



## Predictive Relationship Between Parental Beliefs and Accommodation of Pediatric Anxiety

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Behavior performed by parents to assist a youth in avoiding or alleviating anxiety, known as accommodation, is ubiquitous among pediatric anxiety disorders and strongly related to poor treatment outcome. According to cognitive-behavioral theory, the beliefs parents hold regarding accommodation should predict parental accommodating behavior. Unfortunately, little is known about the beliefs parents hold regarding accommodation, as there exists no validated measure of this construct. First, the psychometric

properties were examined for the Parental Accommodation Scale (PAS), a novel measure of parental accommodating behavior frequency (PAS-Behavior scale) and parental beliefs about accommodation (PAS-Belief scale). Second, the relationship between parental beliefs about accommodation and accommodation frequency was examined. Results provide preliminary evidence of the internal consistency and convergent validity of the PAS. Stronger positive beliefs about accommodation significantly predicted accommodation frequency, even after controlling for youth anxiety severity. Specifically, beliefs that accommodation prevents youth from losing behavioral and emotional control significantly predicted accommodation frequency. Therefore, efforts to decrease accommodation in clinical settings should involve correcting maladaptive parental beliefs about accommodation, with a particular emphasis on beliefs regarding the necessity of accommodation in

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preventing a youth from losing behavioral and emotional control.

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PARENTS OF ANXIOUS YOUTH frequently engage in accommodation, which is defined as any action taken by a parent to assist a youth in avoiding or alleviating pathological anxiety. Although efforts to decrease a youth's anxiety can be adaptive, they also have the capacity to become problematic. The distinction between adaptive parenting behavior and maladaptive accommodation is made when the youth's anxiety is disproportional to the actual severity or likelihood of the feared outcome. For example, providing hand sanitizer to a youth after using the restroom is an adaptive behavior that decreases the likelihood of transmitting bacteria. However, enabling a youth to use hand sanitizer 50 times per day due to the youth's fear of transmitting bacteria would be considered accommodation. The most common examples of accommodation include engaging in rituals, complying with demands, providing reassurance, and assisting in avoidance (Storch, Geffken, Merlo, Jacob, et al., 2007).

High rates of accommodation have been consistently identified within samples of parents whose youth are diagnosed with obsessive-compulsive disorder (OCD; Lebowitz, Panza, Su, & Bloch, 2012) as well as anxiety disorders such as generalized anxiety disorder, separation anxiety disorder, specific phobias, social phobia, and panic disorder with and without agoraphobia (Lebowitz et al., 2013). For example, in a sample of 96 youth diagnosed with OCD, Flessner, Freeman, and colleagues (2011) found that 77.1% of parents endorsed engaging in accommodation on a daily basis on the Family Accommodation Scale–Parent Report (FAS; Flessner, Sapyta, et al., 2011). Similarly, Lebowitz, Scharfstein, and Jones (2014) found that 69% of mothers of youth with OCD and 61% of mothers of youth with anxiety disorders endorsed engaging in at least one accommodating behavior every day as measured by the FAS and the Family Accommodation Scale–Anxiety (FAS-A; Lebowitz et al., 2013), respectively.

Cognitive-behavioral models posit that although accommodation temporarily decreases anxiety in youth, it paradoxically maintains and exacerbates the youth's anxiety in the long term (Storch, Geffken, Merlo, Jacob, et al., 2007). When a parent engages in accommodation, the youth is prevented from naturally habituating to feared stimuli, learning that feared outcomes are exaggerated, and that the associated distress is tolerable. Accommodation is particularly

important in the context of youth anxiety, as youth are embedded in the family in a way that differs from adults (Freeman et al., 2003). For example, youth often depend on parents for guidance, support, and assistance in multiple areas of their lives, which provides abundant opportunities for accommodation to occur. Unfortunately, when engaging in accommodation a parent paradoxically reduces a youth's insight into his or her problem, validates his or her fear, and prevents the youth from developing a sense of self-efficacy and adaptive coping skills (Steketee & Van Noppen, 2003). Due to the effectiveness of accommodation in engendering a short-term reduction in anxiety, accommodation becomes negatively reinforced for the parent, resulting in a feedback loop between youth anxiety severity and accommodation use (Wu et al., 2016).

The theorized reciprocal relationship between accommodation and youth anxiety has been corroborated by a plethora of research demonstrating a positive correlation between these two variables (Kagan, Peterman, Carper, & Kendall, 2016; Lebowitz, Scharfstein, et al., 2014; Strauss, Hale, & Stobie, 2015). A meta-analysis of 41 studies conducted by Wu and colleagues (2016) showed the overall effect size between accommodation and youth OCD severity to be moderate ( $r = .42, p < .001$ ). A similar effect size ( $r = .45, p = .001$ ) was found between accommodation and anxiety severity in a sample of 73 youth with mixed anxiety disorders (Lebowitz et al., 2013). Further, Francazio et al. (2016) found that accommodation was the strongest predictor of youth OCD severity at both intake and at a 2-year follow-up after controlling for youth age, anxiety, and depression. Reduction of accommodation has even been found to temporally precede improvement in youth anxiety severity throughout treatment (Merlo, Lehmkuhl, Geffken, & Storch, 2009; Piacentini et al., 2011).

Considering the relationship between accommodation and youth anxiety severity, it is not surprising that accommodation reduction is an integral component in many cognitive-behavioral therapy (CBT) programs for youth anxiety (Freeman et al., 2008; Lebowitz, Omer, Hermes, & Scahill, 2014; Storch, Geffken, Merlo, Mann, et al., 2007; Whiteside et al., 2015). One way that CBT aims to decrease accommodation is through psychoeducation in which parents are educated about the negative consequences of accommodation (Freeman et al., 2003; Merlo et al., 2009). For instance, the Supportive Parenting for Anxious Childhood Emotions (SPACE) program (Lebowitz, 2013) teaches parents that accommodation (labeled "protective behavior"), which results in short-term prevention or alleviation of the youth's anxiety, increases youth

anxiety in the long term. Alternatively, the SPACE program teaches parents that *supportive* behavior, which results in promoting the youth's ability to tolerate anxiety, decreases youth anxiety in the long term.

According to cognitive-behavioral (CB) theory, beliefs directly influence behavior (Abramowitz, Deacon, & Whiteside, 2011). Therefore, positive beliefs about accommodation should be related to greater accommodation frequency, but unfortunately this relationship has not yet been studied. The predicted relationship between beliefs about accommodation and accommodation frequency also suggests that within CBT, which is based on CB theory, therapists should address beliefs about accommodation in order to decrease accommodation frequency so the youth is better able to acquire disconfirming information regarding the feared outcome. Although CBT treatments sometimes target accommodation (e.g., the SPACE program), they do not address beliefs theorized to support accommodation in any clear, detailed, or systematic manner. Of course, in order to address positive beliefs, therapists must first identify what the positive beliefs are that parents hold about accommodation. Although Wolk and colleagues (2016) found that parents do, in fact, have beliefs about their role in protecting youth from anxiety, there exists no validated measure to assess specific parental beliefs regarding accommodation. Having a measure that assesses specific parental beliefs regarding accommodation is important; such a measure would facilitate deeper understanding of the development and maintenance of youth anxiety. Further, such a measure would enable clinicians to identify and correct specific maladaptive parental beliefs about accommodation during youth anxiety treatment. For example, if a parent endorses believing that accommodation is effective in lowering distress, a clinician could discuss with the parent that while accommodation may lead to a short-term reduction in distress, it paradoxically maintains distress in the long term and should therefore be eliminated.

