) as well as attitudes toward factors common to all therapies (e.g., demonstrating empathy).

Two studies to date have examined provider attitudes toward specific therapy practices. On a measure developed to assess provider attitudes toward therapy practices for youth with disruptive behavior problems, Brookman-Frazee et al. found that providers valued both practices derived from the evidence-base (e.g., delivering positive reinforcement), as well as alternative techniques not found in the evidence-based literature (e.g., using play, art, stories).[10] In their sample, attitudes toward practices derived from the evidence-base did not vary by provider characteristics. Further, Reding et al. had a sample of community mental health service providers report on their attitudes toward EBPs in general and their attitudes toward specific EBPs (e.g., Trauma-Focused Cognitive Behavioral Therapy; Positive Parenting Program "Triple P") that were being implemented in their county.[8] They found that provider attitudes varied as a function of the treatment manual in which

they were trained. Their results also indicated that having a CBT orientation, a doctoral-level degree, and more clinical experience significantly predicted higher EBP-specific attitude scores.

Beyond the studies described above which assess attitudes toward practices for treatment of disruptive behavior and attitudes toward specific EBPs, there are no measures that assess provider attitudes toward specific techniques (as opposed to treatment manuals that typically include multiple techniques) for a variety of youth behavioral health problems. Some research exists for certain techniques, such as exposure for anxiety disorders[15]; however, no studies have systematically assessed attitudes toward discrete techniques covering common elements derived from EBPs. Given that individual provider attitudes have important implications for implementation outcome factors such as adoption and sustainability, use of a measure that identifies provider attitudes at the specific practice-level may help administrators target clinical training efforts on elements of EBPs. This could reduce time and funding spent on training clinicians in multiple EBP programs because training is targeted toward key specific practices as opposed to broader treatment protocols that include multiple practices—some of which may represent a duplication of existing provider values and competencies.

To address the measurement needs described above, this study describes the development of a measure of attitudes toward specific therapy practices for youth behavioral health problems, including techniques found in the evidence base, techniques with minimal evidence and techniques common to all therapies. The measure asks respondents to report on how much they value these techniques in their practice with youth. Youth populations were selected because the conceptual framework for the measure is based on the distillation and matching model (DMM), which proposes that the intervention literature can be empirically factored or distilled to reveal common practices.[16] The DMM was initially illustrated using the youth intervention literature. Two measures were subsequently developed based on the DMM that measure provider knowledge of evidence-based services for youth[17] and provider use of specific therapeutic practices.[18] The new measure described in this study complements the existing measures because it uses a similar metric (i.e., examining specific therapy practices) for assessing a related but different construct. The current study examined the initial psychometric properties of this measure including internal consistency, factor structure, relationship to another well-established measure of attitudes toward EBPs, and whether attitudes varied as a function of provider characteristics among a sample of direct service providers.

Method

Participants

A total of 340 providers of youth behavioral health services mailed in ($n = 96$; 28.2%) or completed an online survey ($n = 244$; 71.8%). Of these 340 participants, only those with 90% or more completed data were included. Of the 58 individuals who were excluded, 41 (71%) of them had all items missing (i.e., they did not complete the measure at all). The remaining 17 individuals (29%) of the excluded sample had 12 to 62 missing items. The missing data patterns among these excluded individuals were missing completely at random (MCAR; $\chi^2 = 57.611$, $df = 296$, $p = 1.00$, *ns*).

This left a final sample of 282 participants (78.7% female), ranging in age from 24 to 78 years ($m = 46.0$; $SD = 14.4$). Most participants identified as White (66.3%); other races included the following: 9.9% Asian, 5.3% Latino/a, 4.6% African-American, 1.8% Native Hawaiian/Pacific Islander, 1.8% Other, 8.2% Multiracial, and 2.1% did not report race. More than half of the participants reported that they worked in the western region of the USA ($n = 146$; 52%). The remaining participants worked in the south ($n = 59$; 21%), midwest ($n = 34$; 12%), or northeast ($n = 26$; 9%; $n = 17$; 6% either did not report their work location or provided an invalid zipcode).

Most participants had either a master's (59.6%) or doctoral (34.4%) degree (6% had a BA or lower or did not report their degree). Professional specialties were relatively evenly distributed among the helping fields: clinical (28.4%), marriage and family (20.2%), social work (17.4%), counseling (17.0%), and other (12.4%); 4.6% did not report their professional specialty. A majority of participants reported having a license to practice (77%). Participants reported working in the following settings: private practice (33.3%), community-based outpatient care (31.6%), school-based setting (18.1%), community-based out-of-home care (9.6%), or other setting (5.3%); 2.1% did not report work setting. The most common theoretical orientation was behavioral or cognitive-behavioral (54.2%), followed by humanistic/client-centered (14.9%), systems/family-systems (8.5%), eclectic/integrative (7.4%), psychodynamic (7.4%), and other (3.5%); 3.9% did not report a primary theoretical orientation.

