The Pediatric Accommodation Scale: Psychometric Evaluation of a Therapist-Report Format

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Abstract

Anxiety disorders are the most common mental health problem in youth, and accommodation is prevalent among youth with anxiety disorders. The Pediatric Accommodation Scale (PAS) is an interview administered by trained evaluators and a parent-report form (PAS-PR) to assess accommodation and its impact. Both have strong psychometric properties including internal consistency, inter-rater reliability, and data supporting construct validity. The present study evaluates the Pediatric Accommodation Scale – Therapist Report (PAS-TR), a therapist-reported version of the PAS-PR. Participants were 90 youth enrolled in cognitive behavioral therapy for anxiety. Therapists completed the PAS-TR over 16 therapy sessions. Internal consistency at baseline, convergent validity, divergent validity, and parent-therapist agreement were evaluated. Results suggest that the PAS-TR has mixed psychometric qualities suggesting that while not strong prior to the initiation of treatment, the PAS-TR may be a useful measure for therapists to rate accommodation as treatment progresses. Implications for assessment, treatment, and research are discussed.

Keywords Youth · Youth Anxiety · Accommodation · Psychometrics

Anxiety disorders are the most common mental health problem in childhood and adolescence, with lifetime prevalence rates ranging from 10 to 30% [1–3]. Anxiety disorders in youth are associated with impairment in academic performance, social functioning, and family relationships [4–7]. Furthermore, anxiety disorders in youth are associated with future mental health problems, such as depression [8], other anxiety disorders, substance abuse problems, and suicidal ideation in adulthood [9–11]. Although cognitive behavior therapy (CBT) has been found to be an efficacious treatment for anxiety disorders in youth, many clients remain

symptomatic even after treatment [7]. Thus, it is important to identify factors that can contribute to successful treatment outcomes in order to mitigate the negative sequalae of anxiety disorders.

One factor that consistently has been shown to be associated with less favorable treatment outcomes is accommodation [12]. In the context of anxiety disorders, accommodation describes ways in which family members modify their behavior in an effort to diminish, alleviate, or avoid youth distress caused by a disorder [13]. These avoidance behaviors temporarily reduce the youth's anxiety; thus, the avoidance and accommodation are negatively reinforced. In turn, this increases the likelihood that these symptoms will occur in the future and, unfortunately, maintains the anxiety. Accommodation by parents and caregivers may include actions such as providing excessive reassurance about a child's fears, modifying family routines or schedules in response to a child's anxiety, or engaging in or facilitating safety behaviors [14, 15]. Accommodation has also been linked to increased anxiety symptom severity, functional impairment, and caregiver burden (for a review see: 17, 18). Multiple studies have found that accommodation occurs in nearly all families with a child or adolescent

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Table 1 PAS-PR Items

Item Number	Prompt
1a	In the past week how often did you or other family members reassure your child about their fears? Examples of this include: 1) Telling your child "It's ok" when they have a worry 2) Giving your child information about a worry (such as telling them what will happen next) 3) Answering your child's questions about a worry
1b	In the past week how much has needing reassurance from family members gotten in the way of things for your child, like at school, spending time with friends, or family life?
2a	In the past week, how often did you or other family members help your child to avoid things or situations that might make them more anxious? Examples of this include: 1) Keeping your child home from activities or arranging activities at your house because of worries (parties, sleepovers, group events such as sports) 2) Letting them stay home from school or go late because of worries 3) Staying with your child so they won't be nervous without you
2b	In the past week when you have helped them avoid things that make them anxious, how much has that gotten in the way of things for your child, like at school, spending time with friends, or family life?
3a	In the past week, how often have you changed your/your family's routine in any way to reduce your child's anxiety? Examples of this include: 1) Going to work late/missing work to take your child to school or be with your child 2) Family members completing tasks for your child because of worries 3) Getting up early/going to bed late to spend time with your child because of worries 4) Arranging special rides for your child because of worries 5) Staying home instead of going out (for errands or social events) because your child may get worried
3b	In the past week how much has changing the family routine gotten in the way of things for you or your family, like in your family life, at work, with your friends, or your spouse?
4a	In the past week, how often did you or your family become upset or stressed when you helped your child with anxiety in ways mentioned above, such as providing reassurance or helping your child avoid feared situations?
4b	In the past week how much has becoming upset about helping your child with anxiety gotten in the way of things for you or your family, like in your family life, at work, with friends, or your spouse?
5a	In the past week, how often has your child become more upset (anxious, sad, or angry) when you or other family members have not given help with anxiety in the ways mentioned above, such as providing reassurance and helping your child avoid feared situations?
5b	In the past week, how much has your child's reaction when you do not help with anxiety gotten in the way of things for your child, like at school, spending time with friends, or family life?

Note. PAS-PR = Pediatric Accommodation Scale- Parent Report; Response options 1a, 2a, 3a, 4a and 5a are "Never," "Rarely," "Occasionally," "Often" and "Always." Response options for 1b, 2b, 3b, 4b and 5b are "None," "Mild," "Moderate," "Severe" and "Extreme."

who has an anxiety disorder [14, 19–21], with a majority of parents experiencing distress related to providing accommodation [14].

Recent findings also suggest that parental accommodation at pretreatment is associated with lower likelihood of remission following treatment [16]. Further, lower pretreatment accommodation is associated with higher likelihood of treatment response, and reduced accommodation over the course of treatment is associated with improved treatment outcomes following CBT [17]. These findings indicate that accommodation plays a meaningful role in the course of treatment for youth anxiety disorders. Given the relationships between accommodation and anxiety symptoms, parental distress, and diminished treatment outcomes, it is important that clinicians and researchers are able to accurately and effectively measure this pervasive problem.