The present study was conducted for two reasons. The first goal was to examine the psychometric properties of a novel measure, the Parental Accommodation Scale (PAS). The PAS was designed to concisely measure two constructs: accommodation frequency (PAS-Behavior scale) and parental beliefs about accommodation (PAS-Belief scale). The second goal of the present study was to examine the relationship between common parental beliefs about accommodation and accommodation frequency. We hypothesized that both PAS scales would demonstrate sound item-level psychometric properties and good convergent validity, as indicated by significant,

positive correlations with an established measure of accommodation frequency—the FAS—and with measures of youth anxiety symptom severity—the Children's Yale–Brown Obsessive-Compulsive Scale–Parent Report (CY-BOCS-PR; Scahill et al., 1997; Storch et al., 2006), and the Pediatric Anxiety Rating Scale (PARS; Research Units on Pediatric Psychopharmacology Anxiety Study Group, 2002). Additionally, we hypothesized that correlation between parental beliefs about accommodation and accommodation frequency would be positive and significant, and that this relationship would remain significant even when controlling for youth anxiety severity.

## Method

### PARTICIPANTS

Participants included 313 parents (87.6% women, 91.3% Caucasian) of treatment-seeking youth diagnosed with an anxiety disorder. Data regarding parent age were not collected. Parents were recruited from the following three sites: Mayo Clinic–Rochester ( $n = 233$ ), the Kansas City Center for Anxiety Treatment (KCCAT;  $n = 41$ ), and Rogers Memorial Hospital ( $n = 39$ ). The majority of parents had a graduate or professional degree (39.0%) or a bachelor's degree (34.9%). The youth were 7–17 years old ( $M = 12.4$ ,  $SD = 2.8$ ) and included more girls (59.1%) than boys (40.9%). All youth met criteria for one or more DSM-IV-TR (American Psychiatric Association, 2000) anxiety disorder diagnoses. Approximately one half (51.1%) of the youth were diagnosed with a comorbid anxiety disorder and 19.2% were diagnosed with a comorbid depressive disorder. Demographic information for individual sites and the total sample is displayed in Table 1.

### MEASURES

#### *Parental Accommodation Scale (PAS)*

The PAS was designed to be as concise as possible in order to maximize its clinical utility. An initial pool of 19 items was generated based on an informal literature review, clinical experience, and discussions with clinicians and researchers in the field of pediatric anxiety. Following the creation of the initial 19 items, it was decided prior to psychometric evaluation that all items assessing temporally specific beliefs regarding accommodation (e.g., “Responding to my child's anxiety, distress, obsessions, or compulsions as described above . . . reduces my child's distress in the short term”) should be removed. The decision to remove such items was made, as many desirable outcomes of accommodation (e.g., reducing the child's anxiety, reducing distress) are, indeed, effective in the short term. Removing items in this way

Table 1  
Sample Demographics

	Mayo ( <i>n</i> = 233)	KCCAT ( <i>n</i> = 41)	Rogers ( <i>n</i> = 39)	Total ( <i>N</i> = 313)
Parent characteristics				
Women	87.1%	83.8%	94.6%	87.6%
Caucasian	89.7%	97.5%	94.4%	91.3%
PAS-Behavior scale	1.1 ( <i>SD</i> = 0.7)	1.1 ( <i>SD</i> = 0.6)	1.4 ( <i>SD</i> = 0.7)	1.2 ( <i>SD</i> = 0.7)
PAS-Belief scale	1.5 ( <i>SD</i> = 0.6)	1.5 ( <i>SD</i> = 0.5)	1.6 ( <i>SD</i> = 0.5)	1.6 ( <i>SD</i> = 0.6)
Distress and Functioning subscale	1.5 ( <i>SD</i> = 0.7)	1.5 ( <i>SD</i> = 0.6)	1.5 ( <i>SD</i> = 0.7)	1.5 ( <i>SD</i> = 0.7)
Loss of Control subscale	1.6 ( <i>SD</i> = 0.9)	1.5 ( <i>SD</i> = 0.8)	2.0 ( <i>SD</i> = 0.7)	1.6 ( <i>SD</i> = 0.9)
Relationship subscale	1.6 ( <i>SD</i> = 0.9)	1.5 ( <i>SD</i> = 0.7)	1.3 ( <i>SD</i> = 0.8)	1.6 ( <i>SD</i> = 0.9)
FAS	-	18.6 ( <i>SD</i> = 10.8)	23.9 ( <i>SD</i> = 10.8)	-
FAS-AT	-	7.8 ( <i>SD</i> = 5.7)	11.3 ( <i>SD</i> = 5.8)	-
FAS-IC	-	10.8 ( <i>SD</i> = 6.6)	12.6 ( <i>SD</i> = 6.2)	-
CY-BOCS-PR	-	22.5 ( <i>SD</i> = 8.1)	22.9 ( <i>SD</i> = 7.3)	-
PARS	16.8 ( <i>SD</i> = 3.6)	-	-	-
Youth characteristics				
Age	12.3 ( <i>SD</i> = 2.9)	12.6 ( <i>SD</i> = 3.0)	13.3 ( <i>SD</i> = 0.8)	12.4 ( <i>SD</i> = 2.8)
Girls	58.4%	61.0%	61.5%	59.1%
OCD diagnosis	26.6%	48.8%	82.1%	36.4%
Comorbid anxiety disorder	54.5%	34.1%	48.7%	51.1%
Comorbid depressive disorder	17.2%	19.5%	30.8%	19.2%

*Note.* Mayo = Mayo Clinic–Rochester; KCCAT = Kansas City Center for Anxiety Treatment; Rogers = Rogers Memorial Hospital; PAS = Parental Accommodation Scale; *SD* = standard deviation; FAS = Family Accommodation Scale; FAS-AT = Family Accommodation Scale–Avoidance of Triggers; FAS-IC = Family Accommodation Scale–Involvement in Compulsions; CY-BOCS-PR = Children’s Yale–Brown Obsessive-Compulsive Scale–Parent Report; PARS = Pediatric Anxiety Rating Scale.

resulted in a final 12-item measure (see [Appendix A](#)) assessing the frequency of accommodation (PAS-Behavior scale; five items) and beliefs regarding the benefits of accommodation (PAS-Belief scale; seven items). Although validated, transdiagnostic measures of accommodation exist, such as the FAS-A ([Lebowitz et al., 2013](#)) and the Family Accommodation Checklist and Interference Scale (FACLIS; [Thompson-Hollands, Kerns, Pincus, & Comer, 2014](#)), it was considered important for the PAS to include a behavior-based section so that respondents have a context for which to base their belief-based responses on. The product is a clinically useful measure that simultaneously assesses two distinct, yet important constructs: parental accommodation frequency and parental beliefs about accommodation.

The PAS-Behavior scale asks parents to indicate the frequency with which they engage in various forms of accommodation in response to the child’s anxiety, distress, obsessions, or compulsions. Items on the PAS-Behavior scale are rated on the following 4-point scale: 0 (*never/almost never*), 1 (*sometimes*), 2 (*often*), and 3 (*always/almost always*). The PAS-Behavior scale score is based on the mean of the five items on the scale, with higher scores indicating more frequent accommodation. The PAS-Belief scale asks respondents to indicate the degree to which they agree with various positive

beliefs regarding the behaviors they endorsed on the PAS-Behavior scale. Items on the PAS-Belief scale are rated on the following 4-point scale: 0 (*strongly disagree*), 1 (*somewhat disagree*), 2 (*somewhat agree*), and 3 (*strongly agree*). The PAS-Belief scale score is based on the mean of the seven items on the scale, with higher scores indicating stronger positive beliefs about accommodation. All participants (*N* = 313) in the sample completed the PAS.

#### *Family Accommodation Scale–Parent Report (FAS)*

The 12-item FAS ([Flessner, Sapyta, et al., 2011](#)) is a parent-rated measure, adapted from the original clinician-rated measure ([Calvocoressi et al., 1995](#)), which assesses the frequency with which family members of anxious individuals have engaged in various accommodating behaviors over the previous month. Twelve items are rated on a 5-point Likert scale ranging from 0 (*never*) to 4 (*daily*). Total scores range from 0 to 48, with higher scores indicating more frequent accommodation. [Flessner, Sapyta, and colleagues \(2011\)](#) conducted an exploratory factor analysis on the FAS, which yielded two separate yet related factors: avoidance of triggers (FAS-AT; six items) and involvement in compulsions (FAS-IC; six items). For this reason, the FAS total score, FAS-AT score, and FAS-IC score were all used as variables in the present study’s analyses. A study



of the psychometric quality of the FAS found the total FAS and its two subscales to possess good internal consistency and convergent and discriminant validity (Flessner, Sapyta, et al., 2011). The FAS was administered to 59 parents at two of the three data collection sites (Rogers Memorial Hospital and KCCAT). Within this subsample, internal consistency for the FAS total score ( $\alpha = .89$ ), FAS-AT subscale ( $\alpha = .83$ ), and FAS-IC subscale ( $\alpha = .84$ ) were all good.