Measures

Valued Practices Inventory The Valued Practices Inventory (VPI) is a self-report measure of provider attitudes toward specific therapy practices for youth. Providers are asked how much they value a list of different techniques when providing therapy to youth clients on a 4-point Likert scale (0 = not at all, 1 = some, 2 = a lot, 3 = very much). Each technique is identified and briefly defined (e.g., Activity Selection: identification of specific positive activities the youth can participate in outside of therapy to promote rewarding and enriching experiences; Analyze Transference: examining the unconscious redirection of a significant relationship on to the therapist and exploring the meaning of this relationship; Congruence and Genuineness: the relational quality of the therapeutic relationship is cultivated through authenticity and consciously communicating experience with the youth).

VPI measure development To identify techniques to include on the VPI, unique therapy strategies were conceptualized as belonging to one of three general categories: practices derived from the evidence-base (PDEB), common factors to all treatments (CF), and alternative techniques (AT) that have minimal empirical support. PDEB were identified via the PracticeWise Evidence-Based Services search engine (PWEBS; PracticeWise, LLC). PWEBS is a searchable data warehouse of over 700 papers of randomized controlled trials for child and adolescent youth mental health problems that have been carefully coded to identify efficacious treatments. In addition to providing summaries of treatment families across a five level rating system with levels 1 and 2 representing the strongest treatments, PWEBS also provides a list of the unique practice elements included in all of the coded treatment protocols. For instance, the Coping Cat for Child Anxiety treatment manual falls in the cognitive–behavioral treatment family and it includes practices such as psychoeducation, relaxation, problem solving, cognitive restructuring, and exposure among a number of other techniques.[19] Since all protocols in PWEBS are coded at the unique practice element level, it is possible to retrieve a frequency count of the times which unique practice elements are derived from evidence-based treatment protocols. Thus, in order to identify the most commonly occurring practice elements, a search of the top 10 most common techniques found in level 1 ("best support") and level 2 ("good support") treatments for youth anxiety, attention problems, autism spectrum, depression, disruptive behavior, substance use problems, and traumatic stress was completed. This resulted in 31 unique practice elements derived from the evidence base (some were repeated across problem areas, e.g., Activity Selection, Cognitive).

A number of approaches were used to identify alternative techniques including web searches, interviews with community providers, and a review of five different practice and knowledge measures: the Knowledge of Evidence Based Services Questionnaire,[17] the Monthly Treatment and Progress Summary,[18] the Specific Therapeutic Approaches Rating Scale,[20] the Therapeutic Strategies Survey,[10] and the Therapy Procedures Checklist.[21] This review produced 45 therapy strategies—some which overlapped with one another. In order to create a list of unique alternative techniques, the initial list of 45 practices was collapsed based on common themes. Two research assistants and a PhD level clinical child researcher coded these items into larger categories (e.g., Acupuncture, Energy Processing, Reiki, SHEN therapy were collapsed into "Mind–Body Harmony"; Dolphin-Assisted Therapy and Equine Therapy were collapsed into "Animal-Assisted Therapy"). Additionally, therapies that showed up in more than 10% of level 1 or level 2 protocols in PWEBS (e.g., Insight Building) were highly specific to one problem area (e.g., Feingold Diet for ADHD) or were deemed harmful (e.g., Facilitated Communication, Rebirthing Therapy) were removed from the list. This resulted in 15 unique alternative techniques (e.g., Analyze Transference, Catharsis).

Finally, the APA Task Force on Empirically Supported Therapy Relationships and a meta-analysis of evidence-based therapy relationships were consulted in order to identify factors common to all therapies.[22,23] Several practices were redundant with one another or focused on the format of the therapy (e.g., Group Cohesion) so they were not included in the final list of seven unique practices that facilitate effective therapy relationships (e.g., Congruence and Genuineness, Demonstrating Empathy).

Throughout the development process, four PhD-level clinical child treatment outcome researchers provided feedback on item selection, wording of items, and definition of practices. In addition, a team of seven research assistants helped with coding and pilot testing the items. The psychometrics for the VPI is presented in "Results."

Evidence-Based Practice Attitude Scale-50[1] The EBPAS-50 is a self-report measure of provider attitudes toward adopting evidence-based practices. Items are measured on a 5-point Likert scale (0 = not at all to 4 = to a very great extent). The original EBPAS had 15 items, which has demonstrated good internal consistency (α range 0.66 to 0.93) and a four factor structure: Appeal, Requirements, Openness, and Divergence.[4,24] Aarons and colleagues generated new items to add to the existing 15 items, which were then subjected to an exploratory factor analysis resulting in 35 new items and eight new factors: Limitations, Fit, Monitoring, Balance, Burden, Job Security, Organizational Support, and Feedback. The eight new factors correlated moderately with the four old factors suggesting the 12 factors are distinct dimensions.[3] Cronbach's alphas for the eight new scales ranged from 0.77 to 0.92. Cronbach's Alpha for the Total EBPAS-50 in the current sample was 0.93 and scores for the 12 scales ranged from 0.63 ("Balance") to 0.96 ("Job Security"). With the exception of the Balance subscale, all other subscales had a Cronbach's alpha of 0.76 or higher.

Procedure

All participants in the study completed the VPI either online or via postal mail ($N = 340$). Providers ($n = 96$) who completed hard copies of the survey were identified through three national practice organizations: the American Association for Marriage and Family Therapy, the American Mental Health Counselors Association, and the National Association of Social Workers. A total of 600 surveys were sent to these individuals; 200 from each organization (15.5% response rate). In the mailed survey packet, an informed consent form was included that explained the full purpose of the study, that they were eligible to participate if they provide behavioral health services to youth,

that participation was voluntary, and that return of the packet meant that the individual agreed to participate.