Although a number of measures of accommodation exist, all rely on parent or child self-report (e.g. Family Accommodation Scale – Anxiety (FASA; 14), or a lengthy clinician interview. The Pediatric Accommodation Scale was developed as both a trained evaluator-administered interview (PAS) and parent-report scale (PAS-PR) to measure the frequency of accommodation and its impact on youth and families [19]. This differs from existing measures that primarily address frequency (e.g. FASA; 14). Further the PAS-PR is unique in that it orients completers to types of accommodation by including specific examples (see Table 1 for PAS-PR items) and assesses for frequency and impact of said behaviors. The PAS and PAS-PR demonstrated good psychometric properties in a youth sample (aged 5–17 years; 19), including strong internal consistency, inter-rater reliability, and data toward construct validity. In particular

the PAS-PR, showed convergent validity with the PAS, with individual subscales (frequency, child impact and parent impact) displaying significant positive correlations with corresponding PAS subscales [19]. Both measures have been used in research [15, 16] and clinical contexts.

The PAS and PAS-PR provide valuable information; however, there are issues inherent to both the parent-report and trained evaluator interview formats. Parent-reports may be influenced by parents' social desirability—a tendency to answer questions in a manner that will be viewed favorably by others [22]. More importantly, a measure that relies on parental self-awareness, either directly through self-report or indirectly through an interview with a parent, is limited by the extent to which parents recognize their own patterns of accommodation. Many measures ask parents to report on how time-consuming or interfering accommodating behaviors are in their families' lives. Given that the identification of the role of accommodation specific to anxiety is recent in the field of clinical psychology [17], it is likely to be an unfamiliar concept to parents. Even when parents recognize their accommodating behavior, they may not accurately perceive the impairment associated with their accommodation, possibly even crediting these behaviors with mitigating anxiety or saving time.

Consistent with the limitations of parent-report measures, Benito and colleagues noted that, accommodation is most accurately identified by clinicians who are aware of a child's symptoms, rather than by family members, who may not recognize or have become accustomed to forms of accommodation embedded in the family routine [19]. Evaluator interviews are time-consuming (the PAS typically takes 30–60 min to complete) and employing an independent evaluator (IE) is often not feasible in clinical practice. Although in specialty clinics therapists might conduct a structured diagnostic interview upon intake, this is not common practice in most clinical settings. Further, therapists are frequently charged with addressing multiple presenting problems in a small number of sessions (most often less than five), leaving little time for structured assessment of accommodation [23]. An IE may accurately assess accommodation at the time of the interview but lacks the ongoing opportunity to assess accommodation as it changes over the course of treatment. In contrast, the therapist treating the family over a period of many weeks has likely gained additional information regarding the presence of accommodation, particularly as treatment progresses. Therapists also possess the expertise to characterize parent behaviors as accommodation. A measure of accommodation completed by the treating therapist could offer a valuable perspective on accommodation that may not be fully captured by existing measures. Such a measure would reduce time burden on parents, obviate the need for an IE, and lessen reliance on

the parents' level of understanding of accommodation [19]. Additionally, such a measure would be the first designed to capture therapist report of accommodation over the course of treatment. Overall, a brief therapist-report measure of accommodation would address issues of feasibility and reporter bias when measuring accommodation among youth in treatment for anxiety disorders. Despite these potential advantages, no therapist report measure of accommodation has been developed.

The present study addressed this gap and evaluated the psychometric properties of a therapist-completed measure of accommodation: the Pediatric Accommodation Scale – Therapist Report (PAS-TR; see Table 2), an adapted version of the 10-item parent-report PAS-PR for therapist completion. We hypothesized that the PAS-TR would display internal consistency within each subscale at baseline. Further, we hypothesized that the PAS-TR would display convergent validity and divergent validity. We examined convergent validity with related constructs (parent-rated accommodation, anxiety symptoms and anxiety related impairment) and divergent validity with unrelated constructs (child depressive and externalizing pathology). Finally, we hypothesized that as treatment progressed, caregivers and therapists would become increasingly aligned in their accounts of accommodation (increase in agreement). To assess this, we examined correlations between the PAS-TR and PAS-PR over the course of treatment.

Methods

Participants and Procedure

This study included youth ($N = 90$) aged 7 to 17 years who enrolled in CBT for anxiety at Temple University's Child and Adolescent Anxiety Disorders Clinic (CAADC) and had completed at least one therapy session. Caregivers provided information about youth demographics. Per parent report, youth had a mean age of 12.12 years ($SD = 3.08$), 54.4% were cis-gender female, 45.6% were cis-gender male, and 76.7% identified as White. Participants were referred to the CAADC through multiple sources including clinics, public and nonpublic schools, media descriptions, and local presentations. Participants were eligible for treatment at the CAADC if they had a primary diagnosis of Generalized Anxiety Disorder (GAD), Social Anxiety Disorder (Soc), Separation Anxiety Disorder (Sep) or Specific Phobia (SP) based on the Anxiety Disorders Interview Schedule for DSM-IV and DSM-5 [24], administered to youth and caregivers separately. In the present sample, 60% ($n = 54$) of youth had a primary diagnosis of GAD, 31.1% ($n = 28$) had a primary diagnosis of Soc, 4.4% ($n = 4$) had a primary

Table 2 PAS-TR Items

Item Number	Prompt
1a	In the past week, how often did the parent or other family members reassure the child about their fears? Examples of this include: 1) Telling the child "It's okay" when they have a worry 2) Giving the child information about a worry (such as telling him/her what will happen next) 3) Answering the child's questions about a worry
1b	In the past week, how much has needing reassurance from family members gotten in the way of things for the child, like at school, spending time with friends or family life?
2a	In the past week, how often did the parent or other family members help the child to avoid things or situations that might make them more anxious? Examples of this include: 1) Keeping the child home from activities or arranging activities at home because of worries (parties, sleepovers, group events such as sports) 2) Letting them stay home from school or go late because of the child's worries 3) Staying with the child so they won't be nervous without parents 4) Parents letting child sleep in same bed because of child's worries
2b	In the past week, when the parent helped the child avoid things that make them anxious, how much has that gotten in the way of things for the child, like at school, spending time with friends, or family life?
3a	In the past week, how often has the family changed their routine in any way to reduce the child's anxiety? Examples of this include: 1) Going to work late/missing work to take the child to school or be with the child 2) Family members completing tasks for the child because of worries 3) Getting up early/ going to bed late to spend time with the child because of worries 4) Arranging special rides for the child because of worries 5) Staying home instead of going out (for errands or social events) because the child may get worried
3b	In the past week how much has changing the family routine gotten in the way of things for the child or their family, like in family life, at work, or with friends?
4a	In the past week, how often did the family become upset or stressed when helping the child with anxiety in ways mentioned above, such as providing reassurance or helping the child avoid feared situations?
4b	In the past week, how much has becoming upset about helping the child with their anxiety gotten in the way of things for the family, like in family life, at work, or with friends?
5a	In the past week, how often has your child become more upset (anxious, sad or angry) when family members have not provided help with anxiety in the ways mentioned above, such as providing reassurance and helping the child avoid feared situations?
5b	In the past week, how much has the child's reaction of not being helped gotten in the way of things for the child, like at school, spending time with friends of family life?