#### *Children's Yale-Brown Obsessive-Compulsive Scale-Parent Report (CY-BOCS-PR)*

The CY-BOCS-PR (Scahill et al., 1997; Storch et al., 2006) is a parent-rated measure of pediatric OCD symptom severity over the previous week. In the current study, the CY-BOCS-PR was utilized as a control variable in regression analyses within a subset of the sample diagnosed with OCD. Five items assessing severity of obsessions and five items assessing severity of compulsions are rated on a 5-point Likert scale ranging from 0 (*no symptoms*) to 4 (*extreme symptoms*). Scores on these 10 items are summed to yield a total score that ranges from 0 to 40, with higher scores indicating greater OCD severity. The CY-BOCS-PR has demonstrated good internal consistency and strong convergent validity with the child- and clinician-rated versions of the CY-BOCS, measures of child depressive, tic, and internalizing behavior symptoms, and other measures of OCD symptom severity (Storch et al., 2006). The CY-BOCS-PR was given to 54 participants at two of the three sites (Rogers Memorial Hospital and KCCAT). Within this subsample, the CY-BOCS-PR had good internal consistency ( $\alpha = .87$ ).

#### *Pediatric Anxiety Rating Scale (PARS)*

The PARS (Research Units on Pediatric Psychopharmacology Anxiety Study Group, 2002) is a clinician-administered measure of pediatric anxiety symptom severity over the previous week, consisting of a 50-item checklist of anxiety symptoms (present/not present) followed by seven global severity items rated on a 6-point scale: 0 (*none*) and 1–5 (*minimal to extreme*). For the current study, five of the seven severity items were summed to yield a total score ranging from 0 to 25, with higher total scores indicating more severe anxiety, which is the scoring method recommended for clinical settings (Research Units on Pediatric Psychopharmacology Anxiety Study Group, 2002). The PARS exhibits high interrater reliability, adequate test-retest reliability, fair internal consistency (Research Units on Pediatric Psychopharmacology Anxiety Study Group, 2002), and is able to discriminate between youth with and without anxiety disorders (Ginsburg, Keeton, Drazdowski,

& Riddle, 2011). The PARS was administered to 164 participants at Mayo Clinic-Rochester and had good internal consistency ( $\alpha = .84$ ).

#### PROCEDURE

Clinicians at each data collection site invited eligible parents of treatment-seeking youth to participate in the study. All participants ( $N = 313$ ) completed the PAS—however, other study measures were completed in accordance with each site's routine protocol. As a result of the differences in protocols, there are discrepancies in the number of participants who received study measures other than the PAS. Therefore, subsets of the entire sample completed the FAS ( $n = 59$ ), the CY-BOCS-PR ( $n = 54$ ), and the PARS ( $n = 164$ ). Similarly, diagnostic procedures varied based on each data collection site's routine assessment policy. Across sites, diagnoses were made by qualified professionals according to DSM-IV-TR (American Psychiatric Association, 2000) criteria. Data collection sites utilized one or more of the following assessment methods for making diagnostic decisions: the Anxiety Disorders Interview Schedule for Children (ADIS; Albano & Silverman, 1996), the Mini International Neuropsychiatric Interview for Children and Adolescents (MINI-KID; Sheehan et al., 2010), and a comprehensive psychosocial and psychiatric evaluation with an expert psychiatrist. One parent for each youth was provided with informed consent and a packet of study measures. If both parents were present at the time of data collection, data were collected from the parent who spent more time with the youth, likely having more exposure to the youth's anxiety. Approval for this study was obtained by the institutional review boards at each study site.

## Results

#### SITE DIFFERENCES

No statistically significant differences were found between sites on any demographic or study variables, with two exceptions. Scores on the FAS-AT subscale from Rogers Memorial Hospital were significantly higher,  $M = 11.27$ ,  $SD = 5.76$ , than scores from KCCAT,  $M = 7.82$ ,  $SD = 5.65$ ;  $t(57) = -2.24$ ,  $p = .03$ ,  $d = .60$ . Further, a one-way ANOVA of the PAS-Belief Loss of Control subscale revealed a significant site difference,  $F(2, 310) = 5.21$ ,  $p = .006$ ,  $\eta = .03$ . Tukey HSD post hoc tests revealed significantly higher scores on this measure from Rogers Memorial Hospital,  $M = 2.04$ ,  $SD = 0.72$ , than KCCAT,  $M = 1.52$ ,  $SD = 0.83$ ;  $t(78) = 2.96$ ,  $p = .004$ ,  $d = .67$ , and Mayo Clinic-Rochester,  $M = 1.59$ ,  $SD = 0.86$ ;  $t(270) = 3.10$ ,  $p = .002$ ,  $d = .57$ . Although site differences were found for two variables, the patterns of relationships between

variables were markedly similar across sites. Therefore, data from all three sites were combined for the following analyses in order to increase the generalizability of the findings.

#### PSYCHOMETRIC PROPERTIES AND DESCRIPTIVE STATISTICS OF THE PAS SCALES

The corrected item-total correlations ( $M = .63$ ) and interitem correlations ( $M = .50$ ) for each of the PAS-Behavior scale items were above the recommended minimum of .30 (Nunnally & Bernstein, 1994). The skew (.40) and kurtosis (-.53) of the PAS-Behavior scale were acceptable. The internal consistency ( $\alpha$ ) of the PAS-Behavior scale was good (.83). The overall mean for the PAS-Behavior scale was 1.17 ( $SD = 0.70$ ), indicating that parents performed accommodating behaviors between *sometimes* and *often*. Scores on the PAS-Behavior scale did not significantly differ between fathers and mothers,  $t(304) = .73, p = .47, d = .01$ , or between parents of boys and girls,  $t(311) = 1.28, p = .20, d = 0.15$ . PAS-Behavior scale scores were not significantly associated with youth age ( $r = .02, p = .76$ ).

The corrected item-total correlations ( $M = .50$ ) and interitem correlations ( $M = .34$ ) for each of the PAS-Belief scale items were above .30. The skew (-.51) and kurtosis (.22) of the PAS-Belief scale were acceptable. The internal consistency ( $\alpha$ ) of the PAS-Belief scale was adequate (.78). The overall mean for the PAS-Belief scale was 1.55 ( $SD = .59$ ), falling between *somewhat disagree* and *somewhat agree*. Fathers and mothers did not have significantly different scores on the PAS-Belief scale  $t(304) = .65,$

$p = .52, d = .12$ . Similarly, parents of boys and girls did not differ significantly in their scores on the PAS-Belief scale  $t(311) = .56, p = .57, d = 0.06$ . Youth age was not significantly correlated with the PAS-Belief scale ( $r = -.05, p = .39$ ). Descriptive statistics for individual PAS-Behavior scale and PAS-Belief scale items are displayed in Table 2.

#### FACTOR STRUCTURE OF THE PAS

To explore whether any underlying factors exist within each subscale, the factor structure of the PAS-Behavior scale and the PAS-Belief scale was assessed. As the PAS scales were designed to be concise in order to maximize clinical utility, it was expected that any emerging factors would necessarily have a relatively small number of items. As the authors did not have an a priori hypothesis about the latent structure of the constructs assessed, a principal components analysis (PCA) was used for purposes of data reduction (Floyd & Widaman, 1995). An oblique (oblimin) rotation was used because factors emerging from this analysis were assumed to be correlated.