Announcements about the online survey were made on local and national practice listservs and by personal e-mail, which provided a link to the survey. The survey was hosted by Qualtrics, a web-based platform that offers Transport Layer Security (TLS) encryption (HTTPS). In the online version of the survey, participants ($n = 244$) first viewed a webpage that provided an explanation of the purpose of the voluntary study, that they were eligible to participate if they provide behavioral health services to youth, and that advancing to the next screen meant that the individual agreed to participate.

The first 224 participants (66% of the final sample; $n = 34$ mail-in; $n = 190$ online) completed the EBPAS-50 in addition to the VPI. Once we had a sufficient sample to complete validity analyses, additional participants ($n = 116$; 34% of the final sample; $n = 62$ mail-in; $n = 54$ online) were only asked to complete the VPI in order to recruit a large enough sample for the factor analysis. All participants were given the opportunity to receive a $5 giftcard if they provided the researchers with their contact information (giftcards were mailed via USPS mail). Responses on the survey were separated from contact information for the giftcards so that participants could remain completely anonymous.

Data-analytic plan

Missing data A total of 228 participants (80.9%) had no missing data; 40 participants (14.2%) had one missing item, 10 (3.5%) had two missing items, one (0.4%) had three missing items, one (0.4%) had four missing items, and two (0.7%) had five missing items. Based on Little's test of missingness, the missing data patterns were missing completely at random, χ^2 (2705) = 2875.22, *ns*.[25]

Exploratory factor analysis Exploratory factor analysis (EFA) using Mplus version 7.11 was employed to examine the factor structure underlying the VPI data.[26] Since the VPI data were ordinal in nature, data were treated as categorical and matrices based on polychoric correlations were computed.[27] The robust weighted least-squares with mean and variance adjustment (WLSMV) estimator was also used, which is recommended when data are ordinal.[28] When the WLSMV estimator is used, all available information is used to estimate the model through pairwise (present) correlations.

Multiple criteria to determine the number of factors underlying the VPI were used. First, a number of fit indices of each model were examined to identify how well each model fit the data. Comparative Fit Index (CFI) values greater than 0.90 and 0.95 were used as benchmarks for acceptable and good fit, respectively.[29] Root Mean Square Error of Approximation (RMSEA) values less than 0.08 and 0.05 were used as benchmarks for acceptable and good fit, respectively.[30] Eingenvalues of any well-fitting models were also subsequently evaluated. In particular, the scree plot and the point at which the eingenvalues begin to "level-off" was used as an indicator of the number of underlying factors.[31] Third, interpretability of the factor structures based on the item content of each factor as well as the correlation between factors was considered. Each latent factor also had to have at least three items with significant factor loadings. Items that cross-loaded (i.e., loaded significantly on more than one factor) were discarded (i.e., factor loadings > 0.32).[32]

Reliability and validity Reliability of the resulting items was examined via internal consistency. A general cutoff score of 0.70 was used in determining acceptable reliability.[33] Correlations between

the subscales of the final model and the EBPAS-50 scale scores were also examined. It was predicted that attitudes toward PDEB would correlate positively with the total score as well as the Requirements, Appeal, Openness, Fit, Job Security, Organizational Support, and Feedback scales. Additionally, it was predicted that attitudes toward PDEB would not correlate with scales on the EBPAS-50 that capture negative beliefs about EBPs (Divergence, Limitations, Monitoring, Balance, and Burden). Specific predictions about provider attitudes toward alternative techniques and the relationship to the EBPAS-50 were not made given that this is the first time attitudes toward alternative strategies has been assessed.

Provider characteristics The relationship between provider attitudes on the VPI and individual background characteristics was examined via Pearson correlation coefficients for dimensional variables and via *t* tests and ANOVAs for categorical variables. Based on prior research, it was predicted that (a) there would be an inverse relationship between attitudes toward PDEB and years of clinical experience, (b) providers with doctoral degrees would have more favorable attitudes toward PDEB than providers with masters-level degrees, and (c) providers with a cognitive–behavioral theoretical orientation would demonstrate more positive views toward PDEBs than providers with other theoretical orientations. Given the mixed findings in the literature regarding organizational setting and professional discipline, specific predictions were not made. Furthermore, given that attitudes toward alternative techniques have not been examined in the literature to date, specific predications about provider characteristics and attitudes toward alternative strategies were withheld as well.

Results

Exploratory factor analysis

One-factor model The one-factor model was associated with poor model fit and was thus not considered further (i.e., CFI = 0.64; RMSEA = 0.092 [90% confidence interval 0.089–0.094]).