Note. PAS-TR = Pediatric Accommodation Scale- Therapist Report; Response options 1a, 2a, 3a, 4a and 5a are "Never," "Rarely," "Occasionally," "Often" and "Always." Response options for 1b, 2b, 3b, 4b and 5b are "None," "Mild," "Moderate," "Severe" and "Extreme."

diagnosis of Sep, and 4.4% (*n* = 4) had a primary diagnosis of SP.

Following the diagnostic interview, youth and their caregivers completed pretreatment self-report measures and IEs (doctoral students in clinical psychology) completed measures of anxiety severity and overall functioning and impairment. Eligible participants were enrolled in treatment, which included 16, 1-hour sessions of manual-based CBT for youth anxiety. Treatment includes 14 youth sessions and two parent-only sessions. At each weekly therapy session, caregivers completed the PAS-PR and therapists completed the PAS-TR. Therapists remained masked to the PAS-PR scores throughout treatment. It was required that the same caregiver complete the PAS-PR each at each session. Upon the completion of 16 therapy sessions, posttreatment measures were completed by caregivers, youth, and therapists. Data collection was approved by the Institutional Review Board of Temple University and all legal guardian(s) of

participants provided written informed consent and youth provided written informed assent.

Measures

Anxiety Disorders Interview Schedule for DSM-5 – Child/Parent Versions (ADIS-5-C/P; 24)

IE's (Cohen's 0.85) assessed youth for anxiety disorders and comorbid disorders using the ADIS-5-C/P at pre- and posttreatment. Diagnosticians produced a composite diagnosis based on both parent and youth reports, providing a Clinical Severity Rating (CSR) for each diagnosis, ranging from 0 (*not a problem*) to 8 (*a debilitating problem*). A CSR of 4 or above was required for a clinical diagnosis. The ADIS-IV-C/P has been found to have inter-rater reliability for agreement on principal diagnosis (individual anxiety disorders (and common comorbid disorders (). Both the ADIS-IV-C and the ADIS-IV-P have been found to have retest reliability for Sep, Soc, SP and

GAD. ([26]. The anxiety disorders section of the ADIS-IV-C/P has displayed convergent validity, especially for Sep and SP [27]. The ADIS-5-C/P structure and items mirror those of the ADIS-IV-C/P.

Multidimensional Anxiety Scale for Children –Child and Parent Report (MASC-C/P; 28): Both parents and youth completed the MASC at pre- and posttreatment. The MASC is a 39-item measure of child anxiety. Each item is scored on a 4-point Likert-type scale with higher scores indicate greater anxiety, yielding scores on four subscales: Social Anxiety, Separation/Panic, Harm Avoidance and Physical Symptoms. The MASC has demonstrated internal consistency ($\alpha = .$ 87; [29]). It also has shown convergent validity with other youth measures of anxiety ($r = .63$; [28]). Findings have shown convergent and predictive validity with the ADIS-IV C/P, with the MASC successfully predicting to ADIS-identified anxiety disorders [30, 31]. Additionally, MASC-C/P subscales have not been found to be significantly related to externalizing or depressive symptoms ($r = .07$ to 0.19) thus showing divergent validity [28].

Revised Child Anxiety and Depression Scale Parent and Child Versions (RCADS-P/C; 32, 33, 34) Parents and youth completed the RCADS, an adaptation of the Spence Child Anxiety Scale [33], at pretreatment and session 16. The RCADS is a 47-item measure of youth anxiety. Each item is scored on a 3-point scale corresponding to "never," "sometimes," and "often" with higher scores indicating greater pathology. It includes five anxiety subscales, which correspond to the DSM-IV categories of GAD, OCD, SP, Sep and Soc. The RCADS has demonstrated internal consistency within subscales (78 -0.88; 34). Reliability and validity have similarly been established in community samples [32]. The RCADS has also been found to measure symptoms of anxiety consistently over youth development [35].

Clinical Global Impression Scale-Severity (CGI-S; 36) The CGI-S is a single-item measure of anxiety severity. On the CGI-S, an IE who completed the structured interview rates the youth's anxiety on a scale of 1 (*normal, not at all ill*) to 7 (*extremely ill*); lower scores indicate less severe anxiety. This measure was completed at pre- and posttreatment.

Children's Global Assessment Scale (CGAS) The CGAS is an IE-assigned measure of the youth's overall level of functioning and impairment, completed for this study at pre- and posttreatment [37]. Scores range from 1 to 100, with higher scores indicating higher levels of functioning. The CGAS has been shown to be stable over time (retest intraclass

coefficient $= 0.85$) and to discriminate between youth in inpatient and outpatient settings [37].

Child Behavior Checklist (CBCL; 38) The CBCL is a 113-item measure of child emotional and behavioral symptoms, which was completed at pretreatment in the present study. On this measure, parents rate each item on a 3-point scale ranging from 0 (*not true)* to 2 (*often true*). The CBCL yields a T score for the total problems scale which includes two broadband subscales, internalizing problems and externalizing problems (CBCL-Ext). Evidence for retest reliability as well as concurrent and divergent validity has been reported [38, 39].