Eigenvalues for the PAS-Behavior scale were as follows: 3.00, .61, .51, .46, and .42. Based on factor interpretability, common rules for factor retention (Kaiser, 1960; Longman, Cota, Holden, & Fekken, 1989), and examination of the scree plot, a single-factor solution was chosen that accounted for 60.01% of the variance in PAS-Behavior scale scores. All items had salient ( $\geq .40$ ) loadings on the single factor ( $M = .77, \text{range} = .74-.80$ ). The single factor accounted for a large portion of the variance in each item as demonstrated by the magnitude of

Table 2  
Parental Accommodation Scale (PAS): Means ( $M$ ), Standard Deviations ( $SD$ ), Factor Loadings, and Communalities

PAS-Behavior scale items	$M$	$SD$	Factor 1	$h^2$
1. I help my child avoid things or perform behaviors so that he or she feels better immediately.	1.07	.84	<b>.75</b>	.57
2. I allow my child to avoid things or situations that upset him or her, but don't upset most kids his or her age.	1.10	.83	<b>.78</b>	.60
3. I put up with unwanted conditions in my home environment so that my child is less upset.	1.11	1.01	<b>.80</b>	.64
4. I am careful not to say or do things that might upset or worry my child.	1.44	.94	<b>.74</b>	.54
5. I do things for my child when he or she is scared or upset, that he or she should be able to do on his or her own.	1.15	.90	<b>.80</b>	.65

  

PAS-Belief scale items	$M$	$SD$	Factor 1	Factor 2	Factor 3	$h^2$
6. ...improve my ability to function normally	1.44	.88	<b>.87</b>	.29	.29	.76
7. ...improve my child's ability to function normally	1.61	.87	<b>.79</b>	.18	.34	.63
8. ...lower my distress	1.40	.88	<b>.79</b>	.35	.25	.64
9. ...prevent my child from losing control of his or her emotions	1.73	.90	.34	<b>.93</b>	.20	.87
10. ...prevent my child from losing control of his or her behavior	1.54	.93	.29	<b>.93</b>	.23	.87
11. ...show my child that I love him or her	1.73	.93	.33	.25	<b>.94</b>	.88
12. ...mean that I am being a good parent	1.40	.92	.34	.18	<b>.94</b>	.88

communalities. Therefore, the PAS-Behavior scale is best interpreted using a single total mean score. Table 2 displays communalities and factor loadings for each PAS item.

The PAS-Belief scale's eigenvalues were as follows: 3.03, 1.35, 1.16, .60, .39, .26, and .23. Based on factor interpretability, common rules for factor retention (Kaiser, 1960; Longman et al., 1989), and examination of the scree plot, a three-factor solution was chosen that accounted for 79.01% of PAS-Belief scale variance. Items on the first ( $M = .82$ , range = .79–.87), second ( $M = .93$ , range .93–.93), and third ( $M = .94$ , range .94–.94) factors all had highly salient loadings. The magnitude of the communalities suggests that the three-factor solution accounted for a large portion of the variance in each PAS-Belief scale item. Factor 1 on the PAS-Belief scale (three items), labeled "Distress and Functioning," measures the belief that accommodation decreases distress and increases functioning of the parent and child. Factor 2 (two items), labeled "Loss of Control," assesses the belief that accommodation prevents the youth from losing behavioral and emotional control. Last, Factor 3 (two items), labeled "Relationship," measures the belief that accommodation demonstrates being a good and loving parent. Items that loaded on each factor were averaged separately to yield three subscales. Means and standard deviations for the three PAS-Belief subscales within the overall sample ( $n = 313$ ) are displayed in Table 3.

The corrected item–total correlations and inter-item correlations for items on all three PAS-Belief subscales were above .30. Skewness (range  $-0.53$  to  $-0.33$ ) and kurtosis (range  $-0.67$  to  $-0.30$ ) for the PAS-Belief subscales were acceptable. The internal consistencies ( $\alpha$ ) of the Distress and Functioning subscale (.75), Loss of Control subscale (.85), and Relationship subscale (.87) were adequate. Fathers

and mothers did not have significantly different scores on the PAS subscales (all  $ps \geq .26$ , all  $ds \leq .22$ ). Similarly, parents of boys and girls did not differ significantly in their scores on the PAS-Belief subscales (all  $ps \geq .56$ , all  $ds \leq 0.07$ ). Youth age was not significantly correlated with the PAS-Belief subscales ( $rs \leq |.09|$ ,  $ps \geq .13$ ).

#### CONVERGENT VALIDITY OF THE PAS-BEHAVIOR SCALE

Table 3 presents means, standard deviations, and correlations among all study measures. As hypothesized, the PAS-Behavior scale was strongly correlated with another measure of parental accommodation—the FAS and its two subscales: the FAS-AT subscale and the FAS-IC subscale (range  $rs = .57$ –.75, all  $ps < .001$ ). Also as hypothesized, the PAS-Behavior scale was significantly correlated with measures of anxiety symptom severity (CY-BOCS-PR, PARS). Finally, as hypothesized, the PAS-Behavior scale and PAS-Belief scale were significantly correlated with each other ( $r = .31$ ,  $p < .001$ ).

#### CONVERGENT VALIDITY OF THE PAS-BELIEF SCALE

Hypotheses regarding correlations with the PAS-Belief scale were partially supported. As expected, the PAS-Belief scale was significantly correlated with parental accommodation as measured by the FAS ( $r = .32$ ,  $p = .01$ ). The PAS-Belief scale was also significantly correlated with the FAS-IC subscale ( $r = .36$ ,  $p = .01$ ), but not the FAS-AT subscale ( $r = .21$ ,  $p = .10$ ). Hypotheses regarding the relationship between the PAS-Belief scale and measures of anxiety symptom severity were not supported, as a nonsignificant correlation was found between the PAS-Belief scale and the CY-BOCS-PR ( $r = .25$ ,  $p = .07$ ) and the PARS ( $r = -.06$ ,  $p = .48$ ).

Table 3  
Descriptive Statistics and Zero-Order Correlations Between Study Variables

Measure	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8
1. PAS-Behavior scale	1.17	.70	-	-	-	-	-	-	-	-
2. PAS-Belief scale	1.55	.59	.31***	-	-	-	-	-	-	-
3. PAS-Belief Distress and Functioning subscale	1.47	.72	.18**	.81***	-	-	-	-	-	-
4. PAS-Belief Loss of Control subscale	1.63	.85	.43***	.69***	.34***	-	-	-	-	-
5. PAS-Belief Relationship subscale	1.57	.87	.08	.71***	.36***	.24***	-	-	-	-
6. FAS	21.92	11.04	.73***	.32*	.16	.62***	-.16	-	-	-
7. FAS-AT subscale	9.98	5.92	.75***	.21	.10	.48***	-.18	.89***	-	-
8. FAS-IC subscale	11.94	6.37	.57***	.36**	.17	.62***	-.11	.91***	.61***	-
9. CY-BOCS-PR	22.76	7.46	.54***	.25	.15	.50***	-.18	.60***	.49***	.60***
10. PARS	16.77	3.64	.37***	-.06	-.11	.12	-.12	-	-	-

Note. *M* = mean; *SD* = standard deviation; PAS = Parental Accommodation Scale; FAS = Family Accommodation Scale; FAS-AT = Family Accommodation Scale–Avoidance of Triggers; FAS-IC = Family Accommodation Scale–Involvement in Compulsions; CY-BOCS-PR = Children's Yale–Brown Obsessive-Compulsive Scale–Parent Report; PARS = Pediatric Anxiety Rating Scale.

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

Exploratory correlations were calculated between the PAS-Belief subscales and measures of accommodation frequency and anxiety symptom severity (see Table 3). Neither the PAS-Belief Distress and Functioning subscale nor the PAS-Belief Relationship subscale were significantly related to accommodation frequency or anxiety symptom severity. The PAS-Belief Loss of Control subscale was not related to anxiety symptom severity as measured by the PARS ( $r = .12, p = .12$ ), but was significantly related to anxiety symptom severity as measured by the CY-BOCS-PR and to accommodation frequency (range  $r_s = .48-.62$ , all  $p_s < .001$ ).