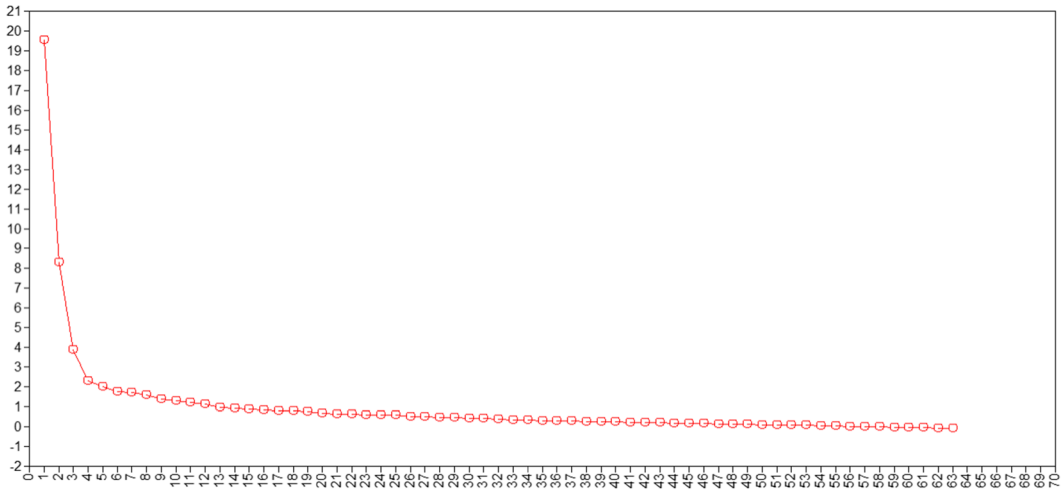
Two-factor model The two-factor model was associated with moderate model fit (i.e., CFI = 0.86; RMSEA = 0.059 [90% confidence interval 0.056–0.062]). The correlation between factors was $r = .29$ ($p < .05$).

Three-factor model The three-factor model was associated with good model fit (i.e., CFI = 0.90; RMSEA = 0.049 [90% confidence interval 0.046–0.052]). However, two of the three-factor correlations were not significantly correlated. Specifically, the correlation between the three factors was as follows: factors 1 and 2 $r = 0.20$ ($p < .05$); factors 1 and 3 $r = .06$ (*ns*); and factors 2 and 3 $r = .12$ (*ns*).

Eigenvalues The eigenvalues are plotted visually in a scree plot as shown in Figure 1. The scree plot pattern suggests that approximately three factors underlie the data. Specifically, the scree plot begins to level off after the first three eigenvalues.

Overall, based on eigenvalues, screen plot, theory, and item-factor (and inter-factor) relations, results best supported either a two-factor or three-factor model. The two-factor model, however, had somewhat more support (such as due to the three-factor model not having correlated factors). Based on the item-factor content, this two-factor model corresponded to the practices

Figure 1
Scree plot



derived from the evidence-base and alternative techniques described earlier. The factor loadings and standard errors associated with this two-factor model are seen in Table 1.

Four items were additionally dropped due to significant cross-loading: item #41 (Personal Safety), item #25 (Family Therapy), item #59 (Therapeutic Alliance), and item #16 (Demonstrating Empathy).

Final model The final 59-item two-factor model was associated with acceptable fit (i.e., RMSEA = 0.057; CFI = 0.874), and the two factors were significantly correlated ($r = .28$; $p < .05$). The factor loadings and standard errors associated with the final two-factor model are shown in Table 2.

Reliability and validity

The PDEB and AT subscales demonstrated acceptable internal consistency ($\alpha = 0.93$ and 0.92, respectively). As predicted, the PDEB scale was significantly positively correlated with the Total EBPAS-50 ($r = .613$, $p < .01$) and with all seven of the EBPAS-50 scales that reflect a positive belief about EBPs ($rs = 0.407$ to 0.620, $p < .01$; see Table 3). Additionally, as predicted, attitudes toward PDEB were not correlated with four of the five scales on the EBPAS-50 that capture negative attitudes toward EBPs. Interestingly, the Burden scale of the EBPAS-50, which captures time and administrative burden associated with learning EBPs, was significantly positively correlated with the PDEB scale ($r = .194$, $p < .05$).

The AT scale was not correlated with the Total EBPAS-50 nor was it correlated with seven of the eight EBPAS-50 scales measuring positive attitudes. Significant positive correlations between four

Table 1

Exploratory factory analysis factor loadings and standard errors based on the tested model

Item #	Technique	F1: PDEB	SE1	F2: AT	SE2
58	Tangible Rewards	0.841	0.031		
45	Praise	0.829	0.034		
37	Monitoring	0.816	0.031		
10	Commands	0.804	0.033		
46	Problem Solving	0.803	0.037		
47	Psychoeducation—Caregiver	0.776	0.034		
17	Differential Reinforcement of Other Behaviors	0.768	0.039		
52	Self-Monitoring	0.737	0.034		
57	Stimulus Control or Antecedent Management	0.730	0.036		
53	Self-Reward/Self-Praise	0.696	0.041		
28	Goal Setting	0.692	0.032		
36	Modeling	0.692	0.041		
24	Family Engagement	0.683	0.042		
48	Psychoeducation—Child	0.683	0.04		
54	Social Skills Training	0.682	0.041		
27	Goal Consensus and Collaboration	0.666	0.042		
62	Time Out	0.656	0.04		
38	Monitoring Feedback and Outcomes	0.635	0.041		
60	Therapist Praise/Rewards	0.630	0.045		
23	Exposure	0.608	0.039		
50	Relaxation	0.608	0.052		
11	Communication Skills	0.607	0.052		
09	Cognitive	0.602	0.05		
49	Relationship/Rapport Building	0.600	0.058		
33	Maintenance/Relapse Prevention	0.594	0.044		
18	Discrete Trial Training	0.593	0.043		
39	Motivational Enhancement	0.559	0.045		
31	Identify and Utilize Strengths	0.536	0.066		
41	Personal Safety Skills	*0.535*	*0.049*	*0.371*	*0.051*
01	Activity Selection	0.471	0.057		
05	Assertiveness Training	0.462	0.058		
07	Case Management/Care Coordination	0.454	0.054		
25	Family Therapy	*0.454*	*0.052*	*0.372*	*0.051*
59	Therapeutic Alliance	*0.431*	*0.067*	*0.323*	*0.063*
16	Demonstrating Empathy	*0.361*	*0.081*	*0.327*	*0.076*
19	Dream Interpretation			0.817	0.038
20	Ego Functioning			0.804	0.037
15	Defense Mechanism Analysis			0.791	0.034
30	Hypnosis			0.729	0.052
26	Free Association			0.726	0.041
63	Wilderness or Outdoor Therapy			0.718	0.043
22	Explore Early Experiences			0.704	0.042
35	Mind–Body Harmony			0.685	0.042
02	Analyze Transference			0.678	0.043
55	Special Diet			0.674	0.045