Child Anxiety Impact Scale − Parent and Child Versions (CAIS-P/C; 40, 41): The CAIS-P/C is a 27-item parent- and child-report measure of anxiety-related interference in social activities, school, and home/family functioning. On this measure, parents and youth rate each item on a 4-point Likert scale, ranging from 0 (*not at all*) to 3 (*very much*). Items are then summed, yielding a total score with higher scores indicating greater anxiety-related interference. This measure was completed at pretreatment. The CAIS has been found to have good internal consistency and validity as measured via linkages to several established anxiety screening measures [40, 41].

Children's Depression Inventory (CDI; 42): The CDI is a 27-item self-report measure of youth depression completed at pre- and posttreatment. It is a downward extension of the Beck Depression Inventory [43]. For each item, respondents are asked to endorse one of three statements that best describes how they typically felt over the past 2 weeks (e.g., "I am sad once in a while," I am sad many times," or "I am sad all the time"). Each response is scored as either 0 (asymptomatic), 1 (somewhat symptomatic), or 2 (clinically symptomatic), contributing to an overall CDI score that can range from 0 to 54, with higher scores indicating more severe depression. The CDI yields a total score and five subscales: Negative Mood, Ineffectiveness, Anhedonia, Negative Self-Esteem and Interpersonal Problem [42]. The measure has demonstrated excellent internal consistency in both clinical and nonclinical samples [44–46] and acceptable retest reliability identified in both clinical and nonclinical samples [42, 44, 47, 48].

Pediatric Accommodation Scale – Parent Report (PAS-PR; 19) The PAS-PR is a 10-item, parent-report measure of accommodation that identifies ways in which the family has accommodated the youth's anxiety over the previous week, as well as the frequency of accommodation (see Table 1). In the present study, the PAS-PR was administered at every session (sessions 1–16). The PAS-PR includes

three subscales measuring frequency of accommodation (Frequency subscale; PAS-PR-F) and the amount of impact and disruption accommodation has caused the parent/family (Parent Impact scale; PAS-PR-PI) and the impact on the child (Child Impact scale; PAS-PR-CI). Five items measure the frequency of (a) family members' reassurance of the child's fears, (b) avoidance of things or situations that might make the child anxious, (c) changes to routines to accommodate anxiety, (d) family stress due to accommodation, and (e) child distress when accommodation did not occur (PAS-PR-F). The PAS-PR-PI consists of two items which assess (a) the impact of the parent's distress around aiding the youth with anxiety related behaviors and (b) the overall impact of adjusting the family's routine to accommodate the youths' anxiety. The PAS-PR-CI consists of three items assessing (a) the impact of needing reassurance from a family member, (b) soliciting help in avoidance behaviors, and (c) distress in the absence of accommodation. Items are rated on a 5-point Likert-type scale.

When the psychometric properties were assessed in a sample of clinically anxious youth [19], the PAS-PR-F was normally distributed, without significant skewness or kurtosis. The PAS-PR-PI and PAS-PR-CI were significantly skewed (PAS-PR-PI skewness = 1.08, PAS-PR-CI skewness = 0.82) without significant kurtosis. Nearly all parents (95.9%) endorsed some accommodation (score ≥ 1 on at least one item) on the PAS-PR, with the most frequently endorsed items being providing reassurance (PAS-PR-F: 95.9%, PAS-PR-CI: 76.5%), facilitating avoidance (PAS-PR-F: 76.5%, PAS-PR-CI: 66.6%), and family experience of distress during accommodation (PAS-PR-F: 74.0%, PAS-PR-PI: 70.0%; 19).

Additionally, Benito and colleagues [19] found that the PAS-PR demonstrated good internal consistency (PAS-PR-F α = 0.84, PAS-PR-PI α = 0.82, PAS-PR-CI α = 0.80). All subscales were significantly positively correlated with evaluator-rated anxiety severity, parent-reported anxiety symptoms, and parent-rated anxiety impairment at home. Additionally, the PAS-PR demonstrated convergent validity with expected constructs such as anxiety severity and anxiety-related impairment at both home and school. It also demonstrated discriminant validity, with results indicating that PAS-PR subscales were not significantly related to externalizing symptoms or child-reported depression symptoms. Additionally, the PAS-PR subscales showed significant relationships with the trained evaluator-administered PAS (r = .48–0.64; 19).

Pediatric Accommodation Scale – Therapist Report (PAS-TR) The PAS-TR, developed for the current study, is based on the PAS-PR with altered language to reflect the differing reporter while collecting the same information about accommodation type, impact, and frequency from the therapist. Consistent with the PAS-PR, the PAS-TR is a 10-item measure with items rated on a 5-point Likert-type scale. These ten items reflect five broad scenarios (providing specific examples of each; see Table 2), asking about both the frequency and resulting impact of each. These items are (a) family members' reassurance of the child's fears, (b) avoidance of things or situations that might make the child anxious, (c) child distress when accommodation did not occur, (d) changes to family routines to accommodate anxiety, and (e) family stress due to accommodation. The ten items on the PAS-PR and PAS-TR are then summed into three subscales, including the Frequency subscale (PAS-TR-F), the Parent Impact subscale (PAS-TR-PI) and the Child Impact subscale (PAS-TR-CI). The PAS-TR-F consists of the prompts asking about the frequency of each of the five scenarios. The PAS-TR-CI consists of three items assessing (a) the impact of needing reassurance from a family member, (b) the impact of soliciting help in avoidance behaviors, and (c) the impact of distress in the absence of accommodation. The PAS-TR-PI consists of two items which assess (d) the impact of adjusting the family's routine to accommodate the youths' anxiety and (e) the impact of the parent's distress around aiding the youth with anxiety related behaviors. In the present study, the PAS-TR was administered at every session (sessions 1–16).