#### GENERAL BELIEFS ABOUT ACCOMMODATION IN THE PREDICTION OF PARENTAL ACCOMMODATION

A series of multiple regressions were conducted to test the hypothesis that parental positive beliefs about accommodation (as measured by the total mean PAS-Belief scale score) would be significantly related to accommodation frequency, even when controlling for youth anxiety symptom severity. In order to increase the internal validity of the results and to control for symptom severity of a specific disorder, these analyses were first conducted within a subset of the sample whose youth were diagnosed with OCD and who had completed all relevant study measures. Dependent variables included the measures of parental accommodation including the PAS-Behavior scale ( $n = 45$ ), FAS ( $n = 43$ ), FAS-AT ( $n = 43$ ), and FAS-IC ( $n = 43$ ). In each of these four regressions, predictors were simultaneously entered and included the PAS-Belief scale and the CY-BOCS-PR. For the regressions predicting the PAS-Behavior scale, FAS, and FAS-IC, beliefs about accommodation accounted for a significant amount of the variance in accommodating behavior, after controlling for OCD symptom severity, all  $p_s < .05$ ,  $sr^2$  range .07-.15. For the regression predicting the FAS-AT, beliefs about accommodation did not account for a significant amount of variance in accommodating behavior,  $p = .12$ ,  $sr^2 = .04$ .

Although the CY-BOCS-PR and FAS were not administered at one of the data collection sites (Mayo Clinic-Rochester), an alternative measure of youth anxiety symptom severity, the PARS, was administered there. A similar multiple regression predicting the PAS-Behavior scale was performed in a subsample of participants who had completed the PARS ( $n = 164$ ). In this regression, the total mean PAS-Belief scale score was, again, found to account for a significant amount of the variance in accommodating behavior, even after controlling for anxiety symptom severity,  $p < .001$ ,  $sr^2 = .10$ .

#### EXPLORATORY ANALYSES: TYPES OF BELIEFS ABOUT ACCOMMODATION IN THE PREDICTION OF PARENTAL ACCOMMODATION

Next, a series of hierarchical multiple regressions were conducted to explore the contribution of different *types* of parental beliefs about accommodation (Distress and Functioning, Loss of Control, Relationship) to accommodation frequency. Again, these analyses were conducted within a subset of the sample whose youth were diagnosed with OCD and who completed all the relevant study measures. Dependent variables included the measures of parental accommodation including the PAS-Behavior scale, FAS, FAS-AT, and FAS-IC. Predictor variables were entered in two blocks, the first containing the CY-BOCS-PR, the second simultaneously containing the three PAS-Belief subscales. By analyzing the data in this manner, the unique contribution of each PAS-Belief subscale to FAS and PAS-Behavior scale scores could be determined after controlling for CY-BOCS-PR score. Due to the strong association between OCD severity and parental accommodation (see Table 3), these analyses provided a stringent test of incremental validity of beliefs about parental accommodation.

Results of these analyses are displayed in Table 4. In all four hierarchical multiple regressions, OCD severity predicted a significant amount of the variance in accommodating behavior in Step 1 ( $R^2$  range = .30-.39; all  $p_s < .001$ ). In the three models predicting the PAS-Behavior scale, FAS, and FAS-IC, the second step accounted for a significant amount of additional variance in parental accommodating behavior ( $\Delta R^2$  range .18-.23; all  $p_s < .004$ ). In these three regressions, the only two variables that significantly predicted accommodating behavior in the second step were CY-BOCS-PR scores ( $sr^2$  range .08-.10, all  $p_s < .02$ ) and PAS-Belief Loss of Control subscale scores ( $sr^2$  range .15-.18, all  $p_s < .01$ ). The final models for these three regressions predicted between 55.70 and 57.10% of the variance in accommodating behavior. In the regression predicting the FAS-AT, the second step did not account for a significant amount of additional variance in parental accommodating behavior ( $\Delta R^2 = .10, p = .13$ ). However, within the second step, CY-BOCS-PR scores ( $sr^2 = .09, p = .02$ ) and PAS-Belief Loss of Control subscale scores ( $sr^2 = .08, p = .03$ ) once again emerged as the only variables that predicted a significant amount of variance in accommodating behavior. The final model for this regression predicted 39.4% of the variance in the FAS-AT subscale score.

A similar hierarchical multiple regression was conducted using the data from parents at the Mayo



Table 4  
Types of Beliefs About Accommodation in Predicting Accommodation Frequency

Measure	$\Delta R^2$	<i>B</i>	SE <i>B</i>	$\beta$	<i>t</i>
Predicting PAS-Behavior scale ( <i>n</i> = 45)					
Step 1	.39***				
CY-BOCS-PR		.07	.01	.62	5.22***
Step 2	.18**				
CY-BOCS-PR		.04	.01	.37	2.94**
PAS- Belief Distress and Functioning		.05	.12	.05	0.44
PAS- Belief Loss of Control		.42	.11	.48	3.96***
PAS- Belief Relationship		-.03	.10	-.03	-0.25
Predicting FAS ( <i>n</i> = 43)					
Step 1	.37***				
CY-BOCS-PR		1.02	.21	.61	4.91***
Step 2	.19**				
CY-BOCS-PR		.64	.22	.38	2.94**
PAS- Belief Distress and Functioning		2.06	1.93	.12	1.07
PAS- Belief Loss of Control		6.23	1.73	.45	3.60**
PAS- Belief Relationship		.18	1.64	.01	0.11
Predicting FAS-AT ( <i>n</i> = 43)					
Step 1	.30***				
CY-BOCS-PR		.48	.12	.55	4.17***
Step 2	.10±				
CY-BOCS-PR		.32	.13	.36	2.41*
PAS- Belief Distress and Functioning		.85	1.18	.09	0.72
PAS- Belief Loss of Control		2.36	1.06	.33	2.23*
PAS- Belief Relationship		-.43	1.00	-.06	-0.43
Predicting FAS-IC ( <i>n</i> = 43)					
Step 1	.32***				
CY-BOCS-PR		.54	.12	.57	4.43***
Step 2	.23**				
CY-BOCS-PR		.32	.12	.33	2.58*
PAS- Belief Distress and Functioning		1.22	1.10	.12	1.11
PAS- Belief Loss of Control		3.87	.99	.49	3.92***
PAS- Belief Relationship		.61	.93	.07	0.65

Note. SE = standard error; PAS = Parental Accommodation Scale; CY-BOCS-PR = Children's Yale-Brown Obsessive-Compulsive Scale-Parent Report; FAS = Family Accommodation Scale; FAS-AT = Family Accommodation Scale-Avoidance of Triggers; FAS-IC = Family Accommodation Scale-Involvement in Compulsions.

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

Clinic-Rochester who had completed the PARS ( $n = 164$ ). This regression predicted PAS-Behavior scale scores by using PARS scores (first block) and the three PAS-Belief subscales (second block) as predictor variables. Within the first step of the regression, PARS scores predicted 14.0% of the variance in PAS-Behavior scale scores,  $F(1, 162) = 26.31$ ,  $p < .001$ . In the second step, the PAS-Belief Loss of Control subscale (semipartial  $r = .22$ ,  $p = .002$ ) and the PARS (semipartial  $r = .35$ ,  $p < .001$ ) emerged as the only significant predictors. The second step explained an additional 11.7% of the variance in PAS-Behavior scale scores, resulting in a total of 25.6% of the variance in PAS-Behavior scale scores being explained by the final model.

Results of these hierarchical multiple regressions support the hypothesis that the relationship between

parental beliefs about accommodation and accommodating behavior is significant even when controlling for youth anxiety symptom severity. Further, these results indicate that specific beliefs about the ability of accommodation to prevent anxious youth from losing behavioral and emotional control are particularly important in predicting parental accommodating behaviors.