Table 1
(continued)

Item #	Technique	F1: PDEB	SE1	F2: AT	SE2
08	Catharsis			0.667	0.042
56	Spiritual Healing			0.657	0.045
34	Management of Countertransference			0.658	0.043
29	Herbal, Plant, Vitamin Suppl., Homeopathy			0.657	0.046
40	Narrative			0.638	0.045
32	Interpretation			0.637	0.043
51	Resolve Developmental Struggles			0.607	0.047
04	Art or Music Therapy			0.582	0.047
43	Play Therapy			0.568	0.048
03	Animal-Assisted Therapy			0.523	0.053
12	Confrontation			0.517	0.053
13	Congruence and Genuineness			0.517	0.057
21	Emotional Processing			0.496	0.054
42	Physical Exercise and Yoga			0.442	0.054
14	Cultural Training or Intervention			0.440	0.052
44	Positive Regard and Affirmation			0.430	0.071
06	Biofeedback/Neurofeedback			0.355	0.063
61	Therapist Self-Disclosure			0.311	0.063

All factor loadings < 0.32 are suppressed. Cross-loading items to be removed appear in italics
PDEB practices derived from the evidence base, *AT* alternative techniques

of the five EBPAS-50 scales that assess negative beliefs about EBPs and the AT scale emerged ($rs = 0.184$ to 0.304, $p < .05$). The Monitoring scale, which captures negative perceptions of oversight by supervisors associated with EBPs, was not significantly correlated with the AT scale, whereas the Appeal scale, which measures the degree to which the provider would adopt a new practice if it is intuitively appealing, was significantly correlated with the AT scale ($r = 0.206$, $p < .01$).

Provider characteristics

Consistent with predictions, the PDEB scale was significantly negatively correlated with years of clinical experience ($r = -0.395$, $p < .01$) but was not related to years of formal graduate training. The AT scale was not related to years of clinical experience nor was it related to years of graduate training. Contrary to predictions, there were no differences in scores on the PDEB scale based on level of highest degree earned. On the other hand, providers with master's degrees scored significantly higher on the AT scale than providers with doctoral degrees (see Table 4). Providers with a license to practice had significantly lower PDEB scores than those without a license to practice; however, there was no difference in AT scores based on license status. There were no differences in PDEB scores based on professional specialty area; however, there were differences between professional specialty areas on the AT scale. Providers with a background in Counseling, Marriage and Family Therapy, and Social Work reported more favorable attitudes toward alternative techniques than providers trained in Clinical Psychology

Table 2

Exploratory factory analysis factor loadings and standard errors based on the final model

Item #	Technique	F1: PDEB	SE1	F2: AT	SE2
58	Tangible Rewards	0.842	0.029		
45	Praise	0.828	0.033		
37	Monitoring	0.815	0.03		
10	Commands	0.804	0.032		
46	Problem Solving	0.800	0.036		
47	Psychoeducation—Caregiver	0.774	0.034		
17	Differential Reinforcement of Other Behaviors	0.769	0.037		
52	Self-Monitoring	0.736	0.033		
57	Stimulus Control or Antecedent Management	0.729	0.035		
53	Self-Reward/Self-Praise	0.693	0.041		
28	Goal Setting	0.692	0.032		
36	Modeling	0.687	0.04		
24	Family Engagement	0.681	0.04		
48	Psychoeducation—Child	0.681	0.041		
54	Social Skills Training	0.662	0.042		
27	Goal Consensus and Collaboration	0.658	0.039		
62	Time Out	0.654	0.042		
38	Monitoring Feedback and Outcomes	0.635	0.041		
60	Therapist Praise/Rewards	0.624	0.046		
23	Exposure	0.608	0.051		
50	Relaxation	0.606	0.04		
11	Communication Skills	0.604	0.052		
09	Cognitive	0.599	0.05		
49	Relationship/Rapport Building	0.595	0.043		
33	Maintenance/Relapse Prevention	0.586	0.045		
18	Discrete Trial Training	0.586	0.057		
39	Motivational Enhancement	0.552	0.045		
31	Identify and Utilize Strengths	0.528	0.064		
01	Activity Selection	0.473	0.057		
05	Assertiveness Training	0.457	0.058		
07	Case Management/Care Coordination	0.450	0.054		
19	Dream Interpretation			0.820	0.037
44	Positive Regard and Affirmation			0.802	0.036
15	Defense Mechanism Analysis			0.794	0.033
26	Free Association			0.734	0.04
30	Hypnosis			0.734	0.052
63	Wilderness or Outdoor Therapy			0.726	0.042
51	Resolve Developmental Struggles			0.701	0.041
35	Mind–Body Harmony			0.688	0.042
02	Analyze Transference			0.681	0.042
43	Play Therapy			0.678	0.044
08	Catharsis			0.671	0.041
29	Herbal, Plant, Vitamin Suppl., Homeopathy			0.664	0.046
56	Spiritual Healing			0.663	0.045
34	Management of Countertransference			0.656	0.042