Data Analytic Approach

Reliability (internal consistency) was calculated using Cronbach's alpha. Convergent and discriminant validity were calculated using Pearson's correlations with relevant measures. Convergent validity was examined using Pearson's correlations between the PAS-TR at the initial therapy session and relevant measures completed prior to treatment initiation (pretreatment) as well as between the PAS-TR at the final therapy session and relevant measures completed at the conclusion of 16 therapy sessions (session 16 and posttreatment). Discriminant validity was examined using Pearson's correlations between the PAS-TR at the initial therapy session and relevant measures completed prior to treatment initiation (pretreatment) as well as between the PAS-TR at the final therapy session and relevant measures completed at the conclusion of 16 therapy sessions (posttreatment). Further, Pearson's correlations and paired-samples t-tests were calculated between the PAS-TR and the PAS-PR completed at week 1, week 4, week 8, week 12, and week 16/posttreatment to examine alignment between therapist and parent report over the course of treatment. All participants completed parent and therapist measures of accommodation

Table 3 PAS-TR Items

Item	Frequency		Impact[a]	
	M(SD)[b]	Percent endorsing[c]	M(SD)[b]	Percent endorsing[d]
1. Provide reassurance	2.00(0.99)	92.2%	1.38(0.74)	87.8%
2. Facilitate Avoidance	1.79(0.99)	88.9%	1.48(0.85)	85.6%
3. Change in family	1.70(0.93)	90.0%	1.39(0.83)	82.2%
4. Family distress	1.77(0.87)	91.1%	1.41(0.87)	87.8%
5. Child distress without accommodation	1.622(0.92)	85.6%	1.44(0.78)	83.3%

Note. [a] Some impact items are rated for the impact on the child (child) and some are rated for the impact on the parent/family (parent). [b] Frequency response scale is 0 (never) to 4 (always) and Impact response scale is 0 (none) to 4 (extreme). [c] Percent of respondents reporting frequency of accommodation as "rarely" or greater (> 1). [d] Percent of respondents reporting impact of accommodation as "mild" or greater (> 1)

(PAS-PR and PAS-TR) at week 1. Missing data present for other measures was handled using listwise deletion.

Of the 90 youth, 63 (70%) had complete data on the PAS-TR (i.e. complete PAS-TR data for each session completed) at session 16. Comparisons on demographic and clinical variables were made between participants with and without complete data. Pearson's chi-square tests indicated that there were no significant differences between those with complete versus incomplete data at session 16 on sex ($\chi^2[1] = 0.02$, $p = .890$) or race ($\chi^2[4] = 4.25$, $p = .374$). Independent samples t-tests demonstrated that those with complete data at session 16 did not differ from those with incomplete data at session 16 on age ($t(88) = -0.31$, $p = .755$), overall severity at baseline (Children's Global Assessment Scale; $t(82) = -0.33$, $p = .743$), anxiety severity at baseline (Clinical Global Impression Scale-Severity; $t(87) = 0.30$, $p = .769$), or PAS-TR ratings at session 1 (PAS-TR-Frequency Scale: $t(88) = 0.31$, $p = .757$; PAS-TR-Child Impact Scale: $t(88) = 0.57$, $p = .570$; PAS-TR-Parent Impact Scale: $t(88) = 0.44$, $p = .664$). Results for the subsample with complete data at session 16 ($n = 63$) were generally consistent with the results from the overall sample; thus, results from the overall sample are presented and notable differences in the results from the subsample with complete data are indicated in footnotes.

Results

Normality and Distribution

The PAS-TR subscales were normally distributed at week 1 without significant skewness (PAS-TR-F $= -0.51$, PAS-TR-PI $= -0.20$, PAS-TR-CI $= -0.32$) or kurtosis (PAS-TR-F $= 0.03$, PAS-TR-PI $= -0.64$, PAS-TR-CI $= -0.41$). For most participants (93.3%), therapists rated some accommodation (score ≥ 1 on at least one item) on the PAS-TR, with items being endorsed from most to least frequently in the following order: (a) providing reassurance (F: 92.2%, CI: 87.8%), (b) facilitating avoidance (F: 88.9%, CI: 85.6%), (c) change in family routine due to accommodation (F: 90.0%, PI: 82.2%), (d) family experience of distress during accommodation (F: 91.1%, PI: 87.8%), and (e) child distress due to withholding accommodation (F: 85.6%; CI: 83.3%; see Table 3 for items endorsed).

Reliability

The PAS-TR demonstrated good internal consistency at week 1 (PAS-TR-F $_\alpha = 0.89$, PAS-TR-CI $_\alpha = 0.87$, PAS-TR-PI $_\alpha = 0.82$).

Convergent Validity

Correlations were examined between the PAS-TR at session 1 and other measures at pretreatment (Table 4). The Child Impact subscale was significantly correlated in the anticipated direction with a measure of overall functioning and impairment (CGAS), as determined by the IE; however, the Frequency and Parent Impact subscales were not significantly correlated with the CGAS[1]. The Frequency subscale, but not the Child or Parent Impact subscales, was significantly positively correlated with clinical severity, as determined by the maximum CSR assigned by the IE using the ADIS-C/P[2]. None of the subscales on the PAS-TR were significantly correlated with an IE-rated measure of overall youth anxiety severity (CGI-S). None of the subscales on the PAS-TR were significantly correlated with measures of youth report of child anxiety (RCADS-C and MASC-C), parent report of youth anxiety (RCADS-P and MASC-P), youth report of anxiety-related interference (CAIS-C), or parent report of anxiety related interference (CAIS-P).

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[1] In the subsample with complete PAS-TR data at both session 1 and session 16, all PAS-TR subscales were significantly correlated in the anticipated direction with the CGAS.

[2] In the subsample with complete PAS-TR data at both session 1 and session 16, none of the PAS-TR subscales were significantly correlated with the maximum CSR.