## Discussion

The purposes of this study were (a) to examine the psychometric properties of the PAS and (b) to examine the relationship between parental beliefs about accommodation and accommodation frequency. Parents of anxious youth completed measures of accommodation frequency, beliefs about accommodation, and youth anxiety severity. The PAS-Behavior

and PAS-Belief scales demonstrated adequate psychometric characteristics and convergent validity with measures of accommodation frequency and youth anxiety symptom severity. A principal components analysis revealed three domains of parental beliefs about accommodation related to distress and functioning, behavioral and emotional control, and being a good and loving parent. Results generally supported hypotheses, as greater endorsement of positive beliefs about accommodation was significantly correlated with accommodation frequency, even after controlling for youth anxiety severity. Interestingly, exploratory analyses showed that accommodation frequency was significantly predicted by parental beliefs that accommodation prevents the youth from losing behavioral and emotional control. These findings support the validity and clinical utility of the PAS and highlight the importance of parental beliefs about accommodation in the maintenance and treatment of youth anxiety.

The present results provide preliminary support for the PAS-Behavior scale as a valid and psychometrically sound measure of accommodation frequency within transdiagnostic youth anxiety. Results replicate previous research that shows a positive correlation between accommodation frequency and youth anxiety severity (Lebowitz, Scharfstein, et al., 2014; Strauss et al., 2015; Wu et al., 2016). The demonstrated relationship between the PAS-Behavior scale and youth anxiety severity supports the convergent validity of the PAS-Behavior scale and corroborates the relationship between accommodation and youth anxiety severity. The psychometric quality of the PAS-Behavior scale is also supported by the regression analyses, which showed a similar pattern of results when the PAS-Behavior scale was the outcome variable as to when the FAS and its subscales were used as outcome variables. Similarly, preliminary support was found for the validity and psychometric quality of the PAS-Belief scale in measuring parental beliefs about accommodation for youth with transdiagnostic anxiety problems. Existence of this novel measure may facilitate deeper understanding of the relationship between parental beliefs about accommodation, accommodation frequency, and youth anxiety. Further, whereas existing measures of accommodation are limited to assessing the frequency with which accommodation occurs (Lebowitz et al., 2013; Thompson-Hollands et al., 2014), the PAS allows clinicians to assess accommodation frequency while also identifying and modifying specific parental beliefs about accommodation in order to decrease the frequency of accommodation, thereby likely improving treatment outcome for anxious youth.

It was hypothesized that parental beliefs about accommodation would be positively and significant-

ly related to accommodation frequency and youth anxiety severity. These hypotheses were partially supported. As expected, parental beliefs about accommodation were positively and significantly related to accommodation frequency as measured by the PAS-Behavior scale and the FAS. Although the total mean PAS-Belief scale score demonstrated a significant positive relationship with parental involvement in the youth's compulsions (FAS-IC), no significant relationship was found with parental assistance of the youth in the avoidance of anxiety triggers (FAS-AT). To the surprise of the authors, a nonsignificant relationship was found between the total mean PAS-Belief scale score and youth anxiety severity as measured by the CY-BOCS-PR and the PARS. Exploratory analyses clearly revealed that the reason parental beliefs about accommodation were not significantly correlated with all measures of accommodation frequency and youth anxiety symptom severity was due to the greater relevance of certain *types* of parental beliefs over others. Indeed, parental beliefs about the necessity of accommodation in preventing the youth from losing emotional and behavioral control were significantly correlated with accommodation frequency and youth anxiety severity as measured by the CY-BOCS-PR. Alternatively, parental beliefs related to the necessity of accommodation in increasing functioning, decreasing distress, and being a good parent did not emerge as significant correlates with accommodation frequency or youth anxiety severity as measured by the CY-BOCS-PR or the PARS. Therefore, it seems that the belief that accommodation prevents the child from losing emotional and behavioral control is especially relevant in predicting youth anxiety.

The finding that parental beliefs about accommodation predict accommodation frequency even after controlling for youth anxiety severity has important theoretical and clinical implications. It corroborates cognitive-behavioral models that posit that beliefs (i.e., parental beliefs about accommodation) are directly related to behavior (i.e., parental accommodation frequency; Abramowitz et al., 2011). Further, it demonstrates that accommodation frequency is not simply contingent upon the anxiety severity of the youth, which relates to the amount of opportunities accommodation could occur, but that parental positive beliefs about accommodation are also an important predictor of accommodation frequency. It follows, then, that an important part of decreasing accommodation frequency is to correct the positive beliefs parents have regarding the utility of accommodation. Therefore, in implementing CBT for anxious youth, clinicians should incorporate an educational component for the parent(s) in order to identify and modify any maladaptive positive beliefs

regarding the utility of accommodation, hopefully thereby decreasing accommodation frequency and improving treatment outcome for the youth.

An unexpected finding in this study was that there exists a variety of domains of parental beliefs regarding accommodation and that these domains relate differently to accommodation behavior. In particular, results showed that the strongest predictor of accommodation frequency was the belief that accommodation prevents youth from losing behavioral and emotional control. Therefore, clinicians of anxious youth should make a concerted effort to correct this maladaptive belief so that the parent understands that although accommodation may prevent a youth from losing behavioral or emotional control in the short term, accommodation may prevent the youth from developing adaptive coping strategies to maintain behavioral and emotional control (Steketee & Van Noppen, 2003) and from learning that anxiety is safe and tolerable, which contributes to the long-term maintenance of the youth's anxiety (Storch, Geffken, Merlo, Jacob, et al., 2007).

A significant strength of this study was its contribution of a novel, brief, and psychometrically sound measure of parental beliefs about accommodation. In addition, it introduces a brief yet valid measure of accommodation frequency to be used in conjunction with the measure of parental beliefs about accommodation. Further, this study utilized a clinical sample of parents of treatment-seeking anxious youth and found the same pattern of results within an OCD-only sample as it did in the sample including mixed anxiety disorders.

Results of this study should be interpreted with consideration of its limitations. First, while results are consistent with the theory that beliefs about accommodation directly relate to accommodation frequency, a causal relationship between these two variables cannot be established due to the study's cross-sectional nature. Second, the sample primarily comprised Caucasian mothers, thereby potentially limiting the generalizability of the findings. Third, this study did not assess important parent-related variables shown to relate to youth anxiety such as parental anxiety (Burstein, Ginsburg, & Tein, 2010), experiential avoidance (Cheron, Ehrenreich, & Pincus, 2009), overcontrol (Borelli, Margolin, & Rasmussen, 2014), and emotion regulation (Kerns, Pincus, McLaughlin, & Comer, 2017). Assessing such variables would have facilitated a deeper understanding of the complex relationship among parental psychopathology, parental beliefs about accommodation, and accommodation frequency. For example, regression analyses may have been strengthened by controlling for parental anxiety, as this construct may

account for a significant amount of variance in parental accommodation frequency. Fourth, two site differences were identified. As the patterns of relationships between these variables were similar across sites, data were combined for analyses. However, it is important to acknowledge that site differences may have compromised the robustness of the analyses performed. Fifth, several procedures frequently performed when constructing and validating measures were not implemented in the current study. For example, items were generated without conducting a formal literature review and no pilot test was conducted. The reading level of the PAS was not assessed and important psychometric indicators such as divergent validity and test-retest reliability of the PAS were also not assessed, leaving an important gap in the psychometric assessment of the PAS for future research to address. Sixth, with the exception of the PAS, which every participant completed, each site's routine protocol determined which measures participants received and what data was recorded. This method of data collection resulted in (a) some missing information such as which diagnostic tool(s) were used with each participant and (b) a large discrepancy in the number of participants who completed each measure, which may have introduced bias with respect to the concurrent validity analyses, negatively impacting the interpretability of these findings. Therefore, appropriate caution should be used when interpreting these data. In order to avoid such discrepancies, similar research in the future should implement a single-study protocol that is consistent across data collection sites prior to beginning data collection.