Table 2
(continued)

Item #	Technique	F1: PDEB	SE1	F2: AT	SE2
32	Interpretation			0.641	0.042
40	Narrative			0.639	0.044
22	Explore Early Experiences			0.610	0.045
04	Art or Music Therapy			0.589	0.046
55	Special Diet			0.572	0.047
03	Animal-Assisted Therapy			0.529	0.052
12	Confrontation			0.519	0.052
21	Emotional Processing			0.498	0.053
13	Congruence and Genuineness			0.495	0.057
42	Physical Exercise and Yoga			0.451	0.052
20	Ego Functioning			0.444	0.05
14	Cultural Training or Intervention			0.415	0.069
06	Biofeedback/Neurofeedback			0.364	0.063
61	Therapist Self-Disclosure			0.319	0.063

All factor loadings < 0.32 are suppressed
PDEB practices derived from the evidence base, *AT* alternative techniques

or in Other fields. As predicted, providers who reported a primary behavioral or cognitive behavioral theoretical orientation had significantly higher PDEB scores and significantly lower AT scores than providers who reported another primary theoretical orientation. Providers working in private practice reported significantly less favorable attitudes toward PDEBs than providers working in community outpatient, out-of-home, and school-based settings. There were no differences in scores on the AT scale based on clinical work setting.

Table 3
PDEB and AT correlations with scales on the EBPAS-50

EBPAS-50 scales	PDEB	AT
EBPAS-50 total	*0.613***	0.090
Requirements	*0.407***	− 0.034
Appeal	*0.461***	*0.206***
Openness	*0.620***	0.087
Divergence	− 0.113	*0.240***
Limitations	0.003	*0.187**
Fit	*0.437***	0.126
Monitoring	− 0.107	0.053
Balance	0.058	*0.304***
Burden	*0.194**	*0.184**
Job security	*0.592***	0.010
Organization support	*0.543***	− 0.060
Feedback	*0.476***	0.081

PDEB practices derived from the evidence base, *AT* alternative techniques; *EBPAS-50* Evidence-Based Practice Attitude Scale[3]
*$p < .05$; **$p < .01$

Table 4
Provider characteristics on the PDEB and AT scales

Characteristic		PDEB		AT	
	N	Mean (SD)	*p*	Mean (SD)	*p*
Highest degree					
Bachelor's degree	7	77.26 (6.28)	*n.s.*	31.35 (17.51)	.000
Master's degree	168	62.07 (17.17)		34.42 (13.98)a	
Doctoral degree	97	61.47 (17.20)		26.11 (12.65)b	
License status					
Licensed	217	59.46 (16.95)	.000	31.02 (13.13)	.188
Not licensed	61	72.17 (13.71)		33.72 (17.20)	
Professional specialty					
Clinical psychology	80	64.43 (17.89)	*n.s.*	27.53 (14.01)a	.000
Counseling	48	62.75 (16.87)		37.09 (15.08)b	
Marriage and family	57	61.07 (17.05)		34.11 (14.47)b	
Social work	49	64.69 (14.85)		36.64 (11.96)b	
Other	35	56.16 (18.19)		22.47 (9.20)a	
Theoretical orientation					
Cognitive behavioral	153	66.56 (15.46)	.000	28.61 (14.58)	.000
All others	118	56.89 (17.94)		35.13 (12.57)	
Clinical setting					
Community outpatient	89	69.07 (13.87)a	.000	32.60 (15.62)	*n.s.*
Community out-of-home	27	68.69 (13.28)a		38.15 (17.58)	
Private practice	94	53.06 (16.91)b		30.63 (11.18)	
School-based	51	65.19 (16.37)a		28.97 (15.07)	
Other	15	60.27 (19.10)ab		29.63 (8.70)	

Differing lowercase letters indicate a significant pairwise mean difference at a 95% confidence interval. *p* values represent the results of the omnibus test examining differences across all categories
PDEB practices derived from the evidence base, *AT* alternative techniques