Table 4 Convergent and Discriminant Validity Correlations of the PAS-TR Subscales

	PAS-TR-PI	PAS-TR-CI	PAS-TR-F
	r	r	r
Convergent Validity			
RCADS-P	0.08	0.04	0.11
RCADS-C	0.01	0.09	0.03
MASC-P	− 0.09	− 0.03	0.01
MASC-C	0.04	0.17	0.12
CAIS-P	− 0.04	0.08	0.03
CAIS-C	0.02	0.05	0.09
CGI-S	0.13	0.18	0.14
CGAS	− 0.20	− 0.32**	− 0.20
CSR, Maximum	0.20	0.20	0.24*
Divergent Validity			
CBCL, Externalizing	0.09	0.16	0.18
CDI	0.07	0.13	− 0.10

Note. *significant (critical *p*-value = 0.05); ** significant(critical *p*-value = 0.001); PAS-PR PI, CI, F = Pediatric Accommodation Scale- Parent Report Parent Impact, Child Impact, Frequency Subscales; RCADS = Revised Child Anxiety and Depression Scale; **MASC-P/C = Multidimensional Anxiety Scale for Children Parent/Child Report;** CAIS-P/C = Child Anxiety Impact Scale Parent/Child Report; CGI-S = **Child Global Impressions-Severity; CGAS = Children's Global Assessment Scale; CSR = Clinician Severity Rating; CBCL = Child Behavior Checklist; CDI = Children's Depression Inventory; PAS-TR was completed at session 1; MASC-C/P, CAIS-C/P, CGI-S, CGAS, ADIS (CSR), CBCL and CDI were completed at pretreatment**

Table 5 Convergent and Discriminant Validity Correlations of the PAS-TR Subscales at Posttreatment/Session 16

	PAS-TR-PI	PAS-TR-CI	PAS-TR-F
	r	r	r
Convergent Validity			
PAS-PR-PI	0.06	0.17	0.18
PAS-PR-CI	0.05	0.15	0.13
PAS-PR-F	0.07	0.19	0.18
RCADS-P	0.27*	0.34**	0.29*
RCADS-C	0.20	0.22	0.19
MASC-P	0.20	0.30*	0.25
MASC-C	0.17	0.24	0.22
CGI-S	0.27*	0.20*	0.32*
CGAS	− 0.34*	− 0.33*	− 0.36*
Divergent Validity			
CSR, Maximum	0.35*	0.37*	0.36*
CDI	0.31*	0.31*	0.26

Note*significant (critical *p*-value = 0.05); ** significant (critical *p*-value = 0.001); PAS-TR PI, CI, F = Pediatric Accommodation Scale- Parent Report Parent Impact, Child Impact, Frequency Subscales; PAS-PR PI, CI, F = Pediatric Accommodation Scale- Parent Report Parent Impact, Child Impact, Frequency Subscales; RCADS – P, C = Revised Child Anxiety and Depression Scale Parent Report, Child Report; MASC- P, C = Multidimensional Anxiety Scale for Children Parent Repotrt, Child Report; CGI-S = **Child Global Impressions-Severity; CGAS = Children's Global Assessment Scale; CSR = Clinician Severity Rating; CDI = Children's Depression Inventory; PAS-TR, PAS-PR and RCADS were completed at session 16; MASC-C/P, CGI-S, CGAS, ADIS (CRS), and CDI were completed at pretreatment**

The correlations between the PAS-TR at session 16 and other measures at session 16 and posttreatment were also examined (Table 5). At session 16, the PAS-TR subscales were also not significantly correlated with a measure of youth report of anxiety (RCADS-C). However, all PAS-TR subscales were significantly positively correlated with parent report of youth anxiety (RCADS-P). The Child Impact subscale at session 16 was significantly correlated with an additional parent report of youth anxiety (MASC-P) at posttreatment, but the Frequency and Parent Impact subscales were not. None of the PAS-TR subscales at session 16 were significantly correlated with youth report of youth anxiety at posttreatment (MASC-C). Session 16 PAS-TR subscales were all significantly correlated with IE-completed measures of global functioning and impact as well as anxiety severity (CGAS, CGI-S, and maximum CSR).

Discriminant Validity

At pretreatment/session 1, none of the PAS-TR subscales were significantly correlated with a youth-report measure of depression (CDI) or parent-report measure of youth externalizing behaviors (CBCL-Ext). At posttreatment/session 16 the Parent and Child Impact subscales were significantly correlated with the CDI, however the Frequency subscale was not.

Reporter Agreement

Paired sample t-tests and correlations were used to examine PAS-TR and PAS-PR subscales at session 1, session 4, session 8, session 12, and session 16/posttreatment (see Table 6). At session 1, there were significant differences between parent- and therapist-report on the Child Impact subscale, but not on the Frequency or Parent Impact subscales; there was a significant positive correlation between parent- and therapist-reported Parent Impact, but not among the other subscales[3]. At session 4, there were significant differences between parent- and therapist-report on all subscales and all subscales were significantly positively correlated[4]. At session 8, there were significant differences between parent- and therapist-report on the Frequency and Child Impact subscales, but not the Parent Impact Subscale. Additionally, at session 8, parent- and therapist-reported Frequency and Child Impact subscales, but not the Parent

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[3] At pretreatment, in the subsample with complete PAS-TR data at both session 1 and session 16, there were no significant differences or significant correlations between parent- and therapist-report on any of the subscales.

[4] At week 4, in the subsample with complete PAS-TR data at both session 1 and session 16, there were no significant differences in parent- and therapist-report on the Child and Parent Impact subscales.

Table 6 PAS-TR and PAS-PR over the course of treatment

	Therapist-Report	Parent-Report	Correlation
	M(SD)	M(SD)	
Session 1			
Frequency	8.67(3.98)	8.38(4.14)	0.15
Child Impact	4.18(2.18)	3.42(2.55)	0.10
Parent Impact	2.88(1.53)	2.59(1.97)	0.24*
Session 4			
Frequency	10.65(4.10)	8.47(4.34)	0.32**
Child Impact	4.89(2.43)	3.82(3.14)	0.24*
Parent Impact	3.40(1.87)	2.78(1.20)	0.37**
Session 8			
Frequency	8.56(4.42)	7.02(4.55)	0.28*
Child Impact	3.76(2.36)	2.94(2.42)	0.37**
Parent Impact	2.62(1.62)	2.20(1.80)	0.21
Session 12			
Frequency	7.73(4.35)	6.27(4.06)	0.34**
Child Impact	3.41(2.24)	2.75(2.62)	0.29*
Parent Impact	2.36(1.58)	1.93(1.75)	0.21
Session 16			
Frequency	6.07(4.19)	4.45(3.96)	0.18
Child Impact	2.64(2.43)	1.92(2.31)	0.15
Parent Impact	1.90(1.71)	1.25(1.47)	0.06