A final limitation of the current study is that due to the brevity of the PAS, it is possible that it fails to capture the full range of parental accommodating behaviors and beliefs about accommodation that exist. However, the conciseness of the PAS can also be considered a strength, as there is clinical utility in a measure that assesses two important constructs in a short amount of time. Relatedly, the PCA yielded two factors on which only two factors loaded. While retaining factors with fewer than three items has been recommended against (Tabachnick, Fidell, & Osterlind, 2001), some believe it is possible to retain a factor with two items, provided that items on the factor are highly correlated with each other ( $r > .70$ ) and relatively uncorrelated with other items (Worthington & Whittaker, 2006). The two items on the PAS-Belief Loss of Control subscale fit this guideline by correlating highly with each other ( $r = .75$ ) but not with the other PAS-Belief scale items (all  $r_s \leq .31$ ). Similarly, the two items on the PAS-Belief Relationship subscale demonstrated a high correlation with each other ( $r = .76$ ) but not with the other PAS-Belief scale items (all  $r_s \leq .31$ ). Further, factor

loadings on each of the three factors were very high (range .79–.94) and the internal consistency for each factor was adequate (all  $\alpha$ s  $\geq$  .75). However, future research should endeavor to generate additional indicators in order to increase the reliability of the PAS-Belief subscales (Worthington & Whittaker, 2006).

In summary, the present study introduces several novel findings to the literature. First, the PAS appears to be a psychometrically sound and valid measure of parental beliefs about, and frequency of, accommodation. Second, the relationship between parental beliefs about accommodation and accommodation frequency is significant, even when controlling for youth anxiety severity. Third, accommodation is significantly and specifically related to beliefs that accommodation prevents youth from losing behavioral and emotional control. In terms of clinical implications, the present findings support the importance of parental beliefs about accommodation in the maintenance and treatment of youth anxiety. Therefore, efforts to decrease accommodation should focus on addressing the specific positive beliefs parents hold regarding accommodation. In particular, an emphasis should be given to correcting maladaptive parental beliefs regarding the necessity of accommodation in preventing youth from losing behavioral or emotional control. Results of this study also contribute to the understanding of why parents

engage in accommodation and offer some possible reasons why accommodation is associated with worse youth anxiety treatment outcome, such as the prevention of the youth learning that anxiety is safe and tolerable.

Future research should aim to identify *why* parents are motivated to prevent youth from losing behavioral or emotional control. For example, parents may believe that anxious youth are fragile and cannot withstand distress. Alternatively, parents may wish to avoid the social embarrassment of having a youth lose behavioral or emotional control in public. Future research should also aim to further establish the psychometric quality of the PAS by evaluating additional psychometric indicators such as divergent validity and test–retest reliability in more ethnically and gender-diverse samples whereby all participants receive every study measure. For research aimed at improving treatment outcome for anxious youth, the PAS may be useful in identifying strategies for modifying specific maladaptive parental beliefs about accommodation. The PAS may also assist in future research seeking to understand the relationships between parental beliefs about accommodation, parental psychopathology, youth psychopathology, and parental accommodation frequency.

**Conflict of Interest Statement**

The authors declare that there are no conflicts of interest.

**Appendix A. Parental Accommodation Scale (PAS)**

Instructions: Please rate how often you respond to your child’s anxiety, distress, obsessions, or compulsions in the following ways. For each item, circle one number.

	Never/ almost never	Sometimes	Often	Always/almost always
1. I help my child avoid things or perform behaviors so that he or she feels better immediately.	0	1	2	3
2. I allow my child to avoid things or situations that upset him or her, but don't upset most kids his or her age.	0	1	2	3
3. I put up with unwanted conditions in my home environment so that my child is less upset.	0	1	2	3
4. I am careful not to say or do things that might upset or worry my child.	0	1	2	3
5. I do things for my child when he or she is scared or upset, that he or she should be able to do on his or her own.	0	1	2	3

Instructions: Please answer the following questions about the behaviors you described above. For each item, circle one number.

Responding to my child’s anxiety, distress, obsessions, or compulsions as described above...	Strongly disagree	Somewhat disagree	Somewhat agree	Strongly agree
6. ...improves my ability to function normally	0	1	2	3
7. ...improves my child’s ability to function normally	0	1	2	3
8. ...lowers my distress	0	1	2	3
9. ...prevents my child from losing control of his or her emotions	0	1	2	3
10. ...prevents my child from losing control of his or her behavior	0	1	2	3
11. ...shows my child that I love him or her	0	1	2	3
12. ...means that I am being a good parent	0	1	2	3



## References

- Abramowitz, J. S., Deacon, B. J., & Whiteside, S. P. (2011). *Exposure therapy for anxiety: Principles and practice*. New York, NY: Guilford Press.
- Albano, A. M., & Silverman, W. K. (1996). *The Anxiety Disorders Interview Schedule for Children for DSM-IV: Clinical manual (child and parent versions)*. San Antonio, TX: Psychological Corporation.
- American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: Author.
- Borelli, J. L., Margolin, G., & Rasmussen, H. F. (2014). Parental overcontrol as a mechanism explaining the longitudinal association between parent and child anxiety. *Journal of Child and Family Studies*, 24, 1559–1574. <https://doi.org/10.1007/s10826-014-9960-1>
- Burstein, M., Ginsburg, G. S., & Tein, J. Y. (2010). Parental anxiety and child symptomatology: An examination of additive and interactive effects of parent psychopathology. *Journal of Abnormal Child Psychology*, 38, 897–909. <https://doi.org/10.1007/s10802-010-9415-0>
- Calvocoressi, L., Lewis, B., Harris, M., Trufan, S. J., Goodman, W. K., McDougle, C. J., & Price, L. H. (1995). Family accommodation in obsessive-compulsive disorder. *American Journal of Psychiatry*, 152, 441–443. <https://doi.org/10.1176/ajp.152.3.441>
- Cheron, D. M., Ehrenreich, J. T., & Pincus, D. B. (2009). Assessment of parental experiential avoidance in a clinical sample of children with anxiety disorders. *Child Psychiatry and Human Development*, 40, 383–403. <https://doi.org/10.1007/s10578-009-0135-z>
- Flessner, C. A., Freeman, J. B., Sapyta, J., Garcia, A., Franklin, M. E., March, J. S., & Foa, E. (2011). Predictors of parental accommodation in pediatric obsessive-compulsive disorder: Findings from the Pediatric Obsessive-Compulsive Disorder Treatment Study (POTS) trial. *Journal of the American Academy of Child and Adolescent Psychiatry*, 50, 716–725. <https://doi.org/10.1016/j.jaac.2011.03.019>
- Flessner, C. A., Sapyta, J., Garcia, A., Freeman, J. B., Franklin, M. E., Foa, E., & March, J. (2011). Examining the psychometric properties of the Family Accommodation Scale–Parent-Report (FAS-PR). *Journal of Psychopathology and Behavioral Assessment*, 33, 38–46. <https://doi.org/10.1007/s10862-010-9196-3>
- Floyd, F. J., & Widaman, K. F. (1995). Factor analysis in the development and refinement of clinical assessment instruments. *Psychological Assessment*, 7, 286. <https://doi.org/10.1037/1040-3590.7.3.286>
- Francazio, S. K., Flessner, C. A., Boisseau, C. L., Sibrava, N. J., Mancebo, M. C., Eisen, J. L., & Rasmussen, S. A. (2016). Parental accommodation predicts symptom severity at long-term follow-up in children with obsessive-compulsive disorder: A preliminary investigation. *Journal of Child and Family Studies*, 8, 2562–2570. <https://doi.org/10.1007/s10826-016-0408-7>
- Freeman, J. B., Garcia, A. M., Coyne, L., Ale, C., Przeworski, A., Himle, M., . . . Leonard, H. L. (2008). Early childhood OCD: Preliminary findings from a family-based cognitive-behavioral approach. *Journal of the American Academy of Child and Adolescent Psychiatry*, 47, 593–602. <https://doi.org/10.1097/chi.0b013e31816765f9>
- Freeman, J. B., Garcia, A. M., Fucci, C., Karitani, M., Miller, L., & Leonard, H. L. (2003). Family-based treatment of early-onset obsessive-compulsive disorder. *Journal of Child and Adolescent Psychopharmacology*, 13, 71–80. <https://doi.org/10.1089/104454603322126368>
- Ginsburg, G. S., Keeton, C. P., Drazdowski, T. K., & Riddle, M. A. (2011). The utility of clinicians ratings of anxiety using the Pediatric Anxiety Rating Scale (PARS). *Child and Youth Care Forum*, 40, 93–105. <https://doi.org/10.1007/s10566-010-9125-3>
- Kagan, E., Peterman, J., Carper, M., & Kendall, P. (2016). Accommodation and treatment of anxious youth. *Depression and Anxiety*, 33, 840–847. <https://doi.org/10.1002/da.22520>
- Kaiser, H. F. (1960). The application of electronic computers to factor analysis. *Educational and Psychological Measurement*, 20, 141–151. <https://doi.org/10.1177/001316446002000116>
- Kerns, C. E., Pincus, D. B., McLaughlin, K. A., & Comer, J. S. (2017). Maternal emotion regulation during child distress, child anxiety accommodation, and links between maternal and child anxiety. *Journal of Anxiety Disorders*, 50, 52–59. <https://doi.org/10.1016/j.janxdis.2017.05.002>
- Lebowitz, E. R. (2013). Parent-based treatment for childhood and adolescent OCD. *Journal of Obsessive-Compulsive and Related Disorders*, 2, 425–431. <https://doi.org/10.1016/j.jocrd.2013.08.004>
- Lebowitz, E. R., Omer, H., Hermes, H., & Scahill, L. (2014). Parent training for childhood anxiety disorders: The SPACE program. *Cognitive and Behavioral Practice*, 21, 456–469. <https://doi.org/10.1016/j.cbpra.2013.10.004>
- Lebowitz, E. R., Panza, K. E., Su, J., & Bloch, M. H. (2012). Family accommodation in obsessive-compulsive disorder. *Expert Review of Neurotherapeutics*, 12, 229–238. <https://doi.org/10.1586/ern.11.200>
- Lebowitz, E. R., Scharfstein, L. A., & Jones, J. (2014). Comparing family accommodation in pediatric obsessive-compulsive disorder, anxiety disorders, and nonanxious children. *Depression and Anxiety*, 31, 1018–1025. <https://doi.org/10.1002/da.22251>
- Lebowitz, E. R., Woolston, J., Bar-Haim, Y., Calvocoressi, L., Dauser, C., Warnick, E., . . . Hermes, H. (2013). Family accommodation in pediatric anxiety disorders. *Depression and Anxiety*, 30, 47–54. <https://doi.org/10.1002/da.21998>
- Longman, R. S., Cota, A. A., Holden, R. R., & Fekken, G. C. (1989). A regression equation for the parallel analysis criterion in principal components analysis: Mean and 95th percentile eigenvalues. *Multivariate Behavioral Research*, 24, 59–69. [https://doi.org/10.1207/s15327906mbr2401\\_4](https://doi.org/10.1207/s15327906mbr2401_4)
- Merlo, L. J., Lehmkuhl, H. D., Geffken, G. R., & Storch, E. A. (2009). Decreased family accommodation associated with improved therapy outcome in pediatric obsessive-compulsive disorder. *Journal of Consulting and Clinical Psychology*, 77, 355. <https://doi.org/10.1037/a0012652>
- Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric theory*. New York, NY: McGraw-Hill.
- Piacentini, J., Bergman, R. L., Chang, S., Langley, A., Peris, T., Wood, J. J., & McCracken, J. (2011). Controlled comparison of family cognitive behavioral therapy and psychoeducation/relaxation training for child obsessive-compulsive disorder. *Journal of the American Academy of Child and Adolescent Psychiatry*, 50, 1149–1161. <https://doi.org/10.1016/j.jaac.2011.08.003>
- Research Units on Pediatric Psychopharmacology Anxiety Study Group. (2002). The Pediatric Anxiety Rating Scale (PARS): Development and psychometric properties. *Journal of the American Academy of Child and Adolescent Psychiatry*, 41, 1061–1069. <https://doi.org/10.1097/00004583-200209000-00006>
- Scahill, L., Riddle, M. A., McSwiggin-Hardin, M., Ort, S. I., King, R. A., Goodman, W. K., . . . Leckman, J. F. (1997). Children's Yale-Brown Obsessive Compulsive Scale:

- Reliability and validity. *Journal of the American Academy of Child and Adolescent Psychiatry*, 36, 844–852. [https://doi.org/10.1016/s0924-9338\(99\)80371-x](https://doi.org/10.1016/s0924-9338(99)80371-x)
- Sheehan, D. V., Sheehan, K. H., Shytle, R. D., Janavs, J., Bannon, Y., Rogers, J. E., . . . Wilkinson, B. (2010). Reliability and validity of the Mini International Neuropsychiatric Interview for Children and Adolescents (MINI-KID). *Journal of Clinical Psychiatry*, 71(3), 313–326. <https://doi.org/10.4088/jcp.09m05305whi>
- Steketee, G., & Van Noppen, B. (2003). Family approaches to treatment for obsessive compulsive disorder. *Revista Brasileira de Psiquiatria*, 25, 43–50. <https://doi.org/10.1590/s1516-44462003000100009>
- Storch, E. A., Geffken, G. R., Merlo, L. J., Jacob, M. L., Murphy, T. K., Goodman, W. K., . . . Grabbill, K. (2007). Family accommodation in pediatric obsessive-compulsive disorder. *Journal of Clinical Child and Adolescent Psychology*, 36, 207–216. <https://doi.org/10.1080/15374410701277929>
- Storch, E. A., Geffken, G. R., Merlo, L. J., Mann, G., Duke, D., Munson, M., . . . Goodman, W. K. (2007). Family-based cognitive-behavioral therapy for pediatric obsessive-compulsive disorder: Comparison of intensive and weekly approaches. *Journal of the American Academy of Child and Adolescent Psychiatry*, 46, 469–478. <https://doi.org/10.1097/chi.0b013e31803062e7>
- Storch, E. A., Murphy, T. K., Adkins, J. W., Lewin, A. B., Geffken, G. R., Johns, N. B., . . . Goodman, W. K. (2006). The children's Yale-Brown Obsessive-Compulsive Scale: Psychometric properties of child- and parent-report formats. *Journal of Anxiety Disorders*, 20, 1055–1070. <https://doi.org/10.1016/j.janxdis.2006.01.006>
- Strauss, C., Hale, L., & Stobie, B. (2015). A meta-analytic review of the relationship between family accommodation and OCD symptom severity. *Journal of Anxiety Disorders*, 33, 95–102. <https://doi.org/10.1016/j.janxdis.2015.05.006>
- Tabachnick, B. G., Fidell, L. S., & Osterlind, S. J. (2001). *Using multivariate statistics* (4th ed.). New York, NY: Harper & Row.
- Thompson-Hollands, J., Kerns, C. E., Pincus, D. B., & Comer, J. S. (2014). Parental accommodation of child anxiety and related symptoms: Range, impact, and correlates. *Journal of Anxiety Disorders*, 28, 765–773. <https://doi.org/10.1016/j.janxdis.2014.09.007>
- Whiteside, S. P., Ale, C. M., Young, B., Dammann, J. E., Tiede, M. S., & Biggs, B. K. (2015). The feasibility of improving CBT for childhood anxiety disorders through a dismantling study. *Behaviour Research and Therapy*, 73, 83–89. <https://doi.org/10.1016/j.brat.2015.07.011>
- Wolk, C. B., Caporino, N. E., McQuarrie, S., Settapani, C. A., Podell, J. L., Crawley, S., . . . Kendall, P. C. (2016). Parental Attitudes, Beliefs, and Understanding of Anxiety (PABUA): Development and psychometric properties of a measure. *Journal of Anxiety Disorders*, 39, 71–78. <https://doi.org/10.1016/j.janxdis.2016.03.001>
- Worthington, R. L., & Whittaker, T. A. (2006). Scale development research: A content analysis and recommendations for best practices. *The Counseling Psychologist*, 34, 806–838. <https://doi.org/10.1177/0011000006288127>
- Wu, M. S., McGuire, J. F., Martino, C., Phares, V., Selles, R. R., & Storch, E. A. (2016). A meta-analysis of family accommodation and OCD symptom severity. *Clinical Psychology Review*, 45, 34–44. <https://doi.org/10.1016/j.cpr.2016.03.003>

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