Discussion

Initial psychometric support for the Valued Practices Inventory (VPI), a measure of provider attitudes toward specific therapeutic elements—some of which are derived from the evidence-base and some of which reflect alternative techniques that are not drawn from the evidence-base—was established. Exploratory factor analysis (EFA) of the VPI supported a two-factor structure (practices derived from the evidence base [PDEB] and alternative techniques [AT]) after four items that loaded on both factors were removed. These scales demonstrated acceptable internal consistency. The EFA further suggested that items tapping factors common to all treatments did not hold together on their own factor. Some of these practices cross-loaded and were thus removed from the subsequent EFA (Demonstrating Empathy, Therapeutic Alliance). Additionally, two items loaded on the PDEB factor (Goal Consensus and Collaboration, Monitoring Feedback and Outcomes). One interpretation of these findings is that providers who value EBPs also value some of the common factors on the VPI because research has shown that these common factors are related to positive youth outcomes. For instance, in a meta-analysis of therapeutic relationship variables in youth and family therapy, therapist interpersonal skills (which included assessment of the ability to Demonstrate Empathy), and a strong Therapeutic Alliance were positively related to

therapy process variables (i.e., treatment attendance, treatment engagement) and youth outcomes.[23] In addition, the common factor of Goal Consensus and Collaboration is very similar to the Goal Setting practice (which loaded on the PDEB factor) and therapeutic collaboration is a common strategy discussed in cognitive and behavioral therapies.[34,35] Moreover, the practice of Monitoring Feedback and Outcomes is now considered an evidence-based strategy[36] even though it may not have been specifically coded for in the evidence-based literature we utilized for our initial measure development. On the other hand, three of the common factors loaded on the AT factor (Positive Regard and Affirmation, Management of Countertransference, and Congruence and Genuineness). Interestingly, these three common factors were identified as "promising and probably effective" by the Division 29 Task Force on empirically supported therapy relationships, whereas those which loaded on the PDEB factor or cross-loaded on the PDEB and AT factors (Therapeutic Alliance, Empathy, and Goal Consensus and Collaboration) were identified as "demonstrably effective" suggesting that there is more evidence for the latter factors than the former ones which loaded on the AT factor.[22]

There were two practices that loaded on the PDEB scale that were not identified as derived from the evidence base (Identifying and Utilizing Strengths, Case Management/Coordination). One interpretation of this finding is that these elements could be classified as consistent with factors common to youth therapy, regardless of the coded evidence based literature and thus they behaved as some of the other common factor items behaved. Additionally, three practices that were initially identified as derived from the evidence base unexpectedly loaded on the AT scale (Biofeedback/Neurofeedback, Emotional Processing and Narrative). Biofeedback and Emotional Processing do show up in the evidence-based literature for attentional problems and traumatic stress, respectively; however, they show up relatively infrequently compared with other practices on the VPI measure (i.e., Biofeedback is in 18% of level 2 protocols for attention and Emotional Processing is in 14% of level 2 protocols for traumatic stress, PracticeWise, LLC). It is possible that participants were less familiar with these very specific techniques. On the other hand, Narrative (defined as "Development and review of narrative/story about youth's life events to deepen processing and construct meaning" on the VPI) shows up in 61% of level 2 protocols for traumatic stress and is one of the top five most frequent elements coded in the evidence-based literature for this problem area. Despite this practice being very consistent theoretically with exposure, it is possible that participants read the description of the practice and misinterpreted the definition to suggest a focus on processing past life events such as recall of early memories, which is more consistent with psychoanalytic approaches, instead of the "trauma narrative" which is reprocessing traumatic events and common in EBPs for traumatic stress such as Trauma-Focused Cognitive Behavioral Therapy.[37]

The PDEB scale was significantly correlated with the total score of the EBPAS-50, a well-established measure of attitudes toward EBPs.[3] The PDEB scale was also correlated with EBPAS-50 subscales reflecting positive attitudes toward EBPs and was not related to scales that capture negative attitudes toward EBPs. Additionally, as expected, the AT scale of the VPI was not correlated with the EBPAS-50 total score, it was not correlated with most of the EBPAS-50 subscales measuring positive attitudes toward EBPs, and it demonstrated positive correlations with most of the subscales on the EBPAS-50 that measure negative beliefs about EBPs. These results suggest that the PDEB and AT subscales may be valid measures of provider positive (PDEB) and negative (AT) attitudes toward EBPs.

Importantly, the Burden scale of the EBPAS unexpectedly correlated with the PDEB, suggesting that providers who report positive attitudes toward EBPs also find them to have a higher associated burden than non-evidence based practices in general. It is possible that the structure and tools that frequently accompany evidence-based techniques, such as specific session agendas and/or progress monitoring tools and evidence-based assessment measures, may explain this finding given that additional time and effort is needed to implement EBPs, as opposed to techniques that do not include these elements. Similarly, the Appeal scale of the EBPAS was positively correlated with the

AT scale of the VPI, which further supports the above hypothesis regarding burden. Techniques that involve less structural preparation may be viewed as more appealing than those that do, given the demands on most behavioral health providers' time and given the influences of managed care. Despite these findings, however, the majority of scale relationships were in the direction that was expected.