Note. *significant (critical *p*-value = 0.05); ** significant(critical *p*-value = 0.001; PAS-PR PI, CI, F = Pediatric Accommodation Scale-Therapist Report Parent Impact, Child Impact, Frequency Subscales; PAS-PR PI, CI, F = Pediatric Accommodation Scale- Parent Report Parent Impact, Child Impact, Frequency Subscales

Impact subscale, were significantly positively correlated[5]. At session 12, there was a significant difference between parent- and therapist-report on the Frequency subscale, but not the Child or Parent Impact subscales. At this session, the parent- and therapist-reported Frequency and Child Impact subscales, but not the Parent Impact subscale, were significantly positively correlated[7]. At posttreatment, there were significant differences between parent- and therapist-report on the Frequency and Parent Impact subscales, but not the Child Impact subscale.

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[5] At session 8, in the subsample with complete PAS-TR data at both session 1 and session 16, there were no significant differences in the Frequency subscale.[7]At session 12, in the subsample with complete PAS-TR data at both session 1 and session 16, there were no significant correlations between parent- and therapist-report on any of the subscales.

Discussion

Accommodation, in the context of youth anxiety disorders, has been identified as a contributing factor to the maintenance of anxiety. Measures such as the PAS and PAS-PR have been developed to quantify accommodation among anxious youth. These measures have been assessed as psychometrically sound [19], but to date, no measure has been established to specifically capture the therapist's evaluation of accommodation. The current study evaluated the psychometrics of a measure of accommodation using a therapist-response format. Findings indicate that although therapists may not be able to reliably rate accommodation using the PAS-TR at the first session, their ability to report on accommodation using the PAS-TR improves meaningfully over the course of treatment. Specifically, results indicate that therapist and parent reports converge over the course of treatment, and the correlation between the PAS-TR and related measures (convergent validity) increases by session 16/posttreatment. These discrepancies provide useful information and warrant further exploration. These findings indicate that the PAS-TR may be a useful measure for therapists to rate accommodation over the course of treatment.

Contrary to the original hypothesis, the PAS-TR showed largely non-significant convergent validity with related constructs, including anxiety severity, anxiety-related interference, and overall clinical severity at session 1/pretreatment, with only the PAS-TR-CI showing significant correlation with a measure of overall functioning and impairment (CGAS) and the PAS-TR-F showing significant correlation with clinical severity (as determined by the ADIS-C/P). However, in line with hypotheses, the PAS-TR (at session 1/pretreatment) was not found to correlate with measures of unrelated constructs, such as child externalizing symptoms; this indicates divergent validity. The results at session 16/posttreatment paint a better picture. At this timepoint, the PAS-TR showed convergent validity with related constructs such as IE-rated anxiety severity and global functioning and interference, as well as a parent-report of youth anxiety, as hypothesized. However, contrary to the original hypothesis, it did not display divergent validity with a self-report of youth depression. Although this finding was counter to expectations, there are potential explanations for this finding. Specifically, it is possible that accommodation does, in fact, increase or decrease somewhat with child depressive symptomatology. In other words, parents who have youth with symptoms of depression may be more likely to provide accommodation. Indeed, this finding is consistent with findings for the PAS, which indicated that the PAS-PI and PAS-CI subscales were correlated with the CDI although the PAS-F was not [19].

The PAS-TR showed convergence with the PAS-PR that improved over the course of treatment. At session 1, PAS-TR and PAS-PR subscales were not significantly correlated. However, all subscales were significantly correlated at session 4 and the Frequency and Child Impact subscales were significantly correlated with corresponding PAS-PR subscales at sessions 8 and 12. Session 16 PAS-TR subscales were not significantly correlated with session 16 or post-treatment PAS-PR subscales. However, the means of these subscales continued to progress in the same direction (i.e., decreasing from session 12 to session 16). This lack of correlation may be better explained by more limited variation in the increasingly low subscale scores at session 16. Having less variability in the measure of interest is more likely to yield non-significant results when conducting correlations.

Results indicate that while the PAS-TR displays limited usefulness at session 1, it is likely a useful measure of accommodation as treatment progresses. It is expected that therapists, who have many competing demands during session time, may not be able to thoroughly assess for the presence of accommodation during an initial 50-minute session. Further, given that the initial diagnostic assessments are conducted by IEs rather than the therapist themselves, session 1 serves as the therapist's first formal interaction with the family. In session 4, there was found to be a considerable increase in the correlation between parent and therapist report of accommodation. This indicates that as therapy progresses, therapists may be able to more accurately ascertain and report on instances of accommodation occurring within the family. Further, the strong convergent validity at session 16/posttreatment further supports the strength of this measure. The fact that the PAS-PR and PAS-TR were not significantly correlated at session 16/posttreatment is potentially an artifact of little variation in generally low scores, as noted above. While this is one possibility, alternative explanations for this finding merit further consideration.

One potential interpretation of the noted discrepancy in reporters is that therapists, who possess greater understanding of the construct of accommodation, are better able to detect it, and thus report higher levels than parents themselves. This notion is supported by findings that, on average, mean scores on the PAS-TR subscales were higher than PAS-PR subscales at all timepoints. This heightened expertise may become particularly apparent as accommodation decreases; as this occurs, therapists may be able to identify more nuanced or subtle instances of accommodation than parents. Additionally, this discrepancy at session 16/posttreatment may be due to parental hesitance to report accommodation. As parents learn more about the concept of accommodation and better understand the connection between accommodation and negative outcomes for their children, they may be increasingly swayed by social desirability and consequently answer questions in a manner that will be viewed favorably by others (namely the therapist; 22).