The scales of the VPI also demonstrated differences between provider background characteristics. Consistent with prior research,[1,3] providers with less clinical experience demonstrated more favorable attitudes toward practices derived from the evidence base. Additionally, perhaps related to having fewer years of clinical experience, providers without a license to practice showed more favorable attitudes toward PDEB than providers with a license to practice. Although these findings are consistent with some prior research, there are other studies where no relationship emerged between experience and attitudes.[2,6,10] Interestingly, providers working in primarily community- and school-based settings demonstrated significantly higher PDEB scores than providers working in private practice settings. It is possible as a result of a focus on implementation of EBPs in publicly funded behavioral health care over the last decade,[38,39] attitudes have shifted in these settings such that in these organizations support for adoption of EBPs is greater than it is for providers working in private practice who are more isolated and are less exposed to EBPs. Also consistent with past research,[1,2,8] providers with a cognitive behavioral theoretical orientation demonstrated more favorable attitudes toward PDEB and less favorable attitudes toward alternative techniques. It is possible that theoretical orientation and attitudes toward both PDEB and alternative techniques are shaped by the type of degree program providers attend. Indeed, in this sample, providers with doctoral degrees and degrees in clinical psychology had less favorable attitudes toward alternative techniques than providers with master's degrees and providers who had degrees in counseling, marriage and family therapy, and social work.

There are excellent existing measures of provider attitudes toward EBPs and manualized treatments; however, the Valued Practices Inventory is the first measure that allows users to evaluate attitudes toward *specific practices* (without EBP or manualized treatment verbiage). One benefit of such an assessment tool is the ability to measure provider beliefs without influencing their responses by using words such as "evidence-based practice," "manualized treatments," or "empirical/research-based treatments," which could potentially bias responding (e.g., faking good) or lead to inflated negative attitudes associated with specific terms. It is important to note that in order for an evidence-based treatment to be defined as such, it must have a manualized protocol according to guiding rating systems such as those set forth by the APA Task Force. Thus, users of the VPI might consider using it in combination with existing well-established measures of attitudes toward EBPs which include reference to manuals so that the unique contribution of provider attitudes toward manuals can be assessed. Another benefit of the VPI is that it may help implementation administrators to assess provider attitudes at pre-implementation, similar to how they might assess baseline knowledge to identify specific practices that providers may be more/less comfortable with. By having this information, training and implementation frameworks can be customized to enhance adoption and sustainability. A third advantage of using the VPI to measure provider attitudes toward specific therapy practices is that it parallels existing knowledge and practice measures[17,18] and is consistent with a common elements approach to EBPs.[16,40]

Given the practical advantages of what the VPI may be used to predict, it also fits well within the recent call for pragmatic measures.[41,42] In order for measures such as the VPI to be useful within an implementation context, they must possess pragmatic characteristics and have utility to administrators and implementers who might use them. The VPI is an advancement in the area of attitude measurement such that the potential for the VPI to identify specific training and programmatic needs may be most pragmatic in implementation contexts, compared to other attitude

measures. However, the VPI will also need to be evaluated in future research for additional pragmatic qualities such as how its length compares to other attitude measures.

A study such as this is not without limitations. First, the participation rate (via mail) was relatively low and it is unknown how many potential participants received the online invitation to participate but decided not to participate. Thus, the sample of participants in this study may not represent the average provider. Second, given limits in reaching targeted providers via e-mail and listservs produced fewer participants than desired, a paper mailing of the instruments was added midway through the study. This design change allowed for a larger sample size but it is possible that it introduced additional variance in the sample. Third, this study did not examine test–retest reliability nor sensitivity to change with training interventions. Fourth, given that the evidence-based literature will evolve over time, the specific practices included on this measure may need to be updated over time. That is, the practices that are considered on the AT scale may be further researched and could eventually move into the PDEB category, creating the need for updating the measure. Similarly, techniques on the PDEB scale may become less established over time, or simply new techniques will likely find their way into the evidence base and would not be represented on the VPI unless the measure was revised. Fifth, the descriptions of the practices on the measure are brief and there was not an "I don't know" or "I am not familiar with this practice" option on the measure when participants completed the survey. Similarly, providers were asked to rate how much they value the practices on the measure but were not given any additional guidance about what was meant by the word "value." It may be worthwhile for future users of the measure to consider adding an "I am not familiar with this practice" response option as well as providing a brief definition of the word value.

Implications for Behavioral Health

In conclusion, this study provides preliminary psychometric support for the Valued Practices Inventory including internal consistency, structural validity, convergence with another measure of provider attitudes toward EBPs, and variation by provider characteristics. Examining provider attitudes toward specific practices offers behavioral health administrators, policymakers, clinical directors, researchers, and anyone involved with EBP implementation an additional way to measure provider attitudes that may allow for a more nuanced assessment than existing measures offer. The utility of assessing provider attitudes toward specific therapeutic practices may not only contribute to more tailored training efforts but may also aid in understanding barriers to implementation that are more refined. Specifically, the results point to providers' attitudes toward practices that are generally favorable of the science supporting EBPs but are realistically less positive toward the additional burden that some EBPs may include and which AT may not include. That said, by training to a more modular framework for implementing EBPs, agencies may be in a position to address the pressures of managed care requirements (e.g., including progress monitoring with specific therapy practices) while avoiding the potential barriers that negative attitudes toward treatment packages sometimes present.

Compliance with Ethical Standards

Conflict of Interest The authors declare that they have no conflict of interest.

Ethical Approval All procedures performed in this study were in accordance with the ethical standards of the University of Hawai'i Institutional Review Board and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed Consent Informed consent was obtained from all individual participants included in the study.

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