It was conjectured that the therapist-report format would address limitations of caregiver report, as well as the burden represented by an in-depth interview by a clinician unfamiliar with the family. Results indicate that although therapists may not have as much direct knowledge of the specific family's accommodation and associated child and parent impact as hypothesized at session 1, over the course of treatment, therapists become more accurate reporters. Thus, depending on when in treatment it is utilized, the measure may address the limitations of parent and IE measures. These findings highlight the therapist's role in possessing both a specialized understanding of the construct of accommodation, as well as specific knowledge of the family's response to their child's anxiety. Nonetheless, the findings indicate that therapists are not reliable indicators of the level of accommodation occurring in the families of their clients early in treatment. These findings indicate the possibility that, as therapists gain additional insight about accommodation over the course of treatment, they may be able to rate it more accurately.

Given the role that accommodation is believed to play in the development, maintenance, and treatment of anxiety, it is important to consider its role early in the course of treatment, when the PAS-TR does not appear to be as useful of a measure of accommodation. Possible explanations for findings indicating the PAS-TR is not useful during initial sessions could be limited parent contact (in lieu of more child contact) or assumption that accommodation is present in absence of collateral information from parents. In initial sessions even when therapist provide education about accommodation, they may fail to solicit feedback about parents the presence of accommodation in the family thus limiting the therapist's ability to accurately report on instances in the family. The finding that the PAS-TR may not be as reliable of a measure during initial therapy sessions also suggests that therapists may benefit from a more systematic approach to assessing accommodation as a part of treatment, perhaps by the reviewing the PAS-PR and using it to frame early and ongoing discussions of accommodation with families. This would afford the therapist a broader view of accommodation within the family and subsequently a more nuanced understanding of how the child's anxiety functions within their unique family dynamic. Given the brief nature of the PAS-PR, as well as its convergence with the PAS, therapists can reasonably use this measure at pre-treatment to gather information about accommodation and use that information to engage families in a discussion evaluating and addressing accommodation over the course of treatment. Given this recommendation, future studies should examine how

treatment is impacted by therapists administering the PAS-PR, reviewing it, and using it as a discussion point with parents. Further studies should access when, during the course of treatment, therapists become reliable reporters of accommodation.

Strengths

This study benefitted from numerous strengths. First, the study took place in a well-established anxiety specialty clinic with a history of publications on accommodation. As such, the therapists were familiar with accommodation and the importance of treating it, leaving them qualified to assess this construct. Second, this study was strengthened by the excellent psychometric properties of the original measures. Third, this study used a wide range of measures to examine the validity of the PAS-TR. This underscores the strength of the research design in assessing the PAS-TR's psychometric properties.

Limitations & Future Directions

Potential limitations merit consideration. First, the current therapists may not be representative of therapists in non-specialty clinics or community settings. Second, a confirmatory factor analysis would confirm the PAS-TR subscales, however it would be prudent for future research to analyze factor loading of the PAS, as both the PAS-PR and PAS-TR are modeled directly from this original measure. Third, the participants in this study were treatment-seeking youth and their families and they were primarily White (76.7%) thus, generalization of findings is limited to similar groups. These limitations point to the need for future examinations to include more diverse samples within diverse (non-specialty clinic) settings. Fourth as the PAS and PAS-PR were utilized as the primary comparison measures, the current findings are restricted by those limitations extant in the initial investigation of those measures (e.g. homogeneity of race and ethnicity within sample, lack of behavioral observation; 19). Future examinations, comparing the PAS, PAS-PR and PAS-TR to a measure that includes behavioral observation is indicated.

Conclusion

Altogether, findings from this study highlight the limitations and strengths of the PAS-TR as a measure of accommodation. Findings also raise questions about the nature (both information giving and gathering) and timing (during initial settings or over the course of treatment) of conversations around accommodation in the therapeutic setting. It is prudent for researchers to work towards creating measures that minimize participant burden and decrease bias associated with self-report measures. Prior findings indicate convergence between the PAS-PR and PAS at treatment onset [19]. Findings of the present study indicating non-convergence between the PAS-PR and PAS-TR at session 1 thus support that during initial therapy sessions, therapist report may not be a reliable source of information regarding accommodation frequency and interference. However, this appears to change over time. The therapist-report format reduces parent burden as treatment progresses, while benefitting from an expert perspective. The PAS-TR is a unique measure given its inclusion of example in prompts and measurement of both frequency and impact of accommodation. Additionally, the PAS-TR is the first therapist-report measure designed to capture information about accommodation over the course of treatment. Altogether, results suggest the PAS-TR is likely to be a useful measure of accommodation later in the therapeutic process. Further research is warranted to explore identified discrepancies between parent and therapist report over the course of treatment namely, study designs comparing the PAS-TR to the PAS or direct observation at multiple points in treatment.

Summary

Anxiety disorders are the most common mental health problem in youth. Further, accommodation is pervasive among families of youth with anxiety disorders. Multiple measures have been created to quantify accommodation in the context of youth anxiety. The Pediatric Accommodation Scale (PAS) is an interview administered by trained evaluators and the Pediatric Accommodation Scale (PAS-PR) is a related parent self-report form. Both assess the presence of accommodation and its impact. Additionally, both have strong psychometric properties including internal consistency, inter-rater reliability, and data supporting construct validity. However, both suffer from limitations inherent to their respective formats (independent evaluator-conducted and parent self-report). The Pediatric Accommodation Scale – Therapist Report (PAS-TR), is a therapist-reported version of the PAS-PR that was developed as a part of this study. Participants were 90 youth enrolled in cognitive behavioral therapy for anxiety. Therapists completed the PAS-TR over 16 therapy sessions. Internal consistency at baseline, convergent validity, divergent validity, and parent-therapist agreement were evaluated. Results suggest that the PAS-TR has mixed psychometric qualities when benchmarked against the PAS-PR. However, results indicate that therapist and parent reports converge over the course of treatment, suggesting that the PAS-TR may be a useful measure for

therapists to rate accommodation as treatment progresses. Future research is necessary to further explore the discrepancies between reporters. Findings also emphasize the importance of ongoing communication about accommodation between parents and therapists throughout treatment.